

Experiment Number: 03038 - 03
Test Type: CHRONIC
Route: DOSED WATER
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Sodium Tungstate Dihydrate
CAS Number: 10213-10-2

Date Report Requested: 02/28/2019
Time Report Requested: 13:33:08
First Dose M/F: 01/30/12 / 01/31/12
Lab: BAT

Final 1_Rats

NTP Study Number: C03038
Lock Date: 05/25/2016
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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		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY ON TEST		6	4	6	6	7	6	7	6	6	6	1	7	6	6	7	7	7	5	6	6	7	4	4	4	4	4	4
HARLAN SPRAGUE DAWLEY RATS MALE		1	4	9	7	2	4	3	1	2	9	0	5	8	3	7	6	2	2	9	5	4	3	5	5	5	5	5
0mg/L male		9	5	0	3	9	6	0	5	9	1	0	2	7	0	7	6	9	9	2	3	2	8	0	6	6	0	0
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	
males (cont...)																												

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Erosion													2														
Inflammation, Suppurative				4																							
Inflammation, Acute																											
Inflammation, Chronic													2														
Inflammation, Chronic Active	2																										
Mineral		2											2														
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cyst, Multiple																											
Inflammation, Acute				1																							
Parasite Metazoan					X																						
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Parasite Metazoan								X						X													
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Inflammation, Chronic													1														
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Inflammation, Chronic	1		1																								
Polyarteritis Nodosa																											
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0mg/L male	DAY ON TEST																				ANIMAL ID	males (cont...)			
	0619	0445	0690	0673	0729	0676	0731	0672	0739	0666	0710	0666	0712	0617	0706	0667	0707	0707	0529	0655			0664	0733	0743
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5

Basophilic Focus																									
Clear Cell Focus				X	X				X				X			X	X	X							
Congestion																3									
Eosinophilic Focus		X	X							X															
Fatty Change, Diffuse																						2			
Hepatodiaphragmatic Nodule																									
Inclusion Body Intracytoplasmic																							1		
Inflammation, Chronic											1														
Mixed Cell Focus																							X		
Thrombus							X																		
Bile Duct, Cyst																X									
Bile Duct, Hyperplasia	1	1	1	1	1	1	1		1	1	1	1	1	1	1	3	1	1	1	1	1	2	1	1	1
Hepatocyte, Fatty Change, Focal						1		1													1				
Hepatocyte, Necrosis													1		3	1									
Oval Cell, Hyperplasia																									

Mesentery																									
Polyarteritis Nodosa																									

Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Polyarteritis Nodosa	1																								
Thrombus																									
Acinus, Atrophy												2			2										
Acinus, Hyperplasia					1	2	2	3	3		1	3		2			3		2			2	4	2	
Duct, Cyst																X									

Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mineral	1																								

Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
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DAY ON TEST	HARLAN SPRAGUE DAWLEY RATS MALE																				ANIMAL ID	males (cont...)		
	0619	0445	0690	0673	0729	0764	0773	0661	0776	0666	0666	0117	0776	0666	0666	0776	0776	0776	0556	0666			0667	0443
0mg/L male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010	0011	0012	0013	0014	0015	0016	0017	0018	0019	0020	0021	0022	0023	0024

Inflammation, Acute
 Inflammation, Chronic
 Inflammation, Chronic Active
 Mineral
 Ulcer
 Epithelium, Hyperplasia

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Stomach, Glandular
 Mineral
 Polyarteritis Nodosa

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
2	2	2	3	2	2					3											1	1		1

CARDIOVASCULAR SYSTEM

Blood Vessel
 Mineral
 Polyarteritis Nodosa

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
3	3	1	2		2					2											2	1		

Heart
 Cardiomyopathy
 Mineral
 Polyarteritis Nodosa

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
3	3	3	3	2	3	2	1	1	2	3	1	1	2	3	3	1	2	3	1	3	3	2	1	1
3		2	2		1					1											1	1		

ENDOCRINE SYSTEM

Adrenal Cortex
 Degeneration, Cystic
 Hyperplasia, Focal
 Hypertrophy, Focal
 Karyomegaly
 Mineral

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		1		4	1	1		1	3		2			1	3								1
1		1		1		1		1		1			1		1		2					1	
			1							1							1						

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HARLAN SPRAGUE DAWLEY RATS MALE 0mg/L male	DAY ON TEST																							males (cont...)		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	6	4	6	6	7	6	7	6	7	6	6	1	7	6	6	7	7	7	5	6	6	7	4		4	
ANIMAL ID	1	4	9	7	2	4	3	1	2	9	0	5	8	3	7	6	2	2	2	9	5	4	3	5	5	
	9	5	0	3	9	6	0	5	9	1	0	2	7	0	7	6	9	9	2	3	2	8	0	6	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	
Necrosis																					2					
Pigment					1																					
Vacuolation, Cytoplasmic														3												
Bilateral, Hyperplasia, Focal			1														3		3							
Bilateral, Hypertrophy, Focal																										
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Hyperplasia, Focal					2					4		2							1		2					
Thrombus																										
Bilateral, Hyperplasia, Focal			4					3																		
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Parathyroid Gland	+	+	+	+	+	M	+	+	M	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	
Hyperplasia, Diffuse	2	2	2	1	2		2	1		2	2	2		2	2	1	2	2	1		2	2	2	2		
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Pars Distalis, Cyst																										
Pars Distalis, Hyperplasia	2		1	1		1	3		1		4			1		1	3	1								
Pars Distalis, Karyomegaly																1										
Pars Nervosa, Vacuolation, Cytoplasmic																	2									
Rathke's Cleft, Cyst																										
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
C-cell, Hyperplasia	3																									
Epithelium, Follicle, Hyperplasia																						3				

GENERAL BODY SYSTEM

NONE

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		DAY ON TEST																				males (cont...)				
		06	04	06	06	07	06	07	06	07	06	06	01	07	06	06	07	07	07	05	06		06	07	04	04
		19	45	90	73	29	46	30	15	29	90	02	58	37	66	29	29	22	23	95	54		43	55	50	
HARLAN SPRAGUE DAWLEY RATS MALE 0mg/L male	ANIMAL ID	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
		01	02	03	04	05	06	07	08	09	00	01	02	03	04	05	06	07	08	09	00	01	02	03	04	05

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hypospermia				X			X			X	X				X				X	X				
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Inflammation, Chronic Active																						4		
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Decreased Secretory Fluid Epithelium, Hyperplasia																								1
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Decreased Secretory Fluid								X				X								X	X			
Testis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemorrhage																								3
Polyarteritis Nodosa				2	3	2	3		1		3									1			2	2
Germ Cell, Degeneration	3	2						1				3									2			

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hypercellularity																								4
Lymph Node																								+
Lymphatic Sinus, Mediastinal, Dilation																								2
Pancreatic, Hyperplasia, Lymphocyte																								3
Pancreatic, Inflammation, Suppurative																								4
Pancreatic, Necrosis																								

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ANIMAL ID	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010	0011	0012	0013	0014	0015	0016	0017	0018	0019	0020	0021	0022	0023	0024	0025	0026

Lymph Node, Mandibular Atrophy	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperplasia, Plasma Cell Inflammation, Chronic Inflammation, Chronic Active Pigment				2					3	2		2		2	2		2	2	1				1		
Lymphatic Sinus, Dilation							2				2								3						

Lymph Node, Mesenteric Hemorrhage	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Infiltration Cellular, Histiocyte				3																					

Spleen Atrophy	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Extramedullary Hematopoiesis																									
Lymphocyte, Hyperplasia																									
White Pulp, Atrophy																									

Thymus Atrophy	+	M	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
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INTEGUMENTARY SYSTEM

Mammary Gland Mineral Duct, Dilation	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Skin Cyst Epithelial Inclusion	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Fibrosis																									

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HARLAN SPRAGUE DAWLEY RATS MALE 0mg/L male	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	males (cont...)
		6	4	6	6	7	6	7	6	6	6	1	7	6	6	7	7	7	5	6	6	7	4	4	4	4	
	ANIMAL ID	1	4	9	7	2	4	3	1	2	9	0	5	8	3	7	6	2	2	9	5	4	3	5	5	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	0	

Inflammation, Chronic Active
Ulcer

4

4

MUSCULOSKELETAL SYSTEM

Bone
Fibrous Osteodystrophy

+
2

NERVOUS SYSTEM

Brain
Cyst Epithelial Inclusion
Glial Cell, Hyperplasia

+ +

Peripheral Nerve

Spinal Cord
Axon, Degeneration

RESPIRATORY SYSTEM

Lung
Congestion
Hemorrhage
Infiltration Cellular, Histiocyte
Inflammation, Chronic
Inflammation, Chronic Active
Mineral
Alveolar Epithelium, Hyperplasia

+
2
2
1 2
1 2 1 1 1 2 1 1
1 1 1 1 1
2 1
3

Nose

+ +

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A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | males
(cont...) |
|---------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|
| HARLAN SPRAGUE DAWLEY RATS MALE | | 6 | 4 | 6 | 6 | 7 | 6 | 7 | 6 | 6 | 6 | 1 | 7 | 6 | 6 | 7 | 7 | 7 | 5 | 6 | 6 | 7 | 4 | 4 | | | |
| 0mg/L male | | 1 | 4 | 9 | 7 | 2 | 4 | 3 | 1 | 2 | 9 | 0 | 5 | 8 | 3 | 7 | 6 | 2 | 2 | 2 | 9 | 5 | 4 | 3 | 5 | 5 | |
| ANIMAL ID | | 9 | 5 | 0 | 3 | 9 | 6 | 0 | 5 | 9 | 1 | 0 | 2 | 7 | 0 | 7 | 6 | 9 | 9 | 2 | 3 | 2 | 8 | 0 | 6 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
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| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 2 | 3 | 4 | 5 |

Inflammation, Chronic Active

Goblet Cell, Nasopharyngeal Duct, Hyperplasia

Goblet Cell, Respiratory Epithelium, Hyperplasia

Olfactory Epithelium, Accumulation, Hyaline Droplet

Olfactory Epithelium, Degeneration

Respiratory Epithelium, Inflammation, Acute

Respiratory Epithelium, Inflammation, Chronic

Respiratory Epithelium, Vacuolation, Cytoplasmic

Septum, Inflammation, Chronic

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Trachea
Inflammation, Chronic

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SPECIAL SENSES SYSTEM

Eye

Phthisis Bulbi

Cornea, Inflammation, Acute

Cornea, Inflammation, Chronic

Cornea, Inflammation, Chronic Active

Retina, Dysplasia

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Harderian Gland
Hyperplasia

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Zymbal's Gland

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* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

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| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
0mg/L male | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | males
(cont...) |
| | | 6 | 4 | 6 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 6 | 1 | 7 | 6 | 6 | 7 | 7 | 7 | 5 | 6 | 6 | 7 | 4 | 4 | |
| | ANIMAL ID | 1 | 4 | 9 | 7 | 2 | 4 | 3 | 1 | 2 | 9 | 0 | 5 | 8 | 3 | 7 | 6 | 2 | 2 | 2 | 9 | 5 | 4 | 3 | 5 | |
| | 9 | 5 | 0 | 3 | 9 | 6 | 0 | 5 | 9 | 1 | 0 | 2 | 7 | 0 | 7 | 6 | 9 | 9 | 2 | 3 | 2 | 8 | 0 | 6 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Mineral | 2 | 2 | 1 | 1 | | 1 | | | | | | 1 | | | | | | | | | | | 2 | | |
| Nephropathy, Chronic Progressive | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 4 | 4 | 3 | 2 | 3 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 2 | 2 |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pelvis, Dilation | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | | 1 | | 2 | | | 1 | | | | | 2 | 2 | 1 | 1 | | |
| Renal Tubule, Atypical Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Renal Tubule, Inflammation, Suppurative | | | | 2 | 1 | | 1 | | 1 | | | 1 | | 2 | 1 | | 1 | 2 | 2 | | | 1 | 1 | | |
| Urothelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Inflammation, Chronic | | | 1 | | | | | | | | | | | | | | | | | | | | | | |
| Serosa, Inflammation, Chronic Active | | | | | | | | | | | | | | 1 | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

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I .. Insufficient tissue

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|-------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|
| | 0661 | 0662 | 0663 | 0664 | 0665 | 0666 | 0667 | 0668 | 0669 | 0670 | 0671 | 0672 | 0673 | 0674 | 0675 | 0676 | 0677 | 0678 | 0679 | 0680 | | | | | |
| ANIMAL ID | 00026 | 00027 | 00028 | 00029 | 00030 | 00031 | 00032 | 00033 | 00034 | 00035 | 00036 | 00037 | 00038 | 00039 | 00040 | 00041 | 00042 | 00043 | 00044 | 00045 | 00046 | 00047 | 00048 | 00049 | 00050 |
| 0661 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0662 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0663 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0664 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0665 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0666 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0667 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0668 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0669 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0670 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0671 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0672 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0673 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0674 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0675 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0676 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0677 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0678 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0679 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0680 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Erosion | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Inflammation, Acute | | | | | | | | | | 3 | | | | | | | | | | | | | | | | | 1 3.0 |
| Inflammation, Chronic | | | | 2 | | 1 | | | | | | | | | | 1 | | | | | | | | | | | 4 1.5 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mineral | | | | | | | | | 3 | | | | | | | | 2 | | | | | | | | | | 4 2.3 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst, Multiple | | | | | | | | | | | | X | | | | | | | | | | | | | | | 1 |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Parasite Metazoan | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Parasite Metazoan | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | 1 2.0 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically M .. Missing tissue
 X .. Lesion present A .. Autolysis precludes evaluation
 I .. Insufficient tissue BLANK .. Not examined microscopically

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| HARLAN SPRAGUE DAWLEY RATS
MALE
0mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|
| | 0661 | 0663 | 0665 | 0667 | 0669 | 0671 | 0673 | 0675 | 0677 | 0679 | 0681 | 0683 | 0685 | 0687 | 0689 | 0691 | 0693 | 0695 | 0697 | 0699 | | |
| ANIMAL ID | 00026 | 00027 | 00028 | 00029 | 00030 | 00031 | 00032 | 00033 | 00034 | 00035 | 00036 | 00037 | 00038 | 00039 | 00040 | 00041 | 00042 | 00043 | 00044 | 00045 | | |
| Basophilic Focus | | | | | | | X | | | | X | | | | | | | | | | 2 | |
| Clear Cell Focus | | | | | | | | | | X | X | | | X | | | | X | X | | X | 14 |
| Congestion | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Eosinophilic Focus | | | | | | | | | | | | | | | | | | | | | | 3 |
| Fatty Change, Diffuse | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hepatodiaphragmatic Nodule | | | | | | | | | X | | | | | | | | | | | | | 1 |
| Inclusion Body Intracytoplasmic | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Mixed Cell Focus | | | | | | | | | | | | | | X | X | | | | | | | 3 |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | 1 |
| Bile Duct, Cyst | | | | | | | | | | | | | | | | | | | | | | 1 |
| Bile Duct, Hyperplasia | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | | 1 | | 1 | 1 | 42 1.1 |
| Hepatocyte, Fatty Change, Focal | | | | | | | | | | 2 | | | | | | | | | | | | 4 1.3 |
| Hepatocyte, Necrosis | 3 | | | | | | | | | | | | | | | | | | | | | 4 2.0 |
| Oval Cell, Hyperplasia | | | | | | | | | | 1 | | | | | | | | | | | | 1 1.0 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | 2 |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | 3 3.0 |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | 50 |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | 5 2.0 |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | 1 |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | 5 1.6 |
| Acinus, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | 22 2.5 |
| Duct, Cyst | | | | | | | | | | | | | | | | | | | | | | 1 |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | 50 |
| Mineral | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | 50 |

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+ .. Tissue examined microscopically

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Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
0mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | 0
6
6
1 | 0
4
9
3 | 0
6
3
2 | 0
6
5
2 | 0
5
7
1 | 0
5
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1 | 0
6
3
9 | 0
6
1
4 | 0
5
5
1 | 0
6
5
4 | 0
7
3
0 | 0
7
3
0 | 0
5
6
8 | 0
6
3
6 | 0
6
8
5 | 0
6
5
9 | 0
5
8
8 | 0
1
2
2 | 0
7
2
9 | 0
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7
4 | | 0
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3
0 | 0
4
8
2 | 0
6
8
2 | 0
5
8
7 |
| ANIMAL ID | 0
0
0
2
6 | 0
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2
7 | 0
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8 | 0
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3
9 | 0
0
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3 | 0
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4
8 | 0
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0
4
9 | 0
0
0
5
0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|-----|
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.5 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 3.5 |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 2.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|----|--|--|
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | 20 | 2.1 | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|----|--|--|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | 15 | 2.3 | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|----|--|--|
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cardiomyopathy | | | | | | | | | | | | | | | | | | | | | | | | | 47 | 2.1 | | | |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | 13 | 1.4 | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|----|--|--|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.0 | | | |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | 21 | 1.6 | | | |
| Hypertrophy, Focal | | | | | | | | | | | | | | | | | | | | | | | | | 20 | 1.3 | | | |
| Karyomegaly | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.0 | | | |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

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2) Mild 4) Marked

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0mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | | | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-----|---|-----|---|-----|---|-----|--|----|-----|-----|-----|
| | 061 | 063 | 065 | 067 | 069 | 071 | 073 | 075 | 077 | 079 | 081 | 083 | 085 | 087 | 089 | 091 | 093 | 095 | 097 | 099 | 101 | 103 | 105 | 107 | | 109 | | | | | | | | | | | |
| ANIMAL ID | 00026 | 00027 | 00028 | 00029 | 00030 | 00031 | 00032 | 00033 | 00034 | 00035 | 00036 | 00037 | 00038 | 00039 | 00040 | 00041 | 00042 | 00043 | 00044 | 00045 | 00046 | 00047 | 00048 | 00049 | 00050 | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | 1.5 | | | | | | | | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | | | | | | |
| Vacuolation, Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 | | | | | |
| Bilateral, Hyperplasia, Focal | | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 5 | 2.2 | | | | | |
| Bilateral, Hypertrophy, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | | | | |
| Adrenal Medulla | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | | | | | |
| Hyperplasia, Focal | | | | 2 | | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 18 | 1.9 | | |
| Thrombus | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 3.3 | |
| Islets, Pancreatic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | | |
| Parathyroid Gland | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 | |
| Hyperplasia, Diffuse | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 39 | 1.7 |
| Pituitary Gland | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Pars Distalis, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 14 | 1.7 |
| Pars Distalis, Karyomegaly | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Pars Nervosa, Vacuolation, Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Rathke's Cleft, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Thyroid Gland | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| C-cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | 2.4 |
| Epithelium, Follicle, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |

GENERAL BODY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

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| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|-------------|---------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|--------|-------|-------|-------|
| | 0661 | 064931 | 066322 | 066511 | 065511 | 066639 | 066614 | 065514 | 067700 | 067733 | 065638 | 066659 | 066688 | 065172 | 067722 | 065774 | 067482 | 066482 | 066622 | 065782 | | 066575 | | | |
| ANIMAL ID | 00026 | 00027 | 00028 | 00029 | 00030 | 00031 | 00032 | 00033 | 00034 | 00035 | 00036 | 00037 | 00038 | 00039 | 00040 | 00041 | 00042 | 00043 | 00044 | 00045 | 00046 | 00047 | 00048 | 00049 | 00050 |

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hypospermia | | | X | X | X | | X | | X | | | | | X | | X | | | | | | | | | | 14 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Decreased Secretory Fluid | | | | | X | | | | | | | | | | X | | | | | | | | | | | 2 |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 3 1.7 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Decreased Secretory Fluid | | | | X | X | | X | | X | | | | | X | | | | | | | | | | | | 9 |
| Testis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Polyarteritis Nodosa | 1 | 2 | 3 | 3 | | 2 | 2 | 2 | 3 | | | 2 | | 4 | | 3 | 2 | | 2 | | 1 | 2 | | 1 | 2 | 28 2.2 |
| Germ Cell, Degeneration | | | | | 3 | | | | | | | | | | | | | | | | | | 2 | | | 8 2.1 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hypercellularity | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Lymph Node | | | | + | | | | | | | | | | | | | | | | | | | | | | 3 |
| Lymphatic Sinus, Mediastinal, Dilation | | | 3 | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Pancreatic, Hyperplasia, Lymphocyte | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pancreatic, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Pancreatic, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
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| HARLAN SPRAGUE DAWLEY RATS
MALE
0mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|----|-----|-----|-----|
| | 0661 | 0663 | 0665 | 0667 | 0669 | 0671 | 0673 | 0675 | 0677 | 0679 | 0681 | 0683 | 0685 | 0687 | 0689 | 0691 | 0693 | 0695 | 0697 | 0699 | | | | | |
| ANIMAL ID | 00026 | 00027 | 00028 | 00029 | 00030 | 00031 | 00032 | 00033 | 00034 | 00035 | 00036 | 00037 | 00038 | 00039 | 00040 | 00041 | 00042 | 00043 | 00044 | 00045 | | | | | |
| Lymph Node, Mandibular Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 2.0 | | |
| Hyperplasia, Plasma Cell Inflammation, Chronic | 2 | | 2 | 2 | | | 3 | | | 2 | | | 3 | 1 | 3 | | | 3 | 2 | 1 | 2 | 2 | 1 | 24 | 2.0 |
| Inflammation, Chronic Active Pigment | | | | | | | 1 | | | | | | | | 2 | | | | | | | | | 1 | 1.0 |
| Lymphatic Sinus, Dilation | | | | | | | | | | 2 | | | | | | | | | | | | | | 4 | 2.3 |
| Lymph Node, Mesenteric Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 3.0 | |
| Infiltration Cellular, Histiocyte | | 2 | | | | | | | | | | | | | | | | | | | | | 3 | 2.3 | |
| Spleen Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 3.0 | |
| Extramedullary Hematopoiesis | | | 3 | | | | | | | | | 2 | | | | | | 2 | | | | | 5 | 2.4 | |
| Lymphocyte, Hyperplasia | | | | | | | 2 | | | | | | | | | | | | | | | | 1 | 2.0 | |
| White Pulp, Atrophy | | | | | | | | | | | | | | | 2 | | 2 | | | | | | 2 | 2.0 | |
| Thymus Atrophy | + | + | + | + | + | + | 3 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | 1 | 3.0 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland Mineral Duct, Dilation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | 48 | 1 | 1.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Skin Cyst Epithelial Inclusion | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 3 | |
| Fibrosis | | | | | | | | | | | | | X | | | | | | | | | | | 1 | 3.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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|---|-------------|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE

0mg/L male | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ANIMAL ID | 6 | 4 | 6 | 6 | 5 | 5 | 6 | 6 | 5 | 6 | 7 | 7 | 5 | 6 | 6 | 6 | 5 | 1 | 7 | 7 | 5 | 7 | 4 | 6 | 5 | 6 |
| | | 6 | 9 | 3 | 5 | 7 | 0 | 3 | 1 | 5 | 5 | 3 | 3 | 6 | 3 | 8 | 5 | 8 | 8 | 2 | 2 | 7 | 3 | 8 | 8 | 7 | 5 |
| | | 1 | 3 | 2 | 2 | 1 | 1 | 9 | 4 | 1 | 4 | 0 | 0 | 8 | 6 | 5 | 9 | 8 | 9 | 9 | 9 | 4 | 0 | 2 | 2 | 5 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |
| | | * TOTALS | | | | | | | | | | | | | | | | | | | | | | | | | |

Inflammation, Chronic Active

1 4.0

Ulcer

1 4.0

MUSCULOSKELETAL SYSTEM

Bone
Fibrous Osteodystrophy

+ 50
1 2.0

NERVOUS SYSTEM

Brain
Cyst Epithelial Inclusion
Glial Cell, Hyperplasia

+ X + 50
1
2 2.0

Peripheral Nerve

+ 1

Spinal Cord
Axon, Degeneration

+ 1
1 1.0

RESPIRATORY SYSTEM

Lung
Congestion
Hemorrhage
Infiltration Cellular, Histiocyte
Inflammation, Chronic
Inflammation, Chronic Active
Mineral
Alveolar Epithelium, Hyperplasia

+ 50
3 2 2.5
2 1 5 1.6
2 1 4 2 2 21 1.6
1 1 2 12 1.1
1 2 1.5
2 1.5
1 3.0

Nose

+ 50

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically M .. Missing tissue 1-4 .. Lesion qualified as:
X .. Lesion present A .. Autolysis precludes evaluation 1) Minimal 3) Moderate
I .. Insufficient tissue BLANK .. Not examined microscopically 2) Mild 4) Marked

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|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0661 | 0663 | 0665 | 0667 | 0669 | 0671 | 0673 | 0675 | 0677 | 0679 | 0681 | 0683 | 0685 | 0687 | 0689 | 0691 | 0693 | 0695 | 0697 | 0699 | |
| ANIMAL ID | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | |
| | 26 | 7 | 8 | 9 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|---|---|---|---|---|----|-----|----|-----|
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | 2 | 1 | 2.0 | | |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | 4 | 1.0 | | |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | 1 | 1 | 2 | | 1 | | | 2 | 1 | | | 1 | 1 | | | | 1 | 1 | | | 1 | 16 | 1.1 | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 2 | 2 | | 1 | 2 | 1 | 3 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | | | 2 | 1 | 2 | 2 | 3 | 2 | 42 | 1.8 |
| Olfactory Epithelium, Degeneration | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1.0 | | |
| Respiratory Epithelium, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | 2 | 1.5 | | |
| Respiratory Epithelium, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | |
| Respiratory Epithelium, Vacuolation, Cytoplasmic | 2 | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | |
| Septum, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1.0 | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|
| Trachea Inflammation, Chronic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1.0 |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|----|---|-----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Phthisis Bulbi | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Cornea, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | 1 | 4 | 2.3 | | | |
| Cornea, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | 3 | 2.0 | | | |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | 3 | 1.7 | | | |
| Retina, Dysplasia | | | | | | | | | | | | | | | | | | | | | 2 | 1 | 2.0 | | | |
| Harderian Gland Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 | 3.0 |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
0mg/L male | DAY ON TEST | 0661 | 0493 | 0632 | 0652 | 0551 | 0663 | 0651 | 0664 | 0551 | 0664 | 0770 | 0770 | 0556 | 0663 | 0665 | 0588 | 0118 | 0772 | 0772 | 0574 | 0773 | 0488 | 0688 | 0575 | * TOTALS |
| | ANIMAL ID | 0006 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 | 0026 | 0027 | 0028 | 0029 | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|------------|------------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Mineral | | 2 | 1 | | | | 1 | 2 | 2 | | | | | | | | | | | | | | 2 | | | | | 13 | 1.5 |
| Nephropathy, Chronic Progressive | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 4 | 2 | 4 | 4 | 1 | 4 | 2 | 4 | 3 | 4 | 4 | 4 | 4 | 50 | 3.4 | |
| Thrombus | | | X | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Pelvis, Dilation | | 2 | 2 | 2 | | 1 | 1 | 2 | 1 | | 1 | 2 | | | | | 2 | 1 | 1 | 1 | | 1 | | | 2 | 2 | 31 | 1.5 | |
| Renal Tubule, Atypical Hyperplasia | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | 1 | 2.0 |
| Renal Tubule, Inflammation, Suppurative | 2 | | 1 | | | 1 | | | | 1 | 1 | 1 | 1 | 1 | | 1 | | | | 1 | 1 | 1 | 1 | | | | 25 | 1.2 | |
| Urothelium, Hyperplasia | | | | | | | | | | | | | 3 | | | | | | | | | | | | | | | 1 | 3.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Serosa, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

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Experiment Number: 03038 - 03
Test Type: CHRONIC
Route: DOSED WATER
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Sodium Tungstate Dihydrate
CAS Number: 10213-10-2

Date Report Requested: 02/28/2019
Time Report Requested: 13:33:08
First Dose M/F: 01/30/12 / 01/31/12
Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
250mg/L male | DAY ON TEST | | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) | | | |
|--|-------------|---|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| | 6 | 6 | 7 | 7 | 3 | 7 | 5 | 4 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 6 | 5 | 4 | 7 | 6 | 6 | 7 | 3 | 8 | 7 | 6 | 2 | 8 | 7 |
| | 6 | 7 | 3 | 3 | 5 | 3 | 8 | 2 | 8 | 0 | 9 | 3 | 2 | 2 | 2 | 2 | 8 | 2 | 2 | 3 | 8 | 7 | 6 | 2 | 8 | 6 | 6 | 6 | 2 | 8 | 7 | 6 | 8 | |
| | 6 | 6 | 0 | 0 | 8 | 0 | 3 | 8 | 3 | 0 | 0 | 0 | 9 | 9 | 9 | 5 | 9 | 1 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Acute | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mineral | | | | | | | | | | 2 | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Acute | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parasite Metazoan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Peyer's Patch, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

| | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | males
(cont...) | | | | | | |
|------------------------------------|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|------|------|------|------|------|------|
| HARLAN SPRAGUE DAWLEY RATS
MALE | | 0666 | 0673 | 0673 | 0673 | 0675 | 0678 | 0682 | 0688 | 0688 | 0690 | 0690 | 0693 | 0697 | 0699 | 0699 | 0705 | 0707 | 0706 | 0707 | 0706 | | 0705 | 0704 | 0707 | 0706 | 0708 | 0709 |
| 250mg/L male | | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 | | 0005 | 0005 | 0005 | 0005 | 0005 | 0005 |
| ANIMAL ID | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| Intestine Small, Jejunum | | + | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diverticulum | | + | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Peyer's Patch, Hyperplasia | | + | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Liver | | + | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basophilic Focus | | + | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Clear Cell Focus | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | |
| Hepatodiaphragmatic Nodule | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | |
| Artery, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct, Cyst | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct, Hyperplasia | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Hepatocyte, Fatty Change, Focal | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | |
| Hepatocyte, Fatty Change, Diffuse | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Necrosis | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | + | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | 4 | | | | | | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | X | | | | | | |
| Artery, Inflammation | | | | | | | | | | | | | | | | | | | | | | 4 | | | | | | |
| Pancreas | | + | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | | | | X | | | | | | |
| Cytoplasmic Alteration | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 02/28/2019

Test Type: CHRONIC

Sodium Tungstate Dihydrate

Time Report Requested: 13:33:08

Route: DOSED WATER

CAS Number: 10213-10-2

First Dose M/F: 01/30/12 / 01/31/12

Species/Strain: RATS/HSD

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
250mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | males
(cont...) | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ANIMAL ID | 0
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|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acinus, Hyperplasia | 2 | | | | | | | | | | | | | | | | | | | | 4 | 4 | 2 | 3 | 1 | 2 | 2 | | 2 | | | | | | | | | | | | | | |
| Salivary Glands | + | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach
Edema
Inflammation, Chronic
Mineral
Ulcer | + | | | | | | | | | | | | | | | | | | | | 3 | | | | | 4 | | | | | | | | | | | | | | | | | |
| Stomach, Glandular
Mineral | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | | | | | | | |
| | 2 | | | 3 | | | 1 | | | 3 | 3 | | | 1 | | | 1 | 1 | | | 3 | 3 | 1 | | | | | | | | | | | | | | | | | | | | |
| Tongue
Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel
Inflammation, Chronic Active
Mineral | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | 3 | | | | 3 | | | | 3 | 3 | | | | | 2 | | | | | | | | | | |
| Heart
Cardiomyopathy
Inflammation, Suppurative
Mineral
Thrombus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | 3 | 3 | | | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 1 | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 3 |
| | 1 | | | | | | | | 2 | | | | | | | | | | | | 1 | | | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically M .. Missing tissue
X .. Lesion present A .. Autolysis precludes evaluation
I .. Insufficient tissue BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|---|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| DAY ON TEST | | 6 | 6 | 7 | 7 | 3 | 7 | 5 | 4 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 6 | 5 | 4 | 7 | 6 | 6 | | |
| HARLAN SPRAGUE DAWLEY RATS MALE | | 6 | 7 | 3 | 3 | 5 | 3 | 8 | 2 | 8 | 0 | 9 | 3 | 2 | 2 | 2 | 2 | 8 | 2 | 2 | 3 | 8 | 7 | 6 | 2 | 8 | 8 | | |
| 250mg/L male | | 6 | 6 | 0 | 0 | 8 | 0 | 3 | 8 | 3 | 0 | 0 | 0 | 9 | 9 | 9 | 9 | 5 | 9 | 1 | 0 | 0 | 0 | 0 | 9 | 7 | 7 | | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | males (cont...) |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Focal | | | | 2 | | | 1 | | 1 | 2 | 3 | | 3 | | | 3 | | 1 | 1 | | 1 | 1 | 1 | | | | | | |
| Hypertrophy, Focal | | | | | 1 | | | | | | | | 2 | | | | | 1 | | | 2 | | 1 | 1 | | | | | |
| Karyomegaly | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | 2 | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | |
| Pigment | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | |
| Thrombus | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | 3 | | | 2 | | | | | | | | | | | | | |
| Bilateral, Hypertrophy, Focal | | | | | | 2 | | | | | | 1 | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia, Focal | | | 4 | | | | | | | | | 2 | 2 | 2 | | | | | | | | | | | | 4 | | | |
| Infiltration Cellular, Mononuclear Cell | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | |
| Bilateral, Hyperplasia, Focal | | | | | | 4 | | | | | | | | | | | | | | | 2 | | | | | | | | |
| Islets, Pancreatic | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | |
| Parathyroid Gland | | + | + | + | M | + | M | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Diffuse | | 2 | | 1 | | 1 | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | | | 1 | 1 | 1 | 2 | 1 | | 2 | 2 | 2 | | | | |
| Pituitary Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Pars Distalis, Hyperplasia | | | | 2 | | 1 | 4 | 4 | | | 1 | | | 4 | 3 | | 1 | | 1 | | 1 | 1 | | | | | | | |
| Pars Distalis, Hypertrophy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Nervosa, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|-------|-------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
250mg/L male | DAY ON TEST | 0666 | 0673 | 0773 | 0735 | 0773 | 0848 | 0866 | 0866 | 0866 | 0777 | 0777 | 0777 | 0777 | 0777 | 0577 | 0676 | 0776 | 0665 | 0544 | 0776 | 0687 | 0676 | 0676 | males
(cont...) | | |
| | ANIMAL ID | 00051 | 00052 | 00053 | 00054 | 00055 | 00056 | 00057 | 00058 | 00059 | 00060 | 00061 | 00062 | 00063 | 00064 | 00065 | 00066 | 00067 | 00068 | 00069 | 00070 | 00071 | 00072 | 00073 | | 00074 | 00075 |
| | Infiltration Cellular, Mononuclear Cell
C-cell, Hyperplasia | | 3 | | 1 | | 2 | | | | | 1 | | | | | | | 4 | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hypospermia | | X | | | | | X | X | X | X | | | X | | | | X | | | | | | | X | |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Suppurative | | | | | 4 | | | | | | | | | | | | | | | | | | | | |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Chronic Active
Epithelium, Hyperplasia | | | | | | 1 | | | | | | 1 | | 1 | | 1 | | | | | | | | | |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Decreased Secretory Fluid | | X | | | | | X | | | X | | | | | | | | | | | | | | | |
| Inflammation, Chronic
Inflammation, Chronic Active | | | | | 2 | | | | | | | | | | | | | | | | | | | | |
| Testis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Polyarteritis Nodosa | 2 | | 2 | 1 | | 1 | 3 | | 4 | 3 | 3 | 1 | 2 | 2 | 2 | | 2 | 2 | | | 2 | 1 | 3 | | |
| Germ Cell, Degeneration | | 1 | | | | | | | | | | | | 3 | | | | | | | | | | | 3 |

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
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Experiment Number: 03038 - 03
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 Sodium Tungstate Dihydrate
 CAS Number: 10213-10-2

Date Report Requested: 02/28/2019
 Time Report Requested: 13:33:08
 First Dose M/F: 01/30/12 / 01/31/12
 Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|---|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 250mg/L male | 6 | 6 | 7 | 7 | 3 | 7 | 5 | 4 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 6 | 5 | 4 | 7 | 6 | |
| | 6 | 7 | 3 | 3 | 5 | 3 | 8 | 2 | 8 | 0 | 9 | 3 | 2 | 2 | 2 | 2 | 8 | 2 | 2 | 3 | 8 | 7 | 6 | 2 | 8 | | |
| | 6 | 6 | 0 | 0 | 8 | 0 | 3 | 8 | 3 | 0 | 0 | 0 | 9 | 9 | 9 | 9 | 5 | 9 | 1 | 0 | 0 | 0 | 0 | 9 | 7 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Lymph Node | + | | | | | | | | | | | | | | | | | | | | + | | | | | | |
| Bronchial, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lumbar, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | |
| Lumbar, Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lumbar, Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Renal, Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Hyperplasia, Lymphocyte | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Plasma Cell | | | | 2 | | | 2 | 2 | 2 | | | 2 | 1 | 1 | 2 | 2 | 2 | 1 | | 1 | 1 | 1 | | 2 | 1 | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymphatic Sinus, Dilation | | | 3 | 2 | | | 1 | | | | | | | | | | | 3 | | 1 | 2 | | | 2 | | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | |
| Infiltration Cellular, Histiocyte | | | | | | | | | | | 2 | | | | | | | | | | | | | 1 | | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Extramedullary Hematopoiesis | | | | | | | | 2 | | | | 2 | | 2 | | | | 1 | | | | | | 2 | | | |
| Lymphocyte, Hyperplasia | | | | 2 | | | 1 | | | | | 1 | | | | 2 | | | | | | | | | | | |
| White Pulp, Atrophy | 2 | | | | | | | | | | 3 | | | | | | | | | | | | | | | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
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1-4 .. Lesion qualified as:
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Experiment Number: 03038 - 03

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
250mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------------|-----------|--------------------|--|
| | 0666 | 0677 | 0773 | 0773 | 0358 | 0738 | 0542 | 0758 | 0466 | 0666 | 0667 | 0777 | 0777 | 0777 | 0777 | 0777 | 0578 | 0767 | 0767 | 0665 | 0544 | 0777 | 0668 | 0667 | | | |
| | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 000000000000000000000000 | | | |
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland
Inflammation, Chronic
Duct, Dilation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | M | + | M | + | + | + | + | + | + |
| | | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| Skin
Cyst Epithelial Inclusion
Inflammation, Chronic
Inflammation, Chronic Active
Epithelium, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | 2 | | | | | | | | | | | | | 4 | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Skeletal Muscle
Inflammation, Chronic | | + | | | | | | | | | | | | | | | | | | | | | | |
| | | 4 | | | | | | | | | | | | | | | | | | | | | | |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain
Meninges, Fibrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| Peripheral Nerve | | | | + | | | | | | | | | | | | | | | | | | | | |
| Spinal Cord | | | | + | | | | | | | | | | | | | | | | | | | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung
Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
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Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males (cont...) | |
|--|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|-----------------|------|
| | 0666 | 0676 | 0730 | 0733 | 0755 | 0778 | 0828 | 0838 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | 0900 | | | 0900 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 000051 | |
| Infiltration Cellular, Histiocyte Inflammation, Chronic Mineral Polyarteritis Nodosa | 1 | | | 1 | | 1 | | | | 1 | | 2 | 1 | | | | | | 2 | 1 | 1 | | | | 2 | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Edema | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Acute | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | 1 | | | | | | | | 1 | | | | | 1 | 1 | | | | 1 | | | 1 | 1 | 1 | | |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | 1 | 1 | 1 | | | | | | | 1 | | | | | 1 | 1 | | | | 1 | | | 1 | 1 | 1 | | |
| Nasolacrimal Duct, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 2 | 3 | 2 | 2 | | 2 | 1 | 1 | | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 2 | 3 | 1 | 2 | 3 | | | 1 | 2 | | |
| Olfactory Epithelium, Inflammation, Acute | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | |
| Olfactory Epithelium, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Vacuolation, Cytoplasmic | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Respiratory Epithelium, Inflammation, Chronic | | | | | | 2 | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Inflammation, Chronic Active | 1 | | | | | | | | | | | | | | | | | | | | | | | | 3 | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Cornea, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
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| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS MALE | DAY ON TEST | 6 | 6 | 7 | 7 | 3 | 7 | 5 | 4 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 6 | 5 | 4 | 7 | 6 | 6 | 7 | |
| | 250mg/L male | 6 | 7 | 3 | 3 | 5 | 3 | 8 | 2 | 8 | 0 | 9 | 3 | 2 | 2 | 2 | 2 | 8 | 2 | 2 | 3 | 8 | 7 | 6 | 2 | 8 | 6 | 7 | |
| | ANIMAL ID | 6 | 6 | 0 | 0 | 8 | 0 | 3 | 8 | 3 | 0 | 0 | 0 | 9 | 9 | 9 | 9 | 5 | 9 | 1 | 0 | 0 | 6 | 0 | 9 | 7 | 8 | 7 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| males (cont...) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Cornea, Inflammation, Acute
 Cornea, Inflammation, Chronic
 Cornea, Inflammation, Chronic Active

2

Harderian Gland
 Fibrosis
 Hyperplasia

+
 1
 2

Zymbal's Gland

URINARY SYSTEM

Kidney
 Inflammation, Chronic
 Mineral
 Nephropathy, Chronic Progressive
 Epithelium, Renal Tubule, Hyperplasia
 Pelvis, Dilation
 Renal Tubule, Dilation
 Renal Tubule, Inflammation, Suppurative
 Renal Tubule, Regeneration

+
 1 1 1
 4 3 3 2 2 4 4 2 4 4 3 3 2 4 2 4 3 4 3 2 4 4 4 2
 4
 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 2
 2 1 1 1 1 1 1 1 2 2 1 1 2 2 1 2 1 2 1
 2

Urinary Bladder
 Hemorrhage
 Inflammation, Chronic
 Inflammation, Chronic Active
 Urothelium, Hyperplasia

+
 2
 1

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
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Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|---|
| HARLAN SPRAGUE DAWLEY RATS MALE
250mg/L male | | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | ANIMAL ID | 7 | 6 | 7 | 2 | 9 | 2 | 5 | 2 | 7 | 7 | 2 | 2 | 3 | 3 | 3 | 7 | 4 | 5 | 3 | 8 | 5 | 2 | 2 | 3 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|----------|------------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Edema | | | | | | | 3 | | | | | | | | | | | 3 | | | | | | | | | 2 | 3.0 |
| Inflammation, Suppurative | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | 2 | 1.5 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | 2 | 2.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Mineral | | | | | | | 2 | | 2 | | | | | | | | | 1 | | | | | | | | | 6 | 1.7 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Edema | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Parasite Metazoan | X | | | | | | | | | | | | | | | | | | | X | | | X | | | | 5 | |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Peyer's Patch, Hyperplasia | | | | | | | | | | | | | | | | 3 | | | | | | | | | | | 1 | 3.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

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Lab: BAT

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MALE
250mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0730 | 0737 | 0739 | 0742 | 0749 | 0750 | 0757 | 0766 | 0766 | 0767 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | |
| ANIMAL ID | 00076 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | 00097 | 00098 | 00099 | 00100 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Diverticulum | | | | | | X | | | | | | | | | | | | | | | | | | | 1 |
| Peyer's Patch, Hyperplasia | | | | | | | | | | | | | | | 3 | | | 3 | | | | | | | 2 3.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Basophilic Focus | | | | | | | | | | | | | | | | X | | | X | | | | | | 2 |
| Clear Cell Focus | X | | | | X | | | | | X | X | | X | X | X | | | X | | X | | X | | 23 | |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Infiltration Cellular, Plasma Cell | 1 | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Artery, Hyperplasia | 2 | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Bile Duct, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Bile Duct, Hyperplasia | 1 | 1 | 1 | 1 | 1 | | 1 | | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | 1 | | | 1 | 1 | 1 | 38 1.1 |
| Hepatocyte, Fatty Change, Focal | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Hepatocyte, Fatty Change, Diffuse | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 |
| Hepatocyte, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | 2 1.5 |
| Mesentery | + | + | | | | | + | | | | | | | | | | | | | | | | | | 5 |
| Polyarteritis Nodosa | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | 3 3.0 |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Artery, Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Cytoplasmic Alteration | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | 3 | | | 1 3.0 |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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MALE
250mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0730 | 0672 | 0729 | 0694 | 0752 | 0776 | 0666 | 0776 | 0666 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | |
| ANIMAL ID | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-------|
| Acinus, Hyperplasia | 1 | 1 | | 4 | | | | | | 2 | 3 | 3 | | | | 2 | 1 | | | 4 | 4 | 19 | 2.5 | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Edema | | | | | | | | | | | | | | | 2 | | | | | | | | | 1 2.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | 2 | | | | | | | | | 1 2.0 |
| Mineral | | | | | | | | | | | | | | | | 3 | | | | | | | | 1 3.0 |
| Ulcer | | | | 3 | | | | | | | | | | | | | | | | | | | | 3 3.3 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Mineral | 1 | 1 | | 2 | 2 | 2 | 1 | 2 | | | | | | 1 | 3 | | | | | | 1 | | 21 | 1.8 |
| Tongue | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Epithelium, Hyperplasia | | | | | | | | | | | | | + | | | | | | | | | | | 1 2.0 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mineral | | | | | | | 3 | 3 | | | | | | | 3 | 1 | | | | | | | | 9 2.7 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cardiomyopathy | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 3 | 3 | 2 | 2 | | 2 | 2 | 2 | 1 | 3 | 3 | 2 | 2 | | 3 | 45 | 2.4 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 3 | 3 | 2 | | 1 3.0 |
| Mineral | | | | | | 1 | 1 | | | | | | | | | 1 | | | | | | | | 6 1.2 |
| Thrombus | | | | | | | | | | | | | X | | | | | | | X | | | | 2 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
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250mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|---|---|--------|
| | 0730 | 0677 | 0729 | 0694 | 0759 | 0770 | 0669 | 0662 | 0772 | 0779 | 0773 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | | | | |
| ANIMAL ID | 00076 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | | | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | | | |
| Hyperplasia, Focal | 1 | | 3 | 1 | | 3 | 3 | 2 | 2 | | | 2 | | 2 | 2 | | 1 | 2 | 2 | | 2 | 1 | 3 | 28 1.9 |
| Hypertrophy, Focal | 1 | | 2 | 1 | 1 | | | | | | 3 | 1 | | | | | 1 | 2 | 2 | 1 | | | 1 | 17 1.4 |
| Karyomegaly | 1 | 1 | | | | | | | | | | | | | | | | | | | 1 | | | 3 1.0 |
| Necrosis | | | | | | | | | | | | | | | | | | | 1 | | | | | 4 1.3 |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Thrombus | | | | | | | | | X | | | | | | | | | | | | | | | 2 |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | 2 | | | | | | | | | | | 3 2.3 |
| Bilateral, Hypertrophy, Focal | | 2 | | | | | | | | | | | | | | | | | | | 2 | | | 4 1.8 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia, Focal | 1 | | | 1 | | 1 | | | | | | 2 | | | | 3 | | | | | 1 | | | 11 2.1 |
| Infiltration Cellular, Mononuclear Cell | | | | | | | | | | | | | | | | | | | 1 | | | | | 1 1.0 |
| Necrosis | | | | | | | | | | | | 4 | | | | | | | | | | | | 1 4.0 |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | 3 | | | | | | | | | | | | 3 3.0 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | M | + | 45 |
| Hyperplasia, Focal | | 2 | | | | | 1 | | | | | | | | | | 2 | | | | | | | 3 1.7 |
| Hyperplasia, Diffuse | 1 | | 1 | 1 | 2 | 1 | | | 1 | 1 | | 2 | 1 | | 2 | 2 | 2 | | 1 | 2 | | 2 | 2 | 34 1.4 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Hyperplasia | | | | | 1 | | | | | | | | 1 | | 2 | | | 3 | 2 | 4 | | | 4 | 18 2.2 |
| Pars Distalis, Hypertrophy | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 2 1.0 |
| Pars Nervosa, Degeneration | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 1.0 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

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BLANK .. Not examined microscopically

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250mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|---|---|----|
| | 0730 | 0672 | 0729 | 0694 | 0752 | 0776 | 0666 | 0767 | 0666 | 0777 | 0777 | 0777 | 0777 | 0777 | 0533 | 0355 | 0733 | 0853 | 0665 | 0177 | 0777 | 0777 | 0777 | 0777 | | | | |
| ANIMAL ID | 00076 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | 00097 | 00098 | 00099 | 1 | 4 | 1 | 12 |

Infiltration Cellular, Mononuclear Cell
C-cell, Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|--|--|--|--|--|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|---|-----|-----|
| 3 | 3 | | | | | | | 2 | 3 | | | | | | | | | | | | | | | | | | 1 | | | | | | | 1 | 1.0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 2.4 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|-----|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hypospermia | | X | | | | | | X | | | X | | | | X | X | | | | X | | | | | | | | | | | | | | | | 14 | | |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic Active | | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 1.0 | |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Decreased Secretory Fluid | | X | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Inflammation, Chronic Active | | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Testis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Polyarteritis Nodosa | 2 | | | 4 | 1 | 1 | | 4 | | 2 | 2 | 1 | | 1 | 4 | | | | | 2 | | 2 | | | | | 1 | 3 | | | | | | | 31 | 2.1 | | |
| Germ Cell, Degeneration | | 1 | | | | | | | | | | | | | | 3 | 1 | | | | | | | | | | | | | | | | | | | 6 | 2.0 | |

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
250mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|--------|
| | 0730 | 0672 | 0729 | 0694 | 0752 | 0776 | 0666 | 0776 | 0666 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | | 0776 | | | |
| ANIMAL ID | 00076 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | 00097 | 00098 | 00099 | 00100 |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | + | + | | | | | | | | | | | | | | | | | | | | | | 5 |
| Bronchial, Hemorrhage | | 2 | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lumbar, Hemorrhage | | | 2 | | | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Lumbar, Hyperplasia, Plasma Cell | | 2 | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lumbar, Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | 2 | | | | | | | | | | 2 2.5 |
| Renal, Hyperplasia, Plasma Cell | | 2 | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia, Lymphocyte | | | | | | | | | | | | 2 | | | | | | | | | | | | | 2 2.0 |
| Hyperplasia, Plasma Cell | 1 | 2 | 2 | | 1 | | 2 | 2 | 3 | 2 | 2 | | | 3 | 2 | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 35 1.8 |
| Pigment | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Lymphatic Sinus, Dilation | | 3 | | | | | | | | 2 | | 3 | | | | | 2 | | | | 2 | | | 2 | 13 2.2 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 3 | | | | | | 1 3.0 |
| Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Infiltration Cellular, Histiocyte | | | 2 | | | | | | | | | | | | | | | | | | | | | | 3 1.7 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Extramedullary Hematopoiesis | | 4 | 4 | | | | | | | | | | | | | | | | | | | 2 | 1 | | 9 2.2 |
| Lymphocyte, Hyperplasia | | | | | | | | | | | 2 | | | | 2 | | 2 | | | | | | | | 7 1.7 |
| White Pulp, Atrophy | | | | | 2 | | | 3 | | | | | | | | | | | | | | | | | 4 2.5 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | 48 |

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
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Experiment Number: 03038 - 03

Test Type: CHRONIC

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
250mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0730 | 0672 | 0729 | 0694 | 0752 | 0769 | 0662 | 0677 | 0662 | 0772 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | |
| ANIMAL ID | 00076 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | 00097 | 00098 | 00099 | 00100 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|-------|
| Mammary Gland Inflammation, Chronic Duct, Dilation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | 1 2.0 | 1 2.0 |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|-------|

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-------|-------|-------|
| Skin Cyst Epithelial Inclusion Inflammation, Chronic Inflammation, Chronic Active Epithelium, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 | 1 2.0 | 1 4.0 | 1 4.0 |
| | | | | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|--|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Skeletal Muscle Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 4.0 | |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|--|
| Brain Meninges, Fibrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 1.0 | |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|--|
| Lung Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 3 1.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

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CAS Number: 10213-10-2

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Lab: BAT

| DAY ON TEST
HARLAN SPRAGUE DAWLEY RATS
MALE
250mg/L male | ANIMAL ID | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | |
|---|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|---|------|------|-----------|------------|------------|
| | 0730 | 0672 | 0794 | 0679 | 0572 | 0766 | 0667 | 0777 | 0677 | 0777 | 0777 | 0777 | 0777 | 0777 | 0573 | 0354 | 0738 | 0655 | 0172 | 0777 | | | 0777 | 0777 | | | |
| Infiltration Cellular, Histiocyte | 2 | 3 | | 4 | 1 | 2 | | 2 | | | | | | 3 | | | | 1 | | 3 | 2 | 1 | 1 | 2 | 23 | 1.7 | |
| Inflammation, Chronic | | | | | | | | | | | | | 1 | 2 | 1 | | | | | 1 | 2 | | 1 | | 15 | 1.3 | |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | 2 | | | | 2 | 1.5 | |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | | | | | | | | | | | 1 | 1 | 1 | | | | | | | | 1 | | 1 | 14 | 1.0 | |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | 1 | | | 1 | | | | | | | | 1 | 1 | 1 | | | | | | | | 1 | | 1 | 19 | 1.0 | |
| Nasolacrimal Duct, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 46 | 1.8 | |
| Olfactory Epithelium, Inflammation, Acute | 1 | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.5 | |
| Olfactory Epithelium, Inflammation, Chronic Active | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 | 1.0 | |
| Olfactory Epithelium, Necrosis | | | | 3 | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 | |
| Olfactory Epithelium, Vacuolation, Cytoplasmic | | | | | | | | | | 2 | | | | | | | | | | 1 | | | | | 3 | 1.7 | |
| Respiratory Epithelium, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | 1 | | | 2 | 1.0 | |
| Respiratory Epithelium, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Respiratory Epithelium, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1.0 | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cornea, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

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Experiment Number: 03038 - 03

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| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
250mg/L male | DAY ON TEST | 07030 | 06770 | 07294 | 06920 | 05720 | 06760 | 06672 | 07629 | 06720 | 07730 | 07733 | 07733 | 07733 | 05766 | 03547 | 05738 | 07656 | 01772 | 07739 | 07733 | 07733 | 07730 | * TOTALS | |
| | ANIMAL ID | 00076 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | 00097 | | 00098 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|---|--|--|---|---|-----|
| Cornea, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Cornea, Inflammation, Chronic | | | | | | | | | | | 2 | | | | | | | | | | | | | 1 | 2.0 |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | 2 | | | 2 | 2 | 2.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
|----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|-----|-----|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Inflammation, Chronic | | | 2 | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | |
| Mineral | | 1 | | | 3 | 2 | | | | | | | | | 2 | | | | | | | | 11 | 1.4 | | | |
| Nephropathy, Chronic Progressive | 4 | 4 | 2 | 4 | 2 | 4 | 2 | 4 | 3 | 4 | 2 | 4 | 4 | 2 | 4 | 4 | 2 | 4 | 1 | 4 | 4 | 4 | 2 | 50 | 3.2 | | |
| Epithelium, Renal Tubule, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4.0 | | |
| Pelvis, Dilation | | 1 | 2 | 2 | | | | | | | 1 | 1 | 1 | | 1 | 1 | | 1 | | 1 | | | 24 | 1.2 | | | |
| Renal Tubule, Dilation | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | |
| Renal Tubule, Inflammation, Suppurative | 1 | 1 | 1 | | 1 | | | | 2 | 1 | 1 | | 1 | 2 | 1 | 1 | | 1 | 2 | 1 | | 2 | 1 | 1 | 1 | 33 | 1.3 |
| Renal Tubule, Regeneration | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Inflammation, Chronic Active | | | | 2 | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Urothelium, Hyperplasia | | | 4 | | | | | | | | | | | | | | | | | | | | | 1 | 4.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| HARLAN SPRAGUE DAWLEY RATS
MALE
500mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
| | 0698 | 0730 | 0682 | 0729 | 0779 | 0477 | 0770 | 0770 | 0779 | 0535 | 0558 | 0729 | 0729 | 0330 | 0173 | 0729 | 0662 | 0664 | 0733 | 0665 | 0723 | 0773 | 0663 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus
Muscularis, Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum
Edema
Inflammation, Chronic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon
Edema
Parasite Metazoan
Lymphoid Tissue, Hyperplasia
Lymphoid Tissue, Inflammation, Granulomatous | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | X |
| | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | X | | | | | | X | | | | X | | | | | | | | | | |
| Intestine Small, Duodenum
Inflammation, Chronic Active
Polyarteritis Nodosa | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum
Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | 2 | | 2 | | | | | | | | | | | | | | | | | | 3 |
| Liver
Angiectasis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
500mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|------|------|
| | 0698 | 0730 | 0682 | 0729 | 0779 | 0477 | 0770 | 0770 | 0779 | 0535 | 0558 | 0729 | 0779 | 0770 | 0773 | 0660 | 0662 | 0730 | 0666 | 0725 | | | 0773 | 0673 |
| Clear Cell Focus | | X | | X | X | X | | X | X | | | X | | | X | | | X | | | X | | X | |
| Degeneration, Cystic | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | |
| Fatty Change, Diffuse | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | | | | | X | | | | | | | | | X | | | | | | X | | | | |
| Pigment | | | 2 | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct, Hyperplasia | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Hepatocyte, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Hypertrophy | | | 2 | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Vacuolation, Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | |
| Oval Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | |
| Acinus, Hyperplasia | 2 | 2 | 2 | 4 | 3 | 4 | | 2 | | | 2 | | | 4 | | 2 | 1 | 1 | | | | | | |
| Duct, Cyst | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
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Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

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First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
500mg/L male | DAY ON TEST | 0698 | 0730 | 0682 | 0772 | 0777 | 0474 | 0777 | 0777 | 0777 | 0575 | 0575 | 0777 | 0777 | 0777 | 0777 | 0676 | 0666 | 0777 | 0666 | 0777 | 0666 | 0777 | 0666 | 0777 | 0666 | 0777 |
| | ANIMAL ID | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 | 0026 | 0027 | 0028 | 0029 | 0030 | 0031 | 0032 | 0033 | 0034 | 0035 |

males
(cont...)

Parathyroid Gland
Hyperplasia, Diffuse

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | M | + | + | M | + | + | + | M | + | + | + | + | + | + | + | + |
| | 1 | 2 | | 1 | 1 | | 1 | 1 | 2 | 1 | | | 2 | | | 3 | 2 | | | 1 | 1 | 1 | 1 | 2 | | |

Pituitary Gland
Pars Distalis, Cyst
Pars Distalis, Hyperplasia
Pars Intermedia, Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| X | | 2 | | 1 | 2 | 1 | | 2 | | 1 | | | 2 | | | 3 | 2 | | | | | 1 | | | | |

Thyroid Gland
C-cell, Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | 1 | | 4 | | | | | | | | | 4 | | | | | | 4 | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis
Granuloma Sperm
Hypospermia
Mesothelium, Cyst

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | 3 | | | | | | X | | X | | | X | | | | | |

Penis
Congestion

| |
|---|
| + |
| 2 |

Preputial Gland
Cyst

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Prostate
Epithelium, Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 1 | | | | 2 | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

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Experiment Number: 03038 - 03

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First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
500mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|------|
| | 0698 | 0730 | 0682 | 0729 | 0779 | 0477 | 0730 | 0770 | 0733 | 0719 | 0575 | 0558 | 0729 | 0779 | 0730 | 0713 | 0729 | 0662 | 0664 | 0730 | 0666 | 0725 | 0770 | 0673 | | 0730 |
| ANIMAL ID | 0010 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Decreased Secretory Fluid | | | X | | | | | | | | | | | | X | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | |
| Testis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Polyarteritis Nodosa | | 2 | 3 | 1 | | | 1 | | | 2 | | | 2 | | | 3 | 2 | | 2 | 2 | | 3 | 2 | | 2 |
| Germ Cell, Degeneration | | | | | | 2 | | | | | 1 | | 2 | | | | | | | | | | 1 | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | | | | + | | | | | | | | | | | | | | | | | | | | + |
| Mediastinal, Hemorrhage | | | | | 2 | | | | | | | | | | | | | | | | | | | | |
| Mediastinal, Pigment | | | | | 3 | | | | | | | | | | | | | | | | | | | | |
| Pancreatic, Hyperplasia, Lymphocyte | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia, Plasma Cell | | | 2 | 2 | 1 | | 2 | | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | | 2 | |
| Lymphatic Sinus, Dilation | | | | | 2 | 2 | | | 2 | 2 | | | | | | | | | | | | | | 3 | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Infiltration Cellular, Histiocyte | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pigment | | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| Lymphatic Sinus, Dilation | | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically M .. Missing tissue 1-4 .. Lesion qualified as:
X .. Lesion present A .. Autolysis precludes evaluation 1) Minimal 3) Moderate
I .. Insufficient tissue BLANK .. Not examined microscopically 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
500mg/L male | DAY ON TEST | 0698 | 0730 | 0682 | 0779 | 0779 | 0747 | 0773 | 0773 | 0771 | 0557 | 0557 | 0772 | 0772 | 0773 | 0771 | 0772 | 0663 | 0664 | 0773 | 0666 | 0772 | 0773 | 0667 | 0773 | 0667 | males
(cont...) |
| | ANIMAL ID | 0010 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | |

Extramedullary Hematopoiesis
Lymphocyte, Hyperplasia
White Pulp, Atrophy

2

3

Thymus

+ +

INTEGUMENTARY SYSTEM

Mammary Gland
Duct, Dilation

+ +

Skin
Congestion

+ +

2

Cyst Epithelial Inclusion
Fibrosis

X X

Inflammation, Suppurative
Inflammation, Chronic

4

Inflammation, Chronic Active
Ulcer

Epithelium, Hyperkeratosis
Epithelium, Hyperplasia

Sebaceous Gland, Cyst

X

MUSCULOSKELETAL SYSTEM

Bone
Inflammation, Chronic Active
Maxilla, Cyst

+ +

3

X

NERVOUS SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
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Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males (cont...) |
|--------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|-----------------|
| | 0698 | 0730 | 0682 | 0729 | 0779 | 0477 | 0770 | 0770 | 0775 | 0557 | 0577 | 0777 | 0777 | 0777 | 0777 | 0777 | 0666 | 0667 | 0667 | 0667 | 0777 | 0776 | 0777 | 0667 | | |
| 500mg/L male | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0011001 | |

Brain Neuron, Degeneration

+ +

RESPIRATORY SYSTEM

Lung

Infiltration Cellular, Histiocyte Inflammation, Acute Inflammation, Chronic Inflammation, Chronic Active Alveolar Epithelium, Hyperplasia Arteriole, Hyperplasia

+ +
1 2 2 2 2 3 1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1

Nose

Inflammation, Suppurative Inflammation, Acute Metaplasia, Osseous, Focal Glands, Respiratory Epithelium, Inflammation, Acute Goblet Cell, Nasopharyngeal Duct, Hyperplasia Goblet Cell, Respiratory Epithelium, Hyperplasia Olfactory Epithelium, Accumulation, Hyaline Droplet Respiratory Epithelium, Inflammation, Acute Respiratory Epithelium, Inflammation, Chronic

+ +
1 1

Trachea

Inflammation, Acute

+ +

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
500mg/L male | DAY ON TEST | 0698 | 0730 | 0682 | 0779 | 0779 | 0747 | 0773 | 0773 | 0771 | 0755 | 0755 | 0772 | 0772 | 0773 | 0771 | 0772 | 0663 | 0664 | 0773 | 0666 | 0772 | 0773 | 0667 | 0673 | 0673 | males
(cont...) |
| | ANIMAL ID | 0010 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cornea, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cornea, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cornea, Inflammation, Chronic Active | | | | 1 | | | | | 1 | | | | | | | | | 1 | | | | | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Mineral | | | 1 | | | | | | | | | | | | | | | | | | | | | | |
| Nephropathy, Chronic Progressive | 3 | 4 | 4 | 2 | 2 | 3 | 2 | 3 | 3 | 4 | 4 | 4 | 2 | 4 | 4 | 2 | 3 | 3 | 2 | 4 | 4 | 3 | 1 | 3 | |
| Capsule, Fibrosis | | | | | | | | | | | | 2 | | | | | | | | | | | | | |
| Pelvis, Dilation | | | 1 | | | 1 | | 2 | | | | 1 | | 2 | 1 | | | | | 2 | | | | | |
| Renal Tubule, Inflammation, Suppurative | 1 | 1 | | 1 | | 1 | | 2 | 1 | 3 | 1 | | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Calculus Gross Observation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | 1 | | | | | | | | | | | |
| Urothelium, Hyperplasia, Atypical | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
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 Sodium Tungstate Dihydrate
 CAS Number: 10213-10-2

Date Report Requested: 02/28/2019
 Time Report Requested: 13:33:08
 First Dose M/F: 01/30/12 / 01/31/12
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
500mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|------|
| | 0603 | 0703 | 0703 | 0808 | 0709 | 0709 | 0605 | 0608 | 0303 | 0702 | 0709 | 0709 | 0607 | 0706 | 0607 | 0501 | 0604 | 0603 | 0700 | 0700 | 0401 | 0707 | 0703 | 0604 | | 0709 |
| ANIMAL ID | 001126 | 001127 | 001128 | 001129 | 001130 | 001131 | 001132 | 001133 | 001134 | 001135 | 001136 | 001137 | 001138 | 001139 | 001140 | 001141 | 001142 | 001143 | 001144 | 001145 | 001146 | 001147 | 001148 | 001149 | 001150 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|
| Esophagus
Muscularis, Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 3.0 |
| Intestine Large, Cecum
Edema
Inflammation, Chronic | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 2 | 1.5 |
| Intestine Large, Colon
Edema
Parasite Metazoan
Lymphoid Tissue, Hyperplasia
Lymphoid Tissue, Inflammation,
Granulomatous | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 2.0 |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 6 | |
| Intestine Small, Duodenum
Inflammation, Chronic Active
Polyarteritis Nodosa | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1.0 |
| Intestine Small, Ileum | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Intestine Small, Jejunum
Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 3 | 2.3 |
| Liver
Angiectasis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 2.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

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500mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0603 | 0730 | 0837 | 0908 | 1002 | 1107 | 1206 | 1306 | 1403 | 1507 | 1607 | 1706 | 1807 | 1906 | 2005 | 2106 | 2207 | 2307 | 2407 | 2504 | 2607 | 2707 | 2806 | 2907 | |
| ANIMAL ID | 00126 | 00127 | 00128 | 00129 | 00130 | 00131 | 00132 | 00133 | 00134 | 00135 | 00136 | 00137 | 00138 | 00139 | 00140 | 00141 | 00142 | 00143 | 00144 | 00145 | 00146 | 00147 | 00148 | 00149 | |
| Clear Cell Focus | | | | X | X | X | | | | X | | | X | | | X | X | | X | | X | | | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fatty Change, Diffuse | | | | 2 | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| Mixed Cell Focus | | | | | | | | | | | | | | | | X | | | | | | | | | |
| Pigment | | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| Bile Duct, Hyperplasia | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | | |
| Hepatocyte, Hyperplasia | | | | | | | | 3 | | | | | | | | | | | | | | | | | |
| Hepatocyte, Hypertrophy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Vacuolation, Cytoplasmic | | | | | | | | 2 | | | | | | 2 | | | | | | | | | | | |
| Oval Cell, Hyperplasia | | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | + | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | 4 | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Polyarteritis Nodosa | | | | | | | | 1 | | | | | | | 3 | | | | | | | | | | |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acinus, Hyperplasia | | | | 3 | | | | | | | 2 | 3 | | 3 | 1 | 2 | | 1 | | | | | 2 | | |
| Duct, Cyst | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Inflammation, Chronic Active | | | | 2 | | | | | | | | | | | | | | | | | | | | | |
| Epithelium, Hyperplasia | | | | 3 | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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| HARLAN SPRAGUE DAWLEY RATS
MALE
500mg/L male | DAY ON TEST | 06033 | 07378 | 00378 | 07729 | 06725 | 06648 | 03122 | 07722 | 07722 | 06730 | 07651 | 06564 | 07733 | 07733 | 07733 | 04917 | 07733 | 07733 | 07691 | 07733 | 06694 | 07729 | * TOTALS |
| | ANIMAL ID | 00126 | 00127 | 00128 | 00129 | 00130 | 00131 | 00132 | 00133 | 00134 | 00135 | 00136 | 00137 | 00138 | 00139 | 00140 | 00141 | 00142 | 00143 | 00144 | 00145 | 00146 | 00147 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| | | | | | |
|-------------------------|---|---|---|---|-----|
| Mineral Glands, Ectasia | 2 | 1 | 2 | 8 | 1.4 |
| | | | | 1 | 1.0 |

| | | | | | |
|--------|--|--|--|--|---|
| Tongue | | | | | 1 |
|--------|--|--|--|--|---|

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|
| Blood Vessel Mineral | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 1 | 1.0 |
| Heart Cardiomyopathy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 44 | 2.1 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|---|-----|
| Adrenal Cortex Degeneration, Cystic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 | 1 | 2.0 |
| Hyperplasia, Focal | 2 | | | 2 | | | 2 | | | | 2 | | | | | | | | | | | 1 | 2 | 17 | 1.5 | | |
| Hypertrophy, Focal | 2 | | | 2 | 1 | | | | | 2 | | 1 | | | 3 | 2 | 3 | 1 | | | | | 2 | 21 | 1.7 | | |
| Karyomegaly | | | | | | | | | 1 | | 1 | 1 | | 1 | | | | | | | | | 1 | 5 | 1.0 | | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | |
| Bilateral, Hyperplasia, Focal | | | | | | 2 | | | 1 | 1 | | | | 1 | | | | | | | | | | 6 | 1.5 | | |
| Bilateral, Hypertrophy, Focal | | | | | | | | 2 | | | | | | 2 | | | | | | | | | | 2 | 2.0 | | |
| Adrenal Medulla Hyperplasia, Focal | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Vacuolation, Cytoplasmic | | | | | | | | | | | 2 | | 1 | | | | 2 | | 1 | | | | 1 | 13 | 1.9 | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1.0 | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
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1-4 .. Lesion qualified as:
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|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0630 | 0730 | 0830 | 0930 | 1030 | 1130 | 1230 | 1330 | 1430 | 1530 | 1630 | 1730 | 1830 | 1930 | 2030 | 2130 | 2230 | 2330 | 2430 | 2530 | 2630 | 2730 | 2830 | 2930 | |
| ANIMAL ID | 0016 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 | 0026 | 0027 | 0028 | 0029 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|
| Parathyroid Gland
Hyperplasia, Diffuse | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | 45 | 34 | 1.4 |
| Pituitary Gland
Pars Distalis, Cyst | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | 1 |
| Pars Distalis, Hyperplasia | 2 | | | | 4 | 1 | 1 | | | 1 | 4 | | 4 | | 1 | | | | 1 | | 3 | 3 | | | 21 | 2.0 | |
| Pars Intermedia, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 4 | | | | 1 | 4.0 | |
| Thyroid Gland
C-cell, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 9 | 2.8 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|---|-----|
| Epididymis
Granuloma Sperm | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 3.0 |
| Hypospermia | X | | | | | | | X | X | X | | | | | | | X | | | X | X | | | 11 | | | |
| Mesothelium, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Penis
Congestion | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 2.0 |
| Preputial Gland
Cyst | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | |
| Prostate
Epithelium, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 3 | 1.7 |

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 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
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|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|--|
| | 0603 | 0730 | 0873 | 0928 | 1079 | 1165 | 1238 | 1313 | 1472 | 1527 | 1677 | 1762 | 1837 | 1912 | 2062 | 2147 | 2222 | 2372 | 2457 | 2532 | 2607 | 2757 | 2842 | | | |
| ANIMAL ID | 001126 | 001127 | 001128 | 001129 | 001130 | 001131 | 001132 | 001133 | 001134 | 001135 | 001136 | 001137 | 001138 | 001139 | 001140 | 001141 | 001142 | 001143 | 001144 | 001145 | 001146 | 001147 | 001148 | 001149 | | |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Decreased Secretory Fluid | X | | | | | | | | | | | | | | | | | X | | | X | | | | 5 | |
| Inflammation, Chronic Active | | 3 | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Testis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Polyarteritis Nodosa | 2 | 1 | | | 2 | | | 2 | | 3 | | 2 | 2 | | 2 | | 2 | 3 | 3 | | 2 | 1 | | | 26 2.1 | |
| Germ Cell, Degeneration | 3 | | 1 | 2 | | | | | | | | | | | | | | | | 1 | | | 3 | | 9 1.8 | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lymph Node | | + | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Mediastinal, Pigment | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Pancreatic, Hyperplasia, Lymphocyte | | 2 | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia, Plasma Cell | | 2 | | 2 | 3 | 3 | 1 | 1 | 2 | 2 | 3 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 40 2.0 | |
| Lymphatic Sinus, Dilation | 1 | | | | | | | | | 2 | | | | 2 | | | | | | | | | | | 8 2.0 | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemorrhage | 2 | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Inflammation, Suppurative | 2 | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Lymphatic Sinus, Dilation | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| DAY ON TEST | 6 | 7 | 3 | 6 | 7 | 7 | 6 | 6 | 3 | 7 | 7 | 7 | 6 | 7 | 6 | 5 | 6 | 7 | 7 | 7 | 4 | 7 | 7 | 6 | 7 |
| HARLAN SPRAGUE DAWLEY RATS MALE | 0 | 3 | 7 | 8 | 2 | 2 | 0 | 4 | 1 | 2 | 2 | 2 | 3 | 1 | 1 | 4 | 3 | 3 | 3 | 9 | 1 | 3 | 9 | 2 | |
| 500mg/L male | 3 | 0 | 3 | 8 | 9 | 9 | 5 | 8 | 3 | 2 | 9 | 9 | 7 | 0 | 1 | 7 | 6 | 0 | 0 | 0 | 1 | 7 | 0 | 9 | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|--|---|--|--|--|--|---|--|--|---|---|---|---|-----|-----|---|-----|
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | 2 | | | | | | | | 2 | | | | 2 | 2 | 7 | 2.0 | | | |
| Lymphocyte, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | 2 | | | | | | | | | | | | | | 2 | 2.5 |
| White Pulp, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | 4 | | 2 | | | | | | | | | | | 2 | | 2 | | 6 | 2.5 | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Thymus | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|--|--|--|--|--|--|--|--|---|-----|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | | | | | | | | |
| Duct, Dilation | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | 1 | 2.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|--|--|--|--|--|--|--|--|---|-----|---|-----|
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | |
| Cyst Epithelial Inclusion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 3.0 | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4.0 | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | 2.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | 4 | | | | | | | | | | | | | | 1 | 4.0 |
| Epithelium, Hyperkeratosis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | 1 | 4.0 |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | 2 | 2.5 |
| Sebaceous Gland, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|--|--|--|--|--|--|--|--|---|-----|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Maxilla, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |

NERVOUS SYSTEM

| | | |
|--|---------------------------------------|-----------------------------|
| * .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade | M .. Missing tissue | 1-4 .. Lesion qualified as: |
| + .. Tissue examined microscopically | A .. Autolysis precludes evaluation | 1) Minimal 3) Moderate |
| X .. Lesion present | BLANK .. Not examined microscopically | 2) Mild 4) Marked |
| I .. Insufficient tissue | | |

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|-------------|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|---|---|---|--|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | | |
| 6 | 7 | 3 | 6 | 7 | 7 | 6 | 6 | 3 | 7 | 7 | 7 | 6 | 7 | 6 | 5 | 6 | 7 | 7 | 7 | 4 | 7 | 7 | 6 | 7 | |
| 0 | 3 | 7 | 8 | 2 | 2 | 0 | 4 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | 1 | 4 | 3 | 3 | 3 | 9 | 1 | 3 | 9 | 2 | |
| 3 | 0 | 3 | 8 | 9 | 9 | 5 | 8 | 3 | 2 | 9 | 9 | 7 | 0 | 1 | 7 | 6 | 0 | 0 | 0 | 1 | 7 | 0 | 4 | 9 | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Neuron, Degeneration | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Infiltration Cellular, Histiocyte | | | | 1 | | | | | | | | | 1 | | 2 | 1 | | | | | 1 | | 1 | 2 | 17 | 1.5 |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | 3 | | | | | 1 | 3.0 |
| Inflammation, Chronic | | | | | 1 | | 1 | | 1 | | 1 | 1 | | 1 | | 1 | | | | | | | | | 16 | 1.1 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2.5 |
| Arteriole, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 3 | | | | | 1 | 3.0 | |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | 4 | | 1 | 4.0 | |
| Metaplasia, Osseous, Focal | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Glands, Respiratory Epithelium, Inflammation, Acute | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | 1.0 | |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | | | | | | | | | | | | 1 | | | | | | | 1 | | | | | 7 | 1.0 | |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | | | | 1 | | | | | 1 | | 1 | | 1 | | | 1 | 1 | | | | 1 | | 1 | | 14 | 1.0 | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 2 | 2 | 1 | 2 | 2 | 1 | | 2 | | 2 | 2 | 1 | 1 | 1 | 2 | | 1 | 1 | 3 | 2 | 3 | 2 | 1 | 3 | 2 | 46 | 1.8 |
| Respiratory Epithelium, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Respiratory Epithelium, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE | DAY ON TEST | 6 | 7 | 3 | 6 | 7 | 7 | 6 | 6 | 3 | 7 | 7 | 7 | 6 | 7 | 6 | 5 | 6 | 7 | 7 | 7 | 4 | 7 | 7 |
| | | 0 | 3 | 7 | 8 | 2 | 2 | 0 | 4 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | 1 | 4 | 3 | 3 | 3 | 9 | 1 | 3 |
| | ANIMAL ID | 3 | 0 | 3 | 8 | 9 | 9 | 5 | 8 | 3 | 2 | 9 | 9 | 7 | 0 | 1 | 7 | 6 | 0 | 0 | 0 | 1 | 7 | 0 |
| 500mg/L male | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cornea, Inflammation, Acute | | | | | | | | | | | | | | | | | | 2 | | | | | | 1 2.0 |
| Cornea, Inflammation, Chronic | | | | | | | | | | | | | | 1 | | | | | | 2 | 2 | | | 3 1.7 |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 3 1.0 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | 1 |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Mineral | | | 1 | | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Nephropathy, Chronic Progressive | 4 | 3 | 2 | 4 | 4 | 2 | 3 | 4 | 2 | 4 | 2 | 4 | 4 | 3 | 4 | 3 | 4 | 4 | 2 | 4 | 4 | 2 | 4 | 50 3.2 |
| Capsule, Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pelvis, Dilation | 1 | 1 | | 1 | | | 1 | 1 | | | | | | 1 | | | 1 | | 1 | | 1 | | | 16 1.2 |
| Renal Tubule, Inflammation, Suppurative | | 2 | 1 | 1 | 2 | 1 | 2 | | | 1 | 3 | 3 | 1 | | 1 | 1 | 1 | | 3 | 1 | | 1 | 1 | 35 1.3 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Calculus Gross Observation | | | X | | | | | | | | | | | | | | | | | | | | | 1 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Urothelium, Hyperplasia, Atypical | | | 4 | | | | | | | | | | | | | | | | | | | | | 1 4.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
1000mg/L male | DAY ON TEST | 0682 | 0673 | 0637 | 0677 | 0667 | 0677 | 0677 | 0677 | 0677 | 0667 | 0677 | 0677 | 0647 | 0677 | 0677 | 0677 | 0677 | 0677 | 0667 | 0677 | 0657 | 0667 | 0677 | 0667 | males
(cont...) |
| | ANIMAL ID | 00151 | 00122 | 00133 | 00144 | 00155 | 00166 | 00177 | 00188 | 00199 | 00200 | 00211 | 00222 | 00233 | 00244 | 00255 | 00266 | 00277 | 00288 | 00299 | 00300 | 00311 | 00322 | 00333 | 00344 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus
Adventitia, Polyarteritis Nodosa | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Cecum
Lymphoid Tissue, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon
Parasite Metazoan
Polyarteritis Nodosa | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Rectum
Parasite Metazoan
Polyarteritis Nodosa | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Duodenum
Inflammation, Chronic
Epithelium, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum
Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Liver
Basophilic Focus
Clear Cell Focus
Extramedullary Hematopoiesis
Fatty Change, Diffuse | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
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First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
1000mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|
| | 0682 | 0673 | 0637 | 0677 | 0667 | 0677 | 0677 | 0677 | 0677 | 0667 | 0677 | 0677 | 0647 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0667 | 0677 | 0656 | 0667 | 0677 | |
| ANIMAL ID | 00151 | 00152 | 00153 | 00154 | 00155 | 00156 | 00157 | 00158 | 00159 | 00160 | 00161 | 00162 | 00163 | 00164 | 00165 | 00166 | 00167 | 00168 | 00169 | 00170 | 00171 | 00172 | 00173 | 00174 | 00175 |
| Inflammation, Chronic | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | X | | | | | | | | | X | | | | | | | | | | | | | X | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct, Hyperplasia | 1 | 1 | | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 2 | | | | |
| Centrilobular, Hepatocyte, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Degeneration | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Fatty Change, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Hypertrophy | | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Karyomegaly | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oval Cell, Hyperplasia | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acinus, Atrophy | 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| Acinus, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Artery, Mineral | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HARLAN SPRAGUE DAWLEY RATS MALE | 1000mg/L male | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 6 | 6 | 3 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 7 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 8 | 1 | 2 | 2 | 6 | 7 | 5 | 6 | 7 | |
| | | 8 | 7 | 5 | 3 | 2 | 1 | 3 | 3 | 3 | 3 | 0 | 3 | 2 | 6 | 2 | 2 | 3 | 3 | 2 | 9 | 9 | 0 | 9 | 9 | 0 | 9 | 9 | 0 | 9 | 9 | 1 | 2 | 8 | 1 | 3 | 2 | 2 | 1 | 2 | | |
| | | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | males (cont...) | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mineral | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Heart | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cardiomyopathy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hemorrhage | 2 | 1 | | | 2 | 3 | 1 | 2 | 2 | | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 1 | 3 | | | | | | | | | | | | | | | | 2 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Focal | 1 | 2 | | 2 | 2 | | | | 2 | 2 | 1 | 2 | | | | | | 3 | 2 | 1 | | | | | | | 1 | | | | | | | 2 | | | | | 1 | 2 |
| Hypertrophy, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation, Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 3 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS MALE | | 8 | 7 | 5 | 3 | 2 | 1 | 3 | 3 | 3 | 3 | 0 | 3 | 2 | 6 | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 2 | 8 | 1 | 3 | 2 | 9 | 2 | 9 |
| 1000mg/L male | | 2 | 3 | 1 | 0 | 9 | 7 | 0 | 0 | 0 | 0 | 2 | 0 | 9 | 7 | 9 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 1 | 9 | 1 | 3 | 9 | 2 | 9 |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

males (cont...)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bilateral, Hypertrophy, Focal | 2 | | | | | | | | | | | | | | 2 | | | | | | | 2 | | | | | | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia, Focal | 4 | | | | | | | | | | 3 | | | 3 | 3 | | | | | 4 | | | | | 2 | 2 | 1 | | |
| Bilateral, Hyperplasia, Focal | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Parathyroid Gland | + | + | + | + | + | + | + | + | M | + | + | + | + | + | M | + | + | M | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | 2 | 2 | |
| Hyperplasia, Diffuse | 2 | 2 | | 1 | 2 | 1 | 1 | 2 | | 1 | 1 | 2 | 2 | | | | | | | 2 | | | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pars Distalis, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| Pars Distalis, Hyperplasia | | 1 | | | 1 | | 4 | 2 | | 4 | | | 2 | | | | | | 2 | | | | | | 1 | | | | |
| Pars Distalis, Pigment | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| C-cell, Hyperplasia | | | | | | | | | 3 | | 2 | 2 | | | | 4 | | | | | | | | | | | | | 1 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hypospermia | X | X | | | X | | | | | | | | | | | | | | | X | | | X | | | X | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
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Experiment Number: 03038 - 03
 Test Type: CHRONIC
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| HARLAN SPRAGUE DAWLEY RATS
MALE
1000mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | males
(cont...) | | | |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|------|------|------|
| | 0682 | 0673 | 0635 | 0673 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | | 0677 | 0677 | 0677 |
| | ANIMAL ID | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | | 0001 | 0001 | 0001 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-----|--|-----|--|-----|--|-----|--|-----|--|---|--|---|---|-----|--|---|--|-----|--|---|---|--|
| Preputial Gland | + | | | | | | | | | | | | | | | | | | | | | | |
| Prostate | + | | | | | | | | | | | | | | | | | | | | | | |
| Decreased Secretory Fluid | X X | | | | | | | | | | | | | | | | | | | | X | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | 4 | | | | |
| Epithelium, Hyperplasia | 1 | | | | 1 | | | | | | | | 1 | | | | | | | | | | |
| Seminal Vesicle | + | | | | | | | | | | | | | | | | | | | | | | |
| Decreased Secretory Fluid | X X | | | | | | | | | | | | | | | | | | | | X | X | |
| Inflammation, Chronic Active | | | | | | | | | | | 3 | | | 3 | | | | | | | | | |
| Testis | + | | | | | | | | | | | | | | | | | | | | | | |
| Edema | | | | | | | | | | | | | | | | | | | 2 | | | | |
| Polyarteritis Nodosa | 3 3 | | 3 1 | | 1 1 | | 1 1 | | 1 1 | | | | | | 1 3 | | 1 | | 3 2 | | 1 | | |
| Germ Cell, Degeneration | | | | | | | | | | | | | | | | | | | 3 2 | | 1 | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|-----|--|-----|--|-----|--|-----|--|-----|--|---|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|
| Bone Marrow | + | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | + | | | | | |
| Lumbar, Lymphatic Sinus, Dilation | | | | | | | | | | | 2 | | 3 | | | | | | | | | | | |
| Pancreatic, Hyperplasia, Lymphocyte | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | | | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | 3 | | | | | |
| Hyperplasia, Plasma Cell | 2 2 | | 2 2 | | 2 2 | | 2 2 | | 1 1 | | 2 | | 2 1 | | 2 2 | | 2 2 | | 3 2 | | 3 2 | | 2 2 | |
| Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | 2 | | | | | |
| Lymphatic Sinus, Dilation | | | | | | | | | | | | | | | | | | | 3 2 | | 2 | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
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Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

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Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
1000mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
| | 0682 | 0673 | 0635 | 0673 | 0677 | 0667 | 0677 | 0677 | 0677 | 0677 | 0667 | 0677 | 0677 | 0647 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0667 | 0677 | 0657 | 0667 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | | |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lymph Node, Mesenteric Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pigment | | 3 | | | | | | | | | | | | | | | | | | | | | | |
| Lymphatic Sinus, Dilation | | | | | | | | | | | | | | | | | | | | | | | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Extramedullary Hematopoiesis | | | | | | | | | 2 | | | | | | | | 2 | | | | | | | |
| Lymphocyte, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | |
| White Pulp, Atrophy | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Duct, Dilation | | | | | | | | | | | 2 | | | | | | | | | | | | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst Epithelial Inclusion | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | 4 | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
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X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
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BLANK .. Not examined microscopically
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 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
1000mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|
| | 0682 | 0673 | 0635 | 0673 | 0677 | 0676 | 0677 | 0677 | 0677 | 0677 | 0677 | 0667 | 0677 | 0677 | 0647 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0667 | 0677 | 0657 | 0667 | |
| ANIMAL ID | 00151 | 00115 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cornea, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lens, Cataract | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nephropathy, Chronic Progressive | 4 | 4 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 4 | 2 | |
| Pelvis, Dilation | 1 | | | | | | | | | 1 | | 1 | | | | 1 | 2 | 2 | 2 | 2 | | | | | | |
| Renal Tubule, Inflammation, Suppurative | 1 | 1 | | 1 | 2 | 1 | 1 | 2 | 3 | 2 | | 1 | 2 | | 3 | 2 | 3 | 2 | 2 | 2 | | 1 | 1 | 1 | 2 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|---|---|----|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| 5 | 3 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 0 | 7 | 7 | 5 | 6 | 4 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 50 |
| 8 | 2 | 1 | 2 | 6 | 3 | 3 | 2 | 2 | 2 | 7 | 0 | 3 | 3 | 6 | 1 | 3 | 3 | 3 | 2 | 3 | 9 | 5 | 8 | 8 | 8 | 8 | 8 | 50 |
| 8 | 9 | 6 | 9 | 6 | 0 | 0 | 9 | 9 | 9 | 9 | 4 | 0 | 0 | 6 | 6 | 6 | 0 | 0 | 9 | 9 | 7 | 2 | 5 | 5 | 5 | 5 | 5 | 50 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 50 |
| | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 50 |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 50 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|-----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 2.0 | |
| Adventitia, Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 3.0 | |
| Lymphoid Tissue, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 | | |
| Parasite Metazoan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 8 | | |
| Parasite Metazoan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1.0 | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 2.0 |
| Peyer's Patch, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | | |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Clear Cell Focus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fatty Change, Diffuse | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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+ .. Tissue examined microscopically

X .. Lesion present

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Lab: BAT

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MALE
1000mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|---|--------|---------------------|--------|
| | 0588 | 0329 | 0616 | 0729 | 0676 | 0777 | 0777 | 0777 | 0777 | 0777 | 0600 | 0707 | 0707 | 0556 | 0661 | 0433 | 0773 | 0773 | 0772 | 0772 | 0673 | 0669 | 0665 | 0668 | | | | | |
| ANIMAL ID | 00176 | 00177 | 00178 | 00179 | 00180 | 00181 | 00182 | 00183 | 00184 | 00185 | 00186 | 00187 | 00188 | 00189 | 00190 | 00191 | 00192 | 00193 | 00194 | 00195 | 00196 | 00197 | 00198 | 00199 | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.0 | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.0 | | |
| Mixed Cell Focus | | | | | | | | | | | | | | | | | | | | | | | | | | X | 4 | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 2.0 | | |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 41 1.1 | | |
| Centrilobular, Hepatocyte, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | | |
| Hepatocyte, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | | |
| Hepatocyte, Fatty Change, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | | |
| Hepatocyte, Hypertrophy | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 2.0 | | |
| Hepatocyte, Karyomegaly | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | | |
| Oval Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.5 | | |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 2 2.5 | |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 4 2.8 |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | 1 |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 1.3 |
| Acinus, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 1 2 2 4 4 2 3 2 4 | 21 2.9 |
| Artery, Mineral | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 2.0 |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 2.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

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1000mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Epithelium, Hyperplasia

1 1.0

Stomach, Glandular

50

Mineral

11 1.3

Polyarteritis Nodosa

1 2.0

CARDIOVASCULAR SYSTEM

Blood Vessel

49

Heart

50

Cardiomyopathy

45 2.1

Hemorrhage

1 2.0

Inflammation, Chronic

1 1.0

Inflammation, Chronic Active

1 3.0

Mineral

1 1.0

Polyarteritis Nodosa

2 2.0

Thrombus

1

ENDOCRINE SYSTEM

Adrenal Cortex

50

Atrophy

2 2.0

Degeneration, Cystic

1 1.0

Hyperplasia, Focal

27 1.6

Hypertrophy, Focal

18 1.4

Pigment

1 2.0

Thrombus

1

Vacuolation, Cytoplasmic

1 2.0

Bilateral, Hyperplasia, Focal

10 2.6

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

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MALE
1000mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | | | |
|---|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 0588 | 0329 | 0616 | 0729 | 0666 | 0770 | 0773 | 0777 | 0779 | 0779 | 0779 | 0604 | 0707 | 0707 | 0506 | 0606 | 0403 | 0703 | 0703 | 0703 | | 0702 | 0702 | 0703 | 0609 | 0607 | 0605 | 0608 | 0605 |
| ANIMAL ID | 00176 | 00177 | 00178 | 00179 | 00180 | 00181 | 00182 | 00183 | 00184 | 00185 | 00186 | 00187 | 00188 | 00189 | 00190 | 00191 | 00192 | 00193 | 00194 | 00195 | 00196 | 00197 | 00198 | 00199 | 00200 | 00201 | 00202 | 00203 | 00204 |
| Bilateral, Hypertrophy, Focal | 2 | | 2 | | | | | | | | | | | | | | | | | | | | | | 5 | 2.0 | | | |
| Adrenal Medulla | + | | | | | | | | | | | | | | | | | | | | 50 | | | | | | | | |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | 13 | 2.5 | | | | | | | |
| Bilateral, Hyperplasia, Focal | 2 | | | | | | | | | | | | | | | | | | | | 2 | 2.0 | | | | | | | |
| Islets, Pancreatic | + | | | | | | | | | | | | | | | | | | | | 50 | | | | | | | | |
| Parathyroid Gland | + | | | | | | | | | | | | | | | | | | | | 45 | | | | | | | | |
| Hyperplasia, Focal | M | | | | | | | | | | | | | | | | | | | | 4 | 1.5 | | | | | | | |
| Hyperplasia, Diffuse | 2 1 1 1 1 1 1 1 2 1 1 2 1 2 2 1 1 2 | | | | | | | | | | | | | | | | | | | | 28 | 1.5 | | | | | | | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | | | | | | |
| Pituitary Gland | + | | | | | | | | | | | | | | | | | | | | 50 | | | | | | | | |
| Pars Distalis, Atrophy | | | | | | | | | | | | | | | | | | | | | 2 | 3.5 | | | | | | | |
| Pars Distalis, Hyperplasia | 1 1 3 1 2 4 | | | | | | | | | | | | | | | | | | | | 14 | 1.9 | | | | | | | |
| Pars Distalis, Pigment | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 | | | | | | | |
| Thyroid Gland | + | | | | | | | | | | | | | | | | | | | | 50 | | | | | | | | |
| C-cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 7 | 2.6 | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|-------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|--|
| Epididymis | + | | | | | | | | | | | | | | | | | | | | 49 | |
| Hypospermia | X | | | | | | | | | | | | | | | | | | | | 12 | |

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|--|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|--------|
| | 0588 | 0329 | 0616 | 0722 | 0636 | 0733 | 0770 | 0772 | 0779 | 0789 | 0799 | 0649 | 0074 | 0770 | 0566 | 0433 | 0733 | 0729 | 0772 | 0670 | | 0662 | 0658 | 0665 |
| ANIMAL ID | 1000mg/L male | | | | | | | | | | | | | | | | | | | | | | | |
| | 00176 | 00177 | 00178 | 00179 | 00180 | 00181 | 00182 | 00183 | 00184 | 00185 | 00186 | 00187 | 00188 | 00189 | 00190 | 00191 | 00192 | 00193 | 00194 | 00195 | 00196 | 00197 | 00198 | 00199 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Decreased Secretory Fluid Inflammation, Chronic Active Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | X | | | | | | 4 |
| | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | 3 1.0 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Decreased Secretory Fluid Inflammation, Chronic Active | | | X | | | | | | | | | | | | X | | | X | | | | | | 7 |
| | | | | | | | | | | | | | | | | | | | | | | | | 2 3.0 |
| Testis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | 49 |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Polyarteritis Nodosa | | | | | | 2 | 1 | | 1 | 2 | | | 1 | 2 | | 3 | | | 3 | 3 | | 3 | 2 | 24 1.8 |
| Germ Cell, Degeneration | | | 1 | | | | | | | | | | | | | | | | | | | | | 4 1.8 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | | + | | | | | | | | | | | | 3 |
| Lumbar, Lymphatic Sinus, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 |
| Pancreatic, Hyperplasia, Lymphocyte | | | | | | | | | | | 2 | | | | | | | | | | | | | 1 2.0 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Congestion | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Hyperplasia, Plasma Cell Infiltration Cellular, Histiocyte | | | 1 | 2 | 2 | | | 2 | 2 | 2 | | 2 | | 2 | 2 | 2 | 3 | | 2 | 3 | 2 | 2 | 2 | 40 2.0 |
| Lymphatic Sinus, Dilatation | | | | | | | | | | | | | | | | | | 2 | 1 | | 1 | | | 6 1.8 |

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| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|---------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|----|
| | 0588 | 0329 | 0616 | 0722 | 0666 | 0773 | 0773 | 0779 | 0779 | 0779 | 0604 | 0707 | 0773 | 0564 | 0661 | 0433 | 0733 | 0772 | 0772 | 0666 | | 0666 | 0666 | | | |
| ANIMAL ID | 00176 | 00177 | 00178 | 00179 | 00180 | 00181 | 00182 | 00183 | 00184 | 00185 | 00186 | 00187 | 00188 | 00189 | 00190 | 00191 | 00192 | 00193 | 00194 | 00195 | 00196 | 00197 | 00198 | 00199 | 00200 | |
| 1000mg/L male | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|-----|
| Lymph Node, Mesenteric Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 1 | 3.0 | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Lymphatic Sinus, Dilation | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 2.0 |
| Lymphocyte, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 |
| White Pulp, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 3.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|
| Mammary Gland Duct, Dilation | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 1 | 2.0 |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst Epithelial Inclusion | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 4.0 |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Sodium Tungstate Dihydrate
 CAS Number: 10213-10-2

Date Report Requested: 02/28/2019
 Time Report Requested: 13:33:08
 First Dose M/F: 01/30/12 / 01/31/12
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
1000mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|---|----------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 5 | 3 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 0 | 7 | 7 | 5 | 6 | 4 | 7 | 7 | 7 | 7 | 6 | |
| | 8 | 2 | 1 | 2 | 6 | 3 | 3 | 2 | 2 | 2 | 7 | 0 | 3 | 3 | 6 | 1 | 3 | 3 | 2 | 3 | 9 | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | 4 | | | | | | | | | | | | | | | | | | 1 | 4.0 | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Infiltration Cellular, Histiocyte | 2 | | 1 | 2 | | 1 | | | 2 | | | 1 | 2 | 2 | 2 | | | 2 | | | 2 | 20 | 1.5 |
| Inflammation, Chronic | | | | 1 | | | 1 | | | | | | | | | | | | | | 1 | 8 | 1.1 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Mineral | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Alveolar Epithelium, Hyperplasia | | | | | | | | 4 | 1 | | | | | | | | | | | | | 3 | 2.3 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | | | | | | | 1 | | 1 | | | | 1 | 1 | | | | | | | 10 | 1.0 |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | 2 | | | | | 1 | 1 | 1 | 1 | | | | | 1 | 1 | | | | 1 | | 1 | 17 | 1.1 |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 3 | | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 1 | 2 | 44 | 1.6 |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Respiratory Epithelium, Inflammation, Acute | | | | | | | | | | 1 | | | | | | | | 1 | | 1 | | 5 | 1.0 |
| Respiratory Epithelium, Inflammation, Chronic Active | | | | | | | | | | | | | | 1 | | | | | | | | 1 | 1.0 |
| Respiratory Epithelium, Necrosis | 2 | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |

SPECIAL SENSES SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
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Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

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Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
1000mg/L male | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|--------|--------|
| | 0588 | 0329 | 0616 | 0729 | 0676 | 0777 | 0777 | 0777 | 0777 | 0777 | 0600 | 0707 | 0707 | 0556 | 0664 | 0477 | 0777 | 0777 | 0222 | 0222 | | 0733 | 0633 | 0613 | 0433 | 0777 | 0666 | 0666 |
| ANIMAL ID | 00176 | 00177 | 00178 | 00179 | 00180 | 00181 | 00182 | 00183 | 00184 | 00185 | 00186 | 00187 | 00188 | 00189 | 00190 | 00191 | 00192 | 00193 | 00194 | 00195 | 00196 | 00197 | 00198 | 00199 | 00200 | 00201 | 00202 | 00203 |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cornea, Inflammation, Chronic | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lens, Cataract | | | | | | | | | | | | | | | | | | | | | | | 3 | | | | | 2 2.5 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 2.0 |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Mineral | | | 1 | | | | | | | | | | | | | | 1 | | | | | | | 1 | | | | 4 1.0 |
| Nephropathy, Chronic Progressive | 2 | 2 | 4 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 2 | | 2 | 3 | 2 | 4 | 2 | 2 | 2 | 4 | 2 | 2 | 3 | 3 | 4 | | | 49 2.5 |
| Pelvis, Dilation | | | 1 | | | | | 2 | 2 | | | | 2 | | | 2 | 1 | | | | 2 | 1 | | 2 | | | | 17 1.6 |
| Renal Tubule, Inflammation, Suppurative | 1 | | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | | 3 | 2 | 1 | 1 | | 2 | 1 | 1 | 1 | | 3 | 1 | | | 41 1.6 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |

*** END OF MALE DATA ***

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

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 CAS Number: 10213-10-2

Date Report Requested: 02/28/2019
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 First Dose M/F: 01/30/12 / 01/31/12
 Lab: BAT

| DAY ON TEST | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--------------------------|
| | 6 7 2 6 7 7 7 7 7 7 7 5 5 7 7 7 7 7 7 3 7 3 7 7 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 9 0 8 5 3 3 3 3 3 3 1 0 5 3 3 3 1 1 1 3 8 3 4 3 3 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0mg/L female | 5 8 6 2 1 0 0 0 0 0 1 2 0 1 1 1 1 1 1 7 2 4 2 2 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| ANIMAL ID | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 | | | | | | | | | | | | | | | | | | | | | | | | females (cont...) |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Esophagus | + | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Cecum
Edema | +
2 | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Colon
Lymphoid Tissue, Hyperplasia | + | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Rectum
Parasite Metazoan | +
X | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small | + | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | + | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum | + | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Jejunum
Peyer's Patch, Hyperplasia | + | | | | | | | | | | | | | | | | | | | | | | | |
| Liver | + | | | | | | | | | | | | | | | | | | | | | | | |
| Angiectasis | + | | | | | | | | | | | | | | | | | | | | | | | |
| Clear Cell Focus | + | | | | | | | | | | | | | | | | | | | | | | | |
| Congestion | + | | | | | | | | | | | | | | | | | | | | | | | |
| Eosinophilic Focus | + | | | | | | | | | | | | | | | | | | | | | | | |
| Extramedullary Hematopoiesis | + | | | | | | | | | | | | | | | | | | | | | | | |
| Fatty Change, Diffuse | + | | | | | | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | + | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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 I .. Insufficient tissue
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| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | females
(cont...) | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|-------|-------|-------|-------|
| | 0695 | 0708 | 0826 | 0531 | 0770 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0555 | 0555 | 0777 | 0777 | 0777 | 0777 | 0777 | 0338 | 0773 | | 0334 | 0773 | 0773 | 0662 |
| ANIMAL ID | 00201 | 00202 | 00203 | 00204 | 00205 | 00206 | 00207 | 00208 | 00209 | 00210 | 00211 | 00212 | 00213 | 00214 | 00215 | 00216 | 00217 | 00218 | 00219 | 00220 | 00221 | 00222 | 00223 | 00224 | 00225 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cardiomyopathy | 2 | 2 | 2 | | | 1 | 2 | 1 | | 2 | 3 | | | 1 | | 2 | + | + | 2 | 1 | 1 | | 2 | 1 | |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Angiectasis | | | | | | 2 | | | | 1 | | | | | | 1 | | | 1 | | | | | | |
| Degeneration, Cystic | | | | 1 | | 2 | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Focal | | | | | 3 | | | | 1 | | | | | | | | | | 2 | | | | | | |
| Hypertrophy, Focal | | 2 | | | 1 | 3 | | | | 1 | | | 2 | 2 | | | | | 1 | | 1 | 2 | 2 | | |
| Infiltration Cellular, Mononuclear Cell | | | | | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrombus | | | | | X | | | | | | | | | | | | | | | | | | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bilateral, Hypertrophy, Focal | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia, Focal | | | | | | 1 | | | | 2 | | | | | 1 | 1 | | | | | | | | 1 | 1 |
| Thrombus | | | | | X | | | | | | | | | | | | | | | | | | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Parathyroid Gland | M | + | M | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Focal | | | | | | | | | | | | | | | 1 | | | | | | | | | | |
| Hyperplasia, Diffuse | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

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First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| DAY ON TEST | 0 | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|
| | 6 | 7 | 2 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 3 | 7 | 3 | 7 | 7 | 6 | |
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0mg/L female | 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0 | 0 | 8 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 0 | 5 | 3 | 3 | 3 | 3 | 1 | 3 | 8 | 3 | 4 | 3 | 3 | |
| ANIMAL ID | 5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Pigment | | | | | | | | | | | | | | | | | | | | 1 | | | | | | |
| Pars Distalis, Hyperplasia | 2 | | | 2 | | | | 1 | 4 | 2 | | 2 | | 4 | | | | | | | 4 | | 1 | 1 | | |
| Pars Distalis, Vacuolation, Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| C-cell, Hyperplasia | | | | | 2 | | | | | 2 | | | | | | 1 | | | | | 4 | | | | | 1 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | X | | | | | | | | | | | | | | | | | | | | |
| Bursa, Cyst | | | | | | | X | | | | | | | | | | | | | | | | | | | |
| Follicle, Cyst | | | | | X | | | X | | | | | | | | X | | | | | | | X | | X | |
| Paraovarian Tissue, Cyst | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Dilation | | | | | | | | | | | | | | 3 | | | | | | | | | | | | |
| Hyperplasia, Atypical | | | | | 1 | | | | | | | | | | | | | | | 2 | | 2 | | | | |
| Hyperplasia, Stromal | | | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Squamous Metaplasia | 2 | | | 2 | 1 | | 2 | | 3 | 2 | 1 | | | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cervix, Squamous Metaplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0mg/L female | DAY ON TEST | 0695 | 0708 | 0286 | 0653 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0550 | 0550 | 0771 | 0771 | 0771 | 0771 | 0771 | 0338 | 0338 | 0734 | 0734 | 0673 | 0673 | females
(cont...) |
| | ANIMAL ID | 00201 | 00202 | 00203 | 00204 | 00205 | 00206 | 00207 | 00208 | 00209 | 00210 | 00211 | 00212 | 00213 | 00214 | 00215 | 00216 | 00217 | 00218 | 00219 | 00220 | 00221 | 00222 | 00223 | |

Cervix, Epithelium, Hyperplasia
Endometrium, Hyperplasia, Cystic

2 2 1 3 2 3 3 2 1 2 2 2 2 2 3 2 3 3

Vagina
Inflammation, Chronic Active

+ +

HEMATOPOIETIC SYSTEM

Bone Marrow

+ +

Lymph Node
Lumbar, Hyperplasia, Lymphocyte
Lumbar, Infiltration Cellular, Neutrophil
Lumbar, Pigment

+ +

Lymph Node, Mandibular
Hyperplasia, Lymphocyte
Hyperplasia, Plasma Cell
Infiltration Cellular, Histiocyte
Lymphatic Sinus, Dilation

+
2 2 3 2

Lymph Node, Mesenteric
Infiltration Cellular, Histiocyte

+
2 1 2

Spleen
Extramedullary Hematopoiesis
Fibrosis
Infarct
Lymphocyte, Hyperplasia
Red Pulp, Atrophy

+
3 2 1 2 1 1 4

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 03038 - 03

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 02/28/2019

Test Type: CHRONIC

Sodium Tungstate Dihydrate

Time Report Requested: 13:33:08

Route: DOSED WATER

CAS Number: 10213-10-2

First Dose M/F: 01/30/12 / 01/31/12

Species/Strain: RATS/HSD

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | | 6 | 7 | 2 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 3 | 7 | 3 | 7 | 7 | 6 | 6 | 6 | 6 | |
| ANIMAL ID | | 9 | 0 | 8 | 5 | 3 | 3 | 3 | 3 | 3 | 1 | 0 | 5 | 3 | 3 | 3 | 3 | 1 | 3 | 8 | 3 | 4 | 3 | 3 | 2 | 4 | 4 | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | | 5 | 8 | 6 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 7 | 2 | 4 | 2 | 2 | 2 | 2 | 4 | |
| 0mg/L female | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

females (cont...)

White Pulp, Atrophy

2

Thymus

+ +

INTEGUMENTARY SYSTEM

Mammary Gland

Hyperplasia

Duct, Cyst

Duct, Dilation

+
X
2 2 2

Skin

Cyst Epithelial Inclusion

+ +

MUSCULOSKELETAL SYSTEM

Bone

+ +

NERVOUS SYSTEM

Brain

Hemorrhage

+
4

RESPIRATORY SYSTEM

Lung

Infiltration Cellular, Histiocyte
Inflammation, Chronic
Metaplasia, Squamous
Mineral

+
3 2 1 2 2 2 1 2 1 2 1 2 1 1 2 3 2 2 1 1
1 1 1 1 1 1 1

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically M .. Missing tissue
X .. Lesion present A .. Autolysis precludes evaluation
I .. Insufficient tissue BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 03038 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Sodium Tungstate Dihydrate
 CAS Number: 10213-10-2

Date Report Requested: 02/28/2019
 Time Report Requested: 13:33:08
 First Dose M/F: 01/30/12 / 01/31/12
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | | | | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|------|------|------|------|------|
| | 0695 | 0708 | 0726 | 0735 | 0737 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0555 | 0555 | 0777 | 0777 | 0777 | 0777 | 0777 | | | 0777 | 0733 | 0737 | 0737 | 0777 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Alveolar Epithelium, Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nose | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Glands, Respiratory Epithelium, Dilation | 4 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Glands, Respiratory Epithelium, Hyperplasia | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |

Trachea

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| + | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Eye | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Harderian Gland | + | | | | | | | | | | | | | | | | | | | | | | | | | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mineral | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nephropathy, Chronic Progressive Cortex, Cyst | 2 | 3 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 1 |
| Pelvis, Dilation | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Renal Tubule, Inflammation, Suppurative | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0mg/L female | DAY ON TEST | 06 | 07 | 02 | 06 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 05 | 05 | 07 | 07 | 07 | 07 | 07 | 03 | 07 | 03 | 07 | 07 | 06 | |
| | ANIMAL ID | 09 | 08 | 08 | 05 | 03 | 03 | 03 | 03 | 03 | 03 | 01 | 00 | 05 | 03 | 03 | 03 | 01 | 01 | 01 | 01 | 03 | 08 | 03 | 04 | 03 | 03 |
| | | 05 | 08 | 06 | 02 | 01 | 00 | 00 | 00 | 00 | 00 | 01 | 02 | 00 | 01 | 01 | 01 | 01 | 01 | 01 | 07 | 02 | 04 | 02 | 02 | 04 | |
| | | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| | | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 |
| | | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 00 | 01 | 02 | 03 | 04 | 05 | 06 |

females
(cont...)

Urinary Bladder

+ +

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

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Experiment Number: 03038 - 03

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Sodium Tungstate Dihydrate

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Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0757 | 0777 | 0777 | 0766 | 0777 | 0777 | 0766 | 0777 | 0777 | 0777 | 0777 | 0766 | 0766 | 0755 | 0777 | 0766 | 0755 | 0777 | 0744 | 0777 | |
| ANIMAL ID | 00226 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0000 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum
Edema | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon
Lymphoid Tissue, Hyperplasia | + | + | + | + | + | + | + | + | 2 | 1 | + | + | + | + | + | + | + | + | + | + | 2 | + | + | + | 50 | |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Small | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Jejunum
Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | 2 | | | | 2 | |
| Clear Cell Focus | | | | | | | | | | X | | X | | | | | | | | | | | | | 8 | |
| Congestion | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Eosinophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Fatty Change, Diffuse | | | | | | | | | | 1 | | | | | | | | | | | 2 | | | | 2 | |
| Mixed Cell Focus | | | | | | | | | | | | | X | | | | | | | | | | | | 2 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

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2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

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Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|
| | 07 | 07 | 07 | 07 | 07 | 05 | 07 | 07 | 06 | 07 | 07 | 06 | 07 | 07 | 07 | 07 | 06 | 06 | 05 | 07 | | 06 | 05 | 07 | 04 |
| ANIMAL ID | 00226 | 00227 | 00228 | 00229 | 00230 | 00231 | 00232 | 00233 | 00234 | 00235 | 00236 | 00237 | 00238 | 00239 | 00240 | 00241 | 00242 | 00243 | 00244 | 00245 | 00246 | 00247 | 00248 | 00249 | 00250 |
| | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 7 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | 3 | 7 | 0 | 3 | 9 | 3 |
| | 2 | 2 | 2 | 2 | 2 | 7 | 0 | 0 | 6 | 0 | 1 | 9 | 1 | 1 | 1 | 1 | 0 | 2 | 3 | 1 | 6 | 4 | 0 | 4 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--|--|--|--|--|--|--|---|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|---|-----|
| Bile Duct, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Hepatocyte, Fatty Change, Focal | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 3 | 1.0 |
| Hepatocyte, Necrosis | | | | | | | | | | | | | 2 | | | | | | | | | | | | | 1 | 2.0 |
| Hepatocyte, Vacuolation, Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Serosa, Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Acinus, Hyperplasia | | | | | | | | | | | | 2 | | | | | | | | | | | 2 | | 5 | 1.4 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | 2 | | | | | | | | | | | | 1 | 2.0 | |
| Mineral | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | 1.0 | |
| Ulcer | | | | | | | | | | | | | | 3 | | | | | | | | | | | 1 | 3.0 | |
| Epithelium, Hyperplasia | | | | | | | | | | | 1 | 2 | | | | | | | | | | | | | 3 | 1.7 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | 3 | 1.7 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--------------|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0756 | 0773 | 0773 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | |
| 0mg/L female | 0026 | 0027 | 0028 | 0029 | 0030 | 0031 | 0032 | 0033 | 0034 | 0035 | 0036 | 0037 | 0038 | 0039 | 0040 | 0041 | 0042 | 0043 | 0044 | 0045 | 0046 | 0047 | 0048 | 0049 | 0050 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|-------|
| Pituitary Gland | + | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Pars Distalis, Hyperplasia | 2 4 1 4 1 | | | | | | | | | | | | | | | | | | | | | | | | | 19 | 2.3 |
| Pars Distalis, Vacuolation, Cytoplasmic | 2 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|-------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|-----|
| Thyroid Gland | + | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| C-cell, Hyperplasia | 2 1 2 3 4 4 4 2 3 | | | | | | | | | | | | | | | | | | | | | | | | | 14 | 2.5 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|-----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|-------|
| Clitoral Gland | + | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Ovary | + | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Bursa, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Follicle, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| Paraovarian Tissue, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Uterus | + | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Dilation | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Hyperplasia, Atypical | 4 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 2.3 |
| Hyperplasia, Stromal | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Pigment | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Squamous Metaplasia | 4 1 1 2 2 3 2 3 3 2 3 3 3 2 | | | | | | | | | | | | | | | | | | | | | | | | | 29 | 2.3 |
| Thrombus | X | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Cervix, Squamous Metaplasia | 3 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
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Experiment Number: 03038 - 03

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|----|-----|----|-----|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0577 | 0577 | 0676 | 0676 | 0676 | 0676 | 0676 | 0676 | 0676 | 0676 | 0676 | 0676 | 0676 | 0676 | 0676 | | 0676 | | | | | | | |
| ANIMAL ID | 00226 | 00227 | 00228 | 00229 | 00230 | 00231 | 00232 | 00233 | 00234 | 00235 | 00236 | 00237 | 00238 | 00239 | 00240 | 00241 | 00242 | 00243 | 00244 | 00245 | 00246 | 00247 | 00248 | 00249 | 00250 | | | | |
| Cervix, Epithelium, Hyperplasia | | | | | | | | | | | | | | | 2 | 2 | | | | | | | | | | 2 | 2.0 | | |
| Endometrium, Hyperplasia, Cystic | | 3 | 3 | 3 | 3 | | 2 | | | 2 | | | | 1 | | | | 1 | 3 | 3 | 3 | 3 | | 2 | 2 | 32 | 2.3 | | |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | 2 | | | | | | | | | | | 1 | 2.0 | | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | |
| Lumbar, Hyperplasia, Lymphocyte | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | 3.0 |
| Lumbar, Infiltration Cellular, Neutrophil | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | 2.0 |
| Lumbar, Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | 2.0 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Hyperplasia, Lymphocyte | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | 3 | 3 | 2.0 |
| Hyperplasia, Plasma Cell | 2 | | | | 2 | | | | | | | | | 2 | | | | | | 1 | | | | | | | 7 | 7 | 2.0 |
| Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 2.0 |
| Lymphatic Sinus, Dilation | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | 1 | 1 | 1.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Infiltration Cellular, Histiocyte | | | 2 | | | | | | | | | | | 2 | 2 | | | | | | | | | 2 | | | 8 | 8 | 1.9 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Extramedullary Hematopoiesis | 2 | | | 1 | | | 2 | | | | | | | 2 | | | | | 1 | 2 | 3 | 2 | 2 | 1 | 1 | | 18 | 18 | 1.7 |
| Fibrosis | | | | | | | | | | 3 | | | | | | | | | | | | | | | | | 1 | 1 | 3.0 |
| Infarct | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 4.0 |
| Lymphocyte, Hyperplasia | | | | | | 3 | | | | | | | 1 | | | | | | 2 | | | | 1 | 2 | | | 7 | 7 | 1.6 |
| Red Pulp, Atrophy | | | | | | | | | | 4 | | | | | | | | | | | | | | | | | 1 | 1 | 4.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
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 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
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Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|--------------|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0756 | 0773 | 0773 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | | 0776 | 0776 |
| 0mg/L female | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| ANIMAL ID | 00226 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 | 0026 | 0027 | |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|----|-----|
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | | |
| Nose | + | | | | | | | | | | | | | | | | | | | | 50 | | | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | X | 1 | | |
| Glands, Respiratory Epithelium, Dilation | | | | | | | | | | | | | | | | | | | | | | 2 3.0 | | |
| Glands, Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | | |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | 3 1.3 | | |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | 3 1.3 | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 50 | 2.1 |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Trachea | + | | | | | | | | | | | | | | | | | | | | 50 | | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|--|
| Eye | + | | | | | | | | | | | | | | | | | | | | 50 | |
| Harderian Gland | + | | | | | | | | | | | | | | | | | | | | 50 | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|---|----|-----|
| Kidney | + | | | | | | | | | | | | | | | | | | | | 50 | | | | |
| Mineral | | | | | | | | | | | | | | | | | | | | | 1 | 4 1.3 | | | |
| Nephropathy, Chronic Progressive | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 4 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 3 | 1 | 3 | 1 | 2 | 49 | 1.8 |
| Cortex, Cyst | | | | | | | | | | | | | | | | | | | | | X | 1 | | | |
| Pelvis, Dilation | | | | | | | | | | | | | | | | | | | | | 1 | 3 1.7 | | | |
| Renal Tubule, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | 1 | 8 1.0 | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
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Experiment Number: 03038 - 03

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0mg/L female | DAY ON TEST | 07 | 07 | 07 | 07 | 07 | 05 | 07 | 07 | 06 | 07 | 07 | 06 | 07 | 07 | 07 | 07 | 06 | 06 | 05 | 07 | 06 | 05 | 07 | 04 | 07 | * TOTALS |
| | ANIMAL ID | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | |
| | | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | |
| Urinary Bladder | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------|-----------|----------------------|
| | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
5
5
6 | 0
7
0
4 | 0
3
0
0 | 0
6
3
8 | 0
6
3
0 | 0
7
3
2 | 0
7
3
2 | 0
7
3
0 | 0
6
8
6 | 0
7
3
0 | 0
4
0
3 | 0
7
3
0 | 0
6
3
8 | 0
7
0
1 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00251 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00252 | | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 00253 | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 00254 | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 5 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 00255 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Large, Cecum
Edema | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Large, Colon
Parasite Metazoan
Lymphoid Tissue, Hyperplasia | + | + | + | + | + | | | | | | | | | | | | | | | | | | | X

2 |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | | | | | | | | | | | | | | | | | | | X

X |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Small, Jejunum
Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 |
| Liver
Clear Cell Focus
Extramedullary Hematopoiesis
Fatty Change, Diffuse
Mixed Cell Focus
Bile Duct, Hyperplasia
Centrilobular, Hepatocyte, Fatty Change
Hepatocyte, Fatty Change, Focal | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X
X
X

1

1

1

1 |

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FEMALE
250mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|----------------------|-------|
| | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
5
5
6 | 0
7
0
4 | 0
3
0
0 | 0
6
3
8 | 0
6
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0 | 0
7
3
2 | 0
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3
8 | 0
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1 | 0
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2 | 0
7
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2 | 0
7
3
2 | 0
7
3
2 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00251 | females
(cont...) | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00252 | | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 00253 | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 00254 | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | 00255 |

Hepatocyte, Necrosis

2

Pancreas

+ +

Basophilic Focus

X

Acinus, Atrophy

1 1

1

Acinus, Hyperplasia

1

2

Acinus, Inflammation, Acute

Salivary Glands

+ +

Stomach, Forestomach

+ +

Inflammation, Acute

2

Ulcer

3

Epithelium, Hyperplasia

3

Stomach, Glandular

+ +

Mineral

1

CARDIOVASCULAR SYSTEM

Blood Vessel

+ +

Heart

+ +

Cardiomyopathy

1 2 1

1 2

1 2

1

2

1

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Angiectasis

2

1

Atrophy

Degeneration, Cystic

1

1

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

1-4 .. Lesion qualified as:

X .. Lesion present

A .. Autolysis precludes evaluation

1) Minimal 3) Moderate

I .. Insufficient tissue

BLANK .. Not examined microscopically

2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| | 0
7
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5
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8 | 0
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2 | 0
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2 | 0
7
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2 | | | |
| ANIMAL ID | 0
0
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5
1 | 0
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2 | 0
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3 | 0
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4 | 0
0
2
5
5 | 0
0
2
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6 | 0
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2
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7 | 0
0
2
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8 | 0
0
2
5
9 | 0
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0 | 0
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2 | 0
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3 | 0
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7 | 0
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8 | 0
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9 | 0
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1 | 0
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2
7
2 | 0
0
2
7
3 | 0
0
2
7
4 | 0
0
2
7
5 | |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | 1 | | | | | | | | | | | |
| Hyperplasia, Focal | | | 3 | 1 | | 1 | | | | | | 2 | | | 1 | | | | | | | 2 | | | | |
| Hypertrophy, Focal | 2 | 1 | 2 | 1 | | 2 | 2 | | 1 | | | 1 | | | | | | 2 | | | | | | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | 2 | | | | | | | | | 2 | | | | 2 | |
| Bilateral, Hypertrophy, Focal | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia, Focal | 1 | | | | | | 1 | | | 1 | | | | | | 1 | | 1 | | | 1 | | | | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | 2 | | | | | | 4 | | | | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | M | + | + | + | + | + | + | M | |
| Hyperplasia, Focal | | | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| Hyperplasia, Diffuse | | | | 2 | | | | | 1 | | | | | | | | | | | | | | | 1 | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Pars Distalis, Hyperplasia | | | | 1 | | 2 | | | 1 | 1 | | | | 4 | | 2 | | | | 2 | | | 4 | | 2 | |
| Pars Intermedia, Pigment | | | | | | | | | | | | | | | | | | | | | | | 2 | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| C-cell, Hyperplasia | | | | | | | | | | | | | | | | 1 | | 3 | 3 | 1 | 1 | 2 | | 1 | 4 | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland

+ +

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

1-4 .. Lesion qualified as:

X .. Lesion present

A .. Autolysis precludes evaluation

1) Minimal 3) Moderate

I .. Insufficient tissue

BLANK .. Not examined microscopically

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Experiment Number: 03038 - 03

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Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250mg/L female | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 3 | 6 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 4 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 3 | 3 | 3 | 3 | 3 | 5 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 0 | 8 | 3 | 0 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 1 | 1 | 1 | 1 | 1 | 6 | 4 | 0 | 8 | 0 | 2 | 2 | 2 | 1 | 6 | 0 | 3 | 0 | 8 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | |

females
(cont...)

Atrophy
Infiltration Cellular, Histiocyte
Lymphatic Sinus, Dilation

1
1

Spleen
Extramedullary Hematopoiesis
Hyperplasia, Lymphocyte
Lymphocyte, Hyperplasia
White Pulp, Atrophy

+
2 2 1 2 4 3 2
2
3

Thymus

+ + + + + + + + + + + + + + + M + + + + + + + +

INTEGUMENTARY SYSTEM

Mammary Gland
Hyperplasia
Inflammation, Chronic
Duct, Dilation

+
2
1
2 1 3

Skin
Inflammation, Chronic

+ +

MUSCULOSKELETAL SYSTEM

Bone

+ +

NERVOUS SYSTEM

Brain
Hemorrhage

+
4

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250mg/L female | DAY ON TEST | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
5
5
6 | 0
7
0
4 | 0
3
0
0 | 0
6
3
8 | 0
6
3
0 | 0
7
3
2 | 0
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2 | 0
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2 | 0
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1 | 0
6
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3 | 0
7
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0 | 0
6
3
8 | 0
7
3
1 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | females
(cont...) |
| | ANIMAL ID | 0
0
2
5
1 | 0
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2
5
2 | 0
0
2
5
3 | 0
0
2
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4 | 0
0
2
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6 | 0
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7 | 0
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8 | 0
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9 | 0
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6
6 | 0
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2
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7 | 0
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6
8 | 0
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2
6
9 | 0
0
2
7
0 | 0
0
2
7
1 | 0
0
2
7
2 | 0
0
2
7
3 | 0
0
2
7
4 | |

Peripheral Nerve

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Infiltration Cellular, Histiocyte | 2 | 2 | | 1 | 2 | 2 | | | | 3 | 3 | | 3 | 1 | 3 | 3 | | 2 | | 3 | 3 | 2 | 2 | | 3 | |
| Inflammation, Chronic | 1 | | 1 | | | | | | | | | | 1 | | | | | 1 | | | | 1 | | 1 | | |
| Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrombus | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alveolus, Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | | | | | | | | | 1 | | 1 | | | | | | 1 | | | | | | | | |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | | | | | | | | | 1 | 1 | 1 | 1 | | | | | | 1 | | | | | | | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | | | 1 | | | | | | | 1 | | | | | 1 | | | 1 | | | | 1 | | | | |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Respiratory Epithelium, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 03038 - 03

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 3 | 6 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 4 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | | 3 | 3 | 3 | 3 | 3 | 5 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 0 | 8 | 3 | 0 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 250mg/L female | | 1 | 1 | 1 | 1 | 1 | 6 | 4 | 0 | 8 | 0 | 2 | 2 | 2 | 2 | 6 | 0 | 3 | 0 | 8 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

females (cont...)

Harderian Gland Hyperplasia Inflammation, Acute

+ +

URINARY SYSTEM

Kidney Mineral Nephropathy, Chronic Progressive Cortex, Cyst Pelvis, Dilation Renal Tubule, Inflammation, Suppurative

+
1 1 1 1 3 2 2 1 1 2 1 2 1 1 2 1 1 1 1 2 2 2 1 1 1
X
1 1

Urinary Bladder

+ +

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

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Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|----------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|
| | 0730 | 0629 | 0392 | 0733 | 0733 | 0731 | 0731 | 0645 | 0731 | 0731 | 0731 | 0653 | 0532 | 0721 | 0733 | 0733 | 0733 | 0733 | 0730 | 0733 | | 0733 | | | |
| 250mg/L female | 00276 | 00277 | 00278 | 00279 | 00280 | 00281 | 00282 | 00283 | 00284 | 00285 | 00286 | 00287 | 00288 | 00289 | 00290 | 00291 | 00292 | 00293 | 00294 | 00295 | 00296 | 00297 | 00298 | 00299 | 00300 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum Edema | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Intestine Large, Colon Parasite Metazoan Lymphoid Tissue, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Intestine Large, Rectum Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | X | | | | | | | | | | X | X | | | | | | | | | | | | | | 6 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Jejunum Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Clear Cell Focus | | | | | X | X | | | | X | | | | | | | | X | | | X | | X | | | 12 |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Fatty Change, Diffuse | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mixed Cell Focus | | | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 5 1.0 |
| Centrilobular, Hepatocyte, Fatty Change | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hepatocyte, Fatty Change, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

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Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0730 | 0629 | 0392 | 0733 | 0733 | 0733 | 0733 | 0645 | 0731 | 0731 | 0731 | 0653 | 0732 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | |
| ANIMAL ID | 00276 | 0007 | 0008 | 0009 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 7 | 6 | 3 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | 3 | 2 | 9 | 3 | 3 | 3 | 3 | 4 | 3 | 1 | 3 | 3 | 5 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 5 | 1 | 9 | 1 | 1 | 2 | 9 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | |
| | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |

Hepatocyte, Necrosis

1 2.0

Pancreas

50

Basophilic Focus

1

Acinus, Atrophy

4 1.0

Acinus, Hyperplasia

5 1.4

Acinus, Inflammation, Acute

1 2.0

Salivary Glands

50

Stomach, Forestomach

50

Inflammation, Acute

1 2.0

Ulcer

2 2.5

Epithelium, Hyperplasia

1 3.0

Stomach, Glandular

50

Mineral

4 1.0

CARDIOVASCULAR SYSTEM

Blood Vessel

50

Heart

50

Cardiomyopathy

25 1.2

ENDOCRINE SYSTEM

Adrenal Cortex

50

Angiectasis

3 1.7

Atrophy

1 2.0

Degeneration, Cystic

3 1.0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

1-4 .. Lesion qualified as:

X .. Lesion present

A .. Autolysis precludes evaluation

1) Minimal 3) Moderate

I .. Insufficient tissue

BLANK .. Not examined microscopically

2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-----|-----|-----|
| | 0730 | 0629 | 0370 | 0773 | 0773 | 0773 | 0676 | 0777 | 0777 | 0777 | 0665 | 0577 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | | | | |
| ANIMAL ID | 00276 | 00077 | 00008 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | | | | |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | |
| Hyperplasia, Focal | | | | | | | | | | 2 | 1 | | | | 2 | 2 | | 1 | | | 11 | 1.6 | | |
| Hypertrophy, Focal | | | 2 | | 2 | | | | 1 | 2 | | | | 1 | 2 | | 2 | 1 | 1 | | 2 | 19 | 1.6 | |
| Bilateral, Hyperplasia, Focal | | 2 | | | 3 | | | | | | | | | | | | | | | 1 | | 6 | 2.0 | |
| Bilateral, Hypertrophy, Focal | | | | | | | | | | | | 4 | | | | | | | | 3 | | 4 | 2.8 | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia, Focal | | | | | | 1 | | | | | | | | | | | 3 | 1 | | | 1 | 1 | 11 | 1.2 |
| Pigment | | | | | | | | 1 | | | | | | | | | | | | | | 1 | 1.0 | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | 2 | | | | | | | | | | | | 3 | 2.7 | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | | |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Hyperplasia, Diffuse | 1 | | | | 2 | | | | | | | 1 | | | | | | | | | 2 | 7 | 1.4 | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Pars Distalis, Hyperplasia | | | | 2 | 2 | | | | 1 | 4 | | | | | 2 | | | 1 | 4 | | 4 | 2 | 18 | 2.3 |
| Pars Intermedia, Pigment | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| C-cell, Hyperplasia | | 1 | | 2 | | | | | | | | | | | | 3 | | | 1 | 1 | | 13 | 1.8 | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
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|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|------------|
| | 0730 | 0629 | 0392 | 0733 | 0773 | 0777 | 0676 | 0777 | 0777 | 0676 | 0575 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | | |
| ANIMAL ID | 00276 | 00277 | 00278 | 00279 | 00280 | 00281 | 00282 | 00283 | 00284 | 00285 | 00286 | 00287 | 00288 | 00289 | 00290 | 00291 | 00292 | 00293 | 00294 | 00295 | | |
| Inflammation, Chronic Active Duct, Cyst | | | | | | | | | | | | | | | | | | | | | 4 | 1 4.0
1 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 |
| Bursa, Cyst | | | | | | | | | | | | | | | | | | | | X | | 8 |
| Follicle, Cyst | X | | | X | | | | | | | | | X | | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 2.0 |
| Adenomyosis | | | | | | | | | | | | 2 | | | | | | | | | | 7 1.4 |
| Hyperplasia, Atypical | | | | | | 1 | | | 1 | | | | | | | 2 | | | 1 | | | 23 2.0 |
| Squamous Metaplasia | | | | | 3 | 4 | 1 | 1 | | 1 | 3 | | 1 | 3 | | 2 | 1 | 2 | 1 | 1 | 4 | 25 2.1 |
| Endometrium, Hyperplasia, Cystic | | | | | 1 | | 2 | 3 | 1 | 3 | 3 | | | | 3 | 1 | 2 | 2 | 2 | 3 | 3 | |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 2.0 |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | 3 |
| Lumbar, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Lumbar, Lymphatic Sinus, Dilation | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Renal, Hyperplasia, Lymphocyte | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 3.0 |
| Hyperplasia, Lymphocyte | | | | | | | | | | | | | | | | | | | | | | 8 1.9 |
| Hyperplasia, Plasma Cell | | | | 1 | | | | | | 2 | | | | | 2 | | | | | | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

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|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--|
| | 0730 | 0629 | 0392 | 0733 | 0773 | 0777 | 0676 | 0777 | 0777 | 0777 | 0676 | 0575 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | | |
| ANIMAL ID | 00276 | 00077 | 00088 | 00099 | 00011 | 00022 | 00033 | 00044 | 00055 | 00066 | 00077 | 00088 | 00099 | 00011 | 00022 | 00033 | 00044 | 00055 | 00066 | 00077 | 00088 | 00099 | 00011 | 00022 | 00033 | | |
| Atrophy | | | | | | | | | | | 4 | | | | | | | | 3 | | | | | | | | |
| Infiltration Cellular, Histiocyte | 2 | | | | | | | | | | | | | | | | 2 | | | | | | | | | | |
| Lymphatic Sinus, Dilation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Extramedullary Hematopoiesis | | | 4 | | 2 | | | | | | 3 | | | | 2 | | | | | | | | | | | | |
| Hyperplasia, Lymphocyte | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymphocyte, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| White Pulp, Atrophy | | | | | | | | | | 3 | | | | | | | | | | | | | | | | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Duct, Dilation | | | | | | | | 1 | | | | | | 4 | 2 | | | | | 1 | | | 3 | 2 | | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Inflammation, Chronic | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
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1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
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| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | * TOTALS |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|----------|
| | 7 | 6 | 3 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 3 | 2 | 9 | 3 | 3 | 3 | 3 | 4 | 3 | 1 | 3 | 3 | 5 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | |
| 250mg/L female | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 6 | |
| | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 6 | |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | | |

Peripheral Nerve

+

1

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Infiltration Cellular, Histiocyte | 1 | | 1 | | | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 1 | 2 | 3 | | 2 | 2 | | | | 36 | 2.1 |
| Inflammation, Chronic | 1 | | 1 | | | | | | | | | | | | | | | | | | | 1 | | | | | 9 | 1.0 |
| Metaplasia, Squamous | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | 1 | 2.0 |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Alveolar Epithelium, Hyperplasia | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Alveolus, Infiltration Cellular, Histiocyte | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Acute | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1.0 |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 6 | 1.0 |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 50 | 2.0 |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | 1 | | | | | | | | 1 | | | | | 1 | | 1 | | | 1 | | 1 | | | 1 | | | 12 | 1.0 |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Respiratory Epithelium, Inflammation, Chronic Active | | | | 2 | | | | | | | | | 2 | | | | | | | | | | | | | | 2 | 2.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

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|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-----------------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
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| | ANIMAL ID | 00276 | 00278 | 00289 | 00280 | 00281 | 00282 | 00283 | 00284 | 00285 | 00286 | 00287 | 00288 | 00289 | 00290 | 00291 | 00292 | 00293 | 00294 | 00295 | 00296 | 00297 | 00298 | 00299 | 00300 | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--|----------|------------|
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Hyperplasia | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Inflammation, Acute | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | 1 | 2.0 |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|------------|------------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Mineral | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 1.0 |
| Nephropathy, Chronic Progressive | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | | | 49 | 1.4 | |
| Cortex, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Pelvis, Dilation | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 | 1.0 |
| Renal Tubule, Inflammation, Suppurative | | | | | 1 | | | 1 | | 1 | | 1 | | | | | | | | | 1 | | 1 | | | | | 9 | 1.0 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

Table with columns for DAY ON TEST, ANIMAL ID, and individual data points for HARLAN SPRAGUE DAWLEY RATS FEMALE 500mg/L female. Includes a 'females (cont...)' label.

ALIMENTARY SYSTEM

Table showing findings for the ALIMENTARY SYSTEM across 25 animals. Rows include Esophagus, Intestine Large (Cecum, Colon, Rectum), Intestine Small (Duodenum, Ileum, Jejunum), and Liver. Findings are marked with +, X, or numbers (2, 3).

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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Species/Strain: RATS/HSD

Lab: BAT

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|---|
| HARLAN SPRAGUE DAWLEY RATS FEMALE
500mg/L female | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | females
(cont...) | |
| ANIMAL ID | 7 | 7 | 4 | 7 | 6 | 5 | 2 | 7 | 7 | 2 | 5 | 7 | 7 | 7 | 7 | 5 | 7 | 5 | 7 | 5 | 7 | 7 | | 4 |
| | 3 | 3 | 6 | 3 | 5 | 8 | 7 | 3 | 1 | 8 | 8 | 3 | 3 | 3 | 3 | 2 | 3 | 9 | 3 | 1 | 3 | 3 | | 5 |
| | 1 | 1 | 3 | 1 | 1 | 8 | 0 | 0 | 6 | 8 | 3 | 0 | 0 | 0 | 0 | 9 | 0 | 2 | 0 | 9 | 2 | 2 | | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 5 | |
| Hyperplasia, Focal | | 1 | | | | | | | | | 3 | | | 1 | | | 1 | | 2 | | 1 | 2 | | |
| Hypertrophy, Focal | | | 1 | 2 | 1 | | | | | | | | 2 | 1 | | | | 2 | | 1 | 1 | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrombus | | | | | | | | | | | | | | | | | X | | | | | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | 1 | | | | | | | | 1 | 2 | |
| Bilateral, Hypertrophy, Focal | | | | | | | | | | | | | | 3 | | | | | | | | | | |
| <hr/> | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia, Focal | | | | | | | | | | | | | | 1 | | | 1 | | | | 3 | | 1 | |
| <hr/> | | | | | | | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| <hr/> | | | | | | | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia, Focal | | | | | | 1 | | | | | | | | | | | 1 | | | | | | 2 | |
| Hyperplasia, Diffuse | | | | | | | | | | | | | | 2 | 1 | | | 1 | 1 | | | | | |
| <hr/> | | | | | | | | | | | | | | | | | | | | | | | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Pars Distalis, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | | 2 | 1 | | | 4 | | | | | 2 | 1 | | 1 | 2 | 2 | | 2 | | 1 | | | 4 | |
| Pars Distalis, Pigment | | | | | | | | | | | | | | | | | | | | | | | | |
| <hr/> | | | | | | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| C-cell, Hyperplasia | 2 | | | | | | | | | | | | 1 | | | | 1 | | 3 | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

- * .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
- + .. Tissue examined microscopically
- X .. Lesion present
- I .. Insufficient tissue
- M .. Missing tissue
- A .. Autolysis precludes evaluation
- BLANK .. Not examined microscopically

- 1-4 .. Lesion qualified as:
 - 1) Minimal
 - 2) Mild
 - 3) Moderate
 - 4) Marked

Experiment Number: 03038 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Sodium Tungstate Dihydrate
 CAS Number: 10213-10-2

Date Report Requested: 02/28/2019
 Time Report Requested: 13:33:08
 First Dose M/F: 01/30/12 / 01/31/12
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
| | 0731 | 0731 | 0736 | 0731 | 0735 | 0738 | 0730 | 0737 | 0731 | 0738 | 0725 | 0732 | 0738 | 0733 | 0733 | 0733 | 0733 | 0732 | 0733 | 0739 | 0733 | 0731 | 0733 | 0733 | 0733 | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Bursa, Cyst | | X | | | | | | | | | | | | | | | | | | | | | | | | |
| Follicle, Cyst | X | | | | | | | | | | | | | | | | | | | | | | | X | | |
| Paraovarian Tissue, Cyst | | | | | | | | | | | | | | | | | | X | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Dilation | | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| Hemorrhage | | | | | | | | | | 3 | | | | | | | | | | | | | | | | |
| Hyperplasia, Atypical | 2 | | | | | | | | | | | | 1 | 4 | | | | 2 | 1 | | 2 | | 1 | 1 | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 2 |
| Squamous Metaplasia | 2 | | | | | | 3 | | | | | | | 3 | 3 | 3 | 1 | | | 3 | 3 | | 3 | 3 | 3 | 3 |
| Endometrium, Hyperplasia, Cystic | 3 | | 1 | 3 | 2 | 2 | | | | | 2 | | 3 | 3 | 3 | 2 | 2 | | 3 | 3 | | 3 | 3 | 2 | 2 | 3 |
| Myometrium, Malformation | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | | | | + | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | |
| ANIMAL ID | 00301 | 00302 | 00303 | 00304 | 00305 | 00306 | 00307 | 00308 | 00309 | 00310 | 00311 | 00312 | 00313 | 00314 | 00315 | 00316 | 00317 | 00318 | 00319 | 00320 | 00321 | 00322 | 00323 | 00324 | 00325 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lymph Node, Mesenteric Hemorrhage Infiltration Cellular, Histiocyte | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen Extramedullary Hematopoiesis Infarct White Pulp, Atrophy | 2 | | 3 | 3 | 3 | 2 | | | 2 | | 2 | | | | | | | | 2 | | | 3 | | | 3 |
| Thymus Cyst | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland Hyperplasia Inflammation, Chronic Duct, Dilation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Joint, Inflammation, Chronic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Skeletal Muscle | | | | | | + | | | | | | | | | | | | | | | | | | | |

NERVOUS SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
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Experiment Number: 03038 - 03

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Sodium Tungstate Dihydrate

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First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------------|
| HARLAN SPRAGUE DAWLEY RATS FEMALE
500mg/L female | DAY ON TEST | 0731 | 0731 | 0463 | 0731 | 0658 | 0527 | 0077 | 0772 | 0258 | 0773 | 0773 | 0773 | 0773 | 0572 | 0753 | 0753 | 0773 | 0573 | 0773 | 0773 | 0773 | 0456 | females (cont...) |
| | ANIMAL ID | 0030 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | |

Brain +

RESPIRATORY SYSTEM

Lung +

Infiltration Cellular, Histiocyte 3 2 2 3 1 3 1 3 2 2 2 2

Inflammation, Chronic 1 2 2 2 2 2 2 2 2 2 2 2

Alveolar Epithelium, Hyperplasia 1 1 1 1 1 1 1 1 1 1 1 1

Nose +

Glands, Respiratory Epithelium, Dilation

Goblet Cell, Nasopharyngeal Duct, Hyperplasia

Goblet Cell, Respiratory Epithelium, Hyperplasia

Olfactory Epithelium, Accumulation, Hyaline Droplet 2 2 2 2 2 1 2 2 2 2 2 1 2 1 2 2 2 1 2 1 2 2 2 2

Respiratory Epithelium, Accumulation, Hyaline Droplet 1 1 1 1 1 1 1 1 1 1 1 1

Trachea +

SPECIAL SENSES SYSTEM

Eye +

Harderian Gland Hyperplasia +

Zymbal's Gland

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically M .. Missing tissue 1-4 .. Lesion qualified as:
X .. Lesion present A .. Autolysis precludes evaluation 1) Minimal 3) Moderate
I .. Insufficient tissue BLANK .. Not examined microscopically 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------------------|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500mg/L female | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 7 | 7 | 4 | 7 | 6 | 5 | 2 | 7 | 7 | 2 | 5 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 5 | 7 | 5 | 7 | 7 | 7 | 7 | 4 |
| | | 3 | 3 | 6 | 3 | 5 | 8 | 7 | 3 | 1 | 8 | 8 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 9 | 3 | 1 | 3 | 3 | 3 | 5 | 6 |
| | 1 | 1 | 3 | 1 | 1 | 8 | 0 | 0 | 6 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 2 | 0 | 9 | 2 | 2 | 2 | 6 | | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | females | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | (cont...) | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Calculus Micro Observation Only | | | | | | | | | | | | | | | | | | | | | | | | | | X |
| Mineral | | | | | 3 | | | | 1 | 1 | | | | | | | 1 | | | | | | | | | 1 |
| Nephropathy, Chronic Progressive | 1 | 1 | 1 | 1 | | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 |
| Pelvis, Dilation | 2 | | 1 | 3 | | | | | | | | | | | | | | | | 2 | | | | | | 1 |
| Renal Tubule, Dilation | | | | 2 | | | | | | | | | | | | | | | | | | | | | | |
| Renal Tubule, Inflammation, Suppurative | | | | | | | | | 1 | | | | | | | | | 1 | | 1 | | | | | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
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Experiment Number: 03038 - 03
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 Sodium Tungstate Dihydrate
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 First Dose M/F: 01/30/12 / 01/31/12
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500mg/L female | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|--|
| | | 5 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 6 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 0 | | |
| | | 9 | 3 | 3 | 3 | 4 | 3 | 3 | 0 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 7 | 8 | 3 | 3 | 3 | 3 | 7 | 3 | 3 | | | |
| | | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 6 | 1 | 2 | 2 | 2 | 2 | 0 | 6 | 5 | 1 | 1 | 0 | 0 | 5 | 0 | 0 | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|
| Esophagus | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Intestine Large, Cecum
Epithelium, Hyperplasia | + | + | + | + | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 1.0 |
| Intestine Large, Colon
Parasite Metazoan
Polyarteritis Nodosa
Lymphoid Tissue, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | 50 | 3
1 3.0
1 3.0 |
| Intestine Large, Rectum
Parasite Metazoan
Lymphoid Tissue, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2
1 2.0 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Small, Jejunum
Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 1.5 |
| Liver
Clear Cell Focus
Fibrosis
Mixed Cell Focus
Bile Duct, Cholangiofibrosis
Bile Duct, Cyst
Bile Duct, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 3
1 1.0
2
1 2.0
1
2 2.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|
| | 0592 | 0732 | 0732 | 0772 | 0643 | 0731 | 0771 | 0550 | 0776 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0422 | 0676 | 0558 | 0733 | 0773 | | 0676 | 0777 | 0777 |
| ANIMAL ID | 0032 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Hepatocyte, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | 4 | 1 4.0 |
| Salivary Glands | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.5 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|-------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Heart | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Cardiomyopathy | 2 | 1 | | | | | | | 2 | 1 | | 1 | 1 | 2 | 1 | | | 1 | | 1 | 1 | 2 | 1 | 23 1.5 | |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | 2 3.0 |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.0 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | 3 1 3.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

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FEMALE
500mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|------|
| | 0592 | 0732 | 0732 | 0732 | 0643 | 0731 | 0731 | 0570 | 0776 | 0771 | 0733 | 0733 | 0733 | 0733 | 0733 | 0422 | 0678 | 0583 | 0733 | 0733 | | 0675 | 0730 | 0730 | 0670 | 0730 | 0730 |
| ANIMAL ID | 00326 | 00337 | 00338 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | |
| Hyperplasia, Focal | | | | | | | | | 1 | | 1 | | 2 | 1 | | | 1 | | 2 | | 2 | | | | | 15 | 1.5 |
| Hypertrophy, Focal | | | | | | | 1 | | | | 1 | | 2 | 1 | | | | | | 2 | | 2 | | | | 14 | 1.4 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | 3 | | | 1 | 3.0 |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1.3 |
| Bilateral, Hypertrophy, Focal | | | | | | | | | | | | | | | | | | | 3 | | | | | | | 2 | 3.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia, Focal | 1 | | | 1 | | | 1 | | | | 2 | | | | 2 | | | | | | | | | | | 9 | 1.4 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Parathyroid Gland | M | + | M | + | M | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | M | + | + | + | + | 44 | |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 4 | 1.3 |
| Hyperplasia, Diffuse | | | | 2 | | | 1 | | | | | | | | | | | | | 1 | | | | | 2 | 8 | 1.4 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Pars Distalis, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | 3 | | 1 | 3.0 |
| Pars Distalis, Hyperplasia | | 2 | | | | | | | | 1 | | 2 | | 1 | | | | | | | 2 | | | | 4 | 17 | 2.0 |
| Pars Distalis, Pigment | | | | | | | | | | | | | | | | | | | | | | | | 3 | | 1 | 3.0 |
| Thyroid Gland | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| C-cell, Hyperplasia | | 1 | | | | | | | | | 2 | 4 | | 1 | | | | | | | 3 | | | | | 9 | 2.0 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

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|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|
| | 0592 | 0732 | 0732 | 0732 | 0643 | 0731 | 0731 | 0500 | 0716 | 0711 | 0722 | 0722 | 0722 | 0722 | 0722 | 0420 | 0676 | 0583 | 0733 | 0733 | | 0675 | 0730 | 0730 |
| ANIMAL ID | 00326 | 00327 | 00328 | 00329 | 00330 | 00331 | 00332 | 00333 | 00334 | 00335 | 00336 | 00337 | 00338 | 00339 | 00340 | 00341 | 00342 | 00343 | 00344 | 00345 | 00346 | 00347 | 00348 | 00349 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Bursa, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Follicle, Cyst | | | | | | | | | | | | | | | | | | | X | | | | X | | 4 |
| Paraovarian Tissue, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Dilation | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| Hyperplasia, Atypical | | | | 2 | 1 | | 2 | 2 | | | 2 | 3 | 1 | | 1 | | | 1 | 2 | 2 | | | | | 19 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Squamous Metaplasia | | | 3 | 3 | 3 | 1 | 2 | 2 | | | 1 | 2 | 2 | 1 | 1 | 2 | 4 | 2 | | 3 | 2 | 2 | | 2 | 32 |
| Endometrium, Hyperplasia, Cystic | | | 3 | 3 | 3 | | 3 | 3 | 1 | | 3 | 2 | 3 | 2 | 2 | 3 | | 2 | | 3 | | 3 | | 4 | 34 |
| Myometrium, Malformation | | | | | | | | | | | | X | | | | | | | | | | | | | 1 |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Lymph Node, Mandibular | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Hemorrhage | | | | | | 3 | | | | | | | | | | | | | | | | | | 1 | |
| Hyperplasia, Plasma Cell | | | | | | | | | | | | 2 | | | 2 | | | | 2 | | | | | 5 | |
| Pigment | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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FEMALE
500mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|----------|
| | 0592 | 0732 | 0732 | 0732 | 0643 | 0731 | 0731 | 0570 | 0776 | 0771 | 0772 | 0773 | 0773 | 0773 | 0773 | 0422 | 0677 | 0583 | 0733 | 0733 | 0675 | 0730 | 0773 | 0773 | |
| ANIMAL ID | 0032 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | |
| Lymph Node, Mesenteric Hemorrhage Infiltration Cellular, Histiocyte | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Spleen Extramedullary Hematopoiesis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| | 4 | | | 2 | | | | | | | | | | | | | 3 | | | | | 3 | | 14 2.6 | |
| Infarct | | | | | | | | | | | | | | | | | 3 | | | | | | | 1 3.0 | |
| White Pulp, Atrophy | | | | | | | | | | | | | | | | | 2 | | | | | | | 3 2.7 | |
| Thymus Cyst | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland Hyperplasia Inflammation, Chronic Duct, Dilation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Joint, Inflammation, Chronic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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 Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | females
(cont...) | | |
|--|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|---|--|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE | 1000mg/L female | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 4 | 7 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | | 5 | |
| | | 3 | 8 | 0 | 3 | 3 | 3 | 5 | 3 | 2 | 3 | 3 | 0 | 1 | 3 | 3 | 7 | 1 | 3 | 3 | 5 | 3 | 3 | 3 | | 3 | |
| | | 2 | 9 | 4 | 2 | 2 | 0 | 8 | 0 | 4 | 0 | 1 | 1 | 3 | 1 | 1 | 6 | 6 | 0 | 0 | 3 | 3 | 1 | 1 | 1 | 1 | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum
Epithelium, Hyperplasia | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon
Parasite Metazoan
Lymphoid Tissue, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | X | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum
Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum
Peyer's Patch, Hyperplasia | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum
Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver
Clear Cell Focus
Eosinophilic Focus
Extramedullary Hematopoiesis
Mixed Cell Focus
Pigment
Bile Duct, Cyst | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | X | | | X | | | | | | | | | | X | | | X | | | | X | | | |
| | | | | | | | | | | | | | | | X | | | | | | | | | |
| | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| | | | | | | | | X | | | | | | | | | | | | | | | | X |

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1000mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | 0
7
3
2 | 0
6
8
9 | 0
7
0
4 | 0
7
3
2 | 0
7
3
0 | 0
7
3
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3 | 0
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| ANIMAL ID | 0
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7
4 | 0
0
3
7
5 |
| Adrenal Cortex | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hypertrophy, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bilateral, Hypertrophy, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Diffuse | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pituitary Gland | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Intermedia, Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Intermedia, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Intermedia, Pigment | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland | + | | | | | | | | | | | | | | | | | | | | | | | | |
| C-cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
1000mg/L female | DAY ON TEST | 0732 | 0689 | 0704 | 0703 | 0702 | 0678 | 0700 | 0704 | 0701 | 0701 | 0641 | 0703 | 0701 | 0676 | 0701 | 0703 | 0533 | 0703 | 0703 | 0703 | 0533 | 0703 | 0703 | 0501 | 0705 | 0501 | females
(cont...) |
| | ANIMAL ID | 00351 | 00332 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | | | | | | | | X | | | X | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| Bursa, Cyst | | | | | | | X | | | | | | | | | | | | | | | | | | | | |
| Follicle, Cyst | | | | | X | X | X | | | | | | | | X | | | | | X | | | | | | | |
| Paraovarian Tissue, Cyst | | | | | | | X | | | | | | | | | | | | | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | | | | 3 | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cyst, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dilation | | | 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Atypical | | | | | | 4 | | | | 1 | | | | | 2 | 2 | | | 3 | | 2 | | | | | | |
| Inflammation, Suppurative | | | | | | 4 | | | | | | | | | | | | | | | | | | | | 4 | |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | 4 |
| Squamous Metaplasia | | | 3 | 2 | | 3 | 2 | 1 | 2 | | 2 | 4 | | 2 | | | | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | | 3 |
| Thrombus | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| Endometrium, Hyperplasia, Cystic | | | | 3 | 1 | 4 | 3 | | | 3 | 2 | 3 | | 2 | | | | 2 | 3 | 3 | 2 | 3 | 2 | 2 | | | |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 03038 - 03
Test Type: CHRONIC
Route: DOSED WATER
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Sodium Tungstate Dihydrate
CAS Number: 10213-10-2

Date Report Requested: 02/28/2019
Time Report Requested: 13:33:08
First Dose M/F: 01/30/12 / 01/31/12
Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS FEMALE | | 3 | 8 | 0 | 3 | 3 | 3 | 5 | 3 | 2 | 3 | 3 | 0 | 1 | 3 | 3 | 7 | 1 | 3 | 3 | 5 | 3 | 3 | 3 | 3 | 1 |
| 1000mg/L female | | 2 | 9 | 4 | 2 | 2 | 0 | 8 | 0 | 4 | 0 | 1 | 1 | 3 | 1 | 1 | 6 | 6 | 0 | 0 | 3 | 3 | 1 | 1 | 1 | 1 |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |

females
(cont...)

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lumbar, Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymphatic Sinus, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymphatic Sinus, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Extramedullary Hematopoiesis | 2 | 2 | 2 | | 2 | | 2 | | | | | | | 2 | 4 | | | | | 2 | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymphocyte, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Duct, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Duct, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically
1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females (cont...) |
|---|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|-------------------|
| | 1000mg/L female | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0732 | 0738 | 0740 | 0733 | 0733 | 0733 | 0735 | 0733 | 0732 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0735 | 0737 | 0737 | 0733 | 0733 | 0733 | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Infiltration Cellular, Histiocyte | 1 | | 2 | | 3 | 2 | 3 | | | | 2 | 3 | 3 | 1 | 2 | | | 2 | 3 | 2 | | 2 | 3 | 2 | 1 | 2 | 1 |
| Inflammation, Chronic | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Olfactory Epithelium, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | 1 | | | 1 | | 1 | | 1 | | | | | | | | | 1 | | 1 | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
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M .. Missing tissue
A .. Autolysis precludes evaluation
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Lab: BAT

| | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--------------------------------------|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1000mg/L female | | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 4 | 7 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 5 | 5 | |
| | | 3 | 8 | 0 | 3 | 3 | 3 | 5 | 3 | 2 | 3 | 3 | 0 | 1 | 3 | 3 | 7 | 1 | 3 | 3 | 5 | 3 | 3 | 3 | 3 | 3 | |
| | | 2 | 9 | 4 | 2 | 2 | 0 | 8 | 0 | 4 | 0 | 1 | 1 | 3 | 1 | 1 | 6 | 6 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 1 | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Harderian Gland Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Infarct | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Metaplasia, Osseous | | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| Mineral | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| Nephropathy, Chronic Progressive | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 1 | | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 1 |
| Pelvis, Dilation | | | | | | | | | | | | | | | 1 | | | | | | 1 | | | | |
| Renal Tubule, Dilation | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| Renal Tubule, Hyperplasia, Oncocytic | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| Renal Tubule, Inflammation, Suppurative | 1 | | 1 | | 2 | | | 1 | 1 | | 1 | | | 1 | 1 | | | | 1 | 1 | | | 1 | | |
| Renal Tubule, Regeneration | 2 | | | | | 2 | | | | 1 | | | | | 2 | 1 | | | 2 | | | | 1 | | 1 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
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 X .. Lesion present
 I .. Insufficient tissue
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Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-----------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0731 | 0624 | 0731 | 0733 | 0270 | 0478 | 0772 | 0772 | 0772 | 0773 | 0652 | 0578 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0672 | 0583 | 0732 | 0454 | |
| 1000mg/L female | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 00397 | 00398 | 00399 | 50 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Large, Cecum Epithelium, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 2 1.5 |
| Intestine Large, Colon Parasite Metazoan Lymphoid Tissue, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 2.0 |
| Intestine Large, Rectum Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 8 |
| Intestine Small, Duodenum Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 2.0 |
| Intestine Small, Ileum Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 1 2.0 |
| Intestine Small, Jejunum Peyer's Patch, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 2.5 |
| Liver Clear Cell Focus Eosinophilic Focus Extramedullary Hematopoiesis Mixed Cell Focus Pigment Bile Duct, Cyst | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 7 2 1 1 1 3 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
1000mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|
| | 0731 | 0624 | 0731 | 0733 | 0270 | 0478 | 0772 | 0773 | 0773 | 0773 | 0773 | 0665 | 0571 | 0773 | 0773 | 0773 | 0773 | 0773 | 0664 | 0583 | | 0773 | 0474 | 0583 | 0773 | 0474 |
| ANIMAL ID | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 00397 | 00398 | 00399 | 00400 | |
| Bile Duct, Hyperplasia | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 4 1.0 |
| Centrilobular, Hepatocyte, Degeneration | | | | | | | | | | | | | | | | | | | 2 | | | | | | | 1 2.0 |
| Centrilobular, Hepatocyte, Hypertrophy | | | | | | | | | | | | | | | | | | | 2 | | | | | | | 1 2.0 |
| Hepatocyte, Fatty Change, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Polyarteritis Nodosa | | | | | | | | | | | | | | | | | | | | | | | | | | 2 1.5 |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Acinus, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 5 1.4 |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Erosion | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mineral | | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.0 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--------|
| Blood Vessel | | | | | | | | | | | | | | | | | | | | | | | | | | 49 |
| Heart | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Cardiomyopathy | | | | | | | | | | | | | | | | | | | | | | | | | | 23 1.2 |

ENDOCRINE SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
1000mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|--------|--------|
| | 0731 | 0624 | 0731 | 0731 | 0270 | 0478 | 0772 | 0777 | 0777 | 0777 | 0777 | 0665 | 0571 | 0777 | 0777 | 0777 | 0777 | 0777 | 0666 | 0575 | | 0774 | 0483 | 0775 | 0485 |
| ANIMAL ID | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 00397 | 00398 | 00399 | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Hyperplasia, Focal | | | | | | | | | | | | | | 2 | | | | 2 | | 2 | | | | | 9 1.7 |
| Hypertrophy, Focal | | | | 3 | | | 2 | 1 | 1 | 1 | | 1 | | | | | 2 | 2 | 2 | | | | 1 | | 17 1.6 |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | 2 | | | | | | | | | | | | | 4 2.0 |
| Bilateral, Hypertrophy, Focal | | | | | | | | | | | | | | | | | | | | | | | | | 4 2.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia, Focal | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | 9 1.1 |
| Bilateral, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | 2 | | 2 2.0 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | M | + | + | + | 44 |
| Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | | | | | | 3 2.0 |
| Hyperplasia, Diffuse | | | | | | | | | | 1 | 1 | | | | | | | 1 | | | | | | | 8 1.3 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Hyperplasia | 4 | | 4 | 4 | | 1 | 4 | | 4 | | | | | | | | 2 | 2 | | 3 | | | | 21 2.7 | |
| Pars Intermedia, Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pars Intermedia, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pars Intermedia, Pigment | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Hyperplasia | 3 | | | | | | | | 2 | | | | | | | | | | 1 | 1 | | | | | 12 1.8 |

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST
HARLAN SPRAGUE DAWLEY RATS
FEMALE
1000mg/L female | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 7 | 6 | 7 | 7 | 2 | 4 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 4 | 8 | 3 | 2 | 5 | 7 | 4 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | |
| * TOTALS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|-------|
| Clitoral Gland | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Bursa, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| Follicle, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7 | |
| Paraovarian Tissue, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Cyst | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Cyst, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Dilation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| Hyperplasia, Atypical | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 2.3 | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 4.0 | |
| Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 4.0 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| Squamous Metaplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 3.0 | |
| Thrombus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 3.0 | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 26 2.4 | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 27 2.6 | |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

HEMATOPOIETIC SYSTEM

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 + .. Tissue examined microscopically
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|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| | 0731 | 0624 | 0731 | 0731 | 0200 | 0407 | 0707 | 0707 | 0707 | 0707 | 0605 | 0507 | 0707 | 0707 | 0707 | 0707 | 0707 | 0603 | 0703 | 0703 | | 0604 | 0508 | 0703 | 0405 | 0707 | 0408 | 0703 | 0704 | 0705 | 0706 | 0707 | 0708 | 0709 |
| ANIMAL ID | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 00397 | 00398 | 00399 | 00400 | 00401 | 00402 | 00403 | 00404 | 00405 | 00406 | 00407 | 00408 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 2 | 3 | 3 | 0 | 7 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 1 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 4 | 8 | 3 | 5 | 4 | | | | | | |
| | 1 | 4 | 1 | 1 | 0 | 8 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 8 | 0 | 2 | 2 | 2 | 8 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|--|--------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lumbar, Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Lymphatic Sinus, Dilation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lymphatic Sinus, Dilation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Extramedullary Hematopoiesis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 14 2.4 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Lymphocyte, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|-------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 2.3 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Duct, Dilation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 3.0 |
| Duct, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |

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CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
1000mg/L female | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|--------|--------|
| | 0731 | 0624 | 0731 | 0731 | 0200 | 0407 | 0707 | 0707 | 0707 | 0707 | 0707 | 0605 | 0507 | 0707 | 0707 | 0707 | 0707 | 0707 | 0606 | 0505 | | 0707 | 0404 | 0803 | 0704 | 0405 | 0404 |
| ANIMAL ID | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 00397 | 00398 | 00399 | 00400 | 00401 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Infiltration Cellular, Histiocyte | | | 2 | | | | 1 | | 3 | | | 2 | 2 | | 2 | 3 | 3 | 2 | 2 | | | 3 | | | | | 30 2.2 |
| Inflammation, Chronic | | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | 5 1.2 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Goblet Cell, Nasopharyngeal Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Goblet Cell, Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | | 50 2.0 | |
| Olfactory Epithelium, Inflammation, Acute | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | | | 8 1.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 03038 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Sodium Tungstate Dihydrate

CAS Number: 10213-10-2

Date Report Requested: 02/28/2019

Time Report Requested: 13:33:08

First Dose M/F: 01/30/12 / 01/31/12

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------------------------|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE | DAY ON TEST | 7 | 6 | 7 | 7 | 2 | 4 | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 4 | 0 | 4 | |
| | 1000mg/L female | 3 | 2 | 3 | 3 | 0 | 7 | 3 | 3 | 3 | 3 | 3 | 5 | 1 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 4 | 8 | 3 | 5 | 4 | |
| | ANIMAL ID | 1 | 4 | 1 | 1 | 0 | 8 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | |
| | | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Harderian Gland
Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 1.0 |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------------|---------------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Infarct | 1 | | | | | | | | | | | | | | | 1 | | | | | | | | | 3 1.0 |
| Metaplasia, Osseous | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Mineral | | | | | | | | | | | | | | | | | | 1 | | | | | | | 2 1.0 |
| Nephropathy, Chronic Progressive | 3 | 2 | 2 | 3 | 1 | 1 | 2 | 1 | 2 | 2 | 3 | 2 | 1 | | 1 | 2 | 1 | 3 | 2 | 2 | 2 | 1 | | 1 | 47 1.7 |
| Pelvis, Dilation | 1 | | | | | | | | 1 | 1 | | | | | 2 | | | 1 | | | | | | | 7 1.1 |
| Renal Tubule, Dilation | | | | | | | | | | | | | | 2 | | | | | | | | | | | 1 2.0 |
| Renal Tubule, Hyperplasia, Oncocytic | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Renal Tubule, Inflammation, Suppurative | 1 | | | | | | | 1 | 1 | | | | 1 | | 1 | 1 | | 1 | | | | | 1 | 19 1.1 | |
| Renal Tubule, Regeneration | | 2 | | | 2 | | | | | 1 | | | 2 | | 2 | 3 | 2 | 2 | | 2 | | 2 | | | 18 1.8 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

*** END OF REPORT ***

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked