

Experiment Number: 10260 - 01

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

Date Report Requested: 09/22/2017

Test Type: Chronic PN

2-Hydroxy-4-methoxybenzophenone

Time Report Requested: 09:11:25

Route: DOSED FEED

CAS Number: 131-57-7

First Dose M/F: 11/08/10 / 11/09/10

Species/Strain: RATS/HSD

Lab: BAT

Final 2 Revision 1 - Core Only

NTP Study Number: C10260
Lock Date: 07/22/2014
Cage Range: ALL
Date Range: ALL
Reasons For Removal: 25021 TSAC
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.2.3_002
PWG Approval Date: 12/22/2016

25020 NATD

25019 MSAC

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Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	0 ppm Male	1000 ppm Male	3000 ppm Male	10000 ppm Male
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Disposition Summary

Animals Initially In Study	60	50	50	60
Early Deaths				
Moribund Sacrifice	12	15	18	10
Natural Death	8	6	8	7
Survivors				
Natural Death	1			
Terminal Sacrifice	29	29	24	33
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(50)	(50)	(50)	(50)
Intestine Large, Colon	(50)	(50)	(50)	(50)
Intestine Large, Rectum	(50)	(50)	(50)	(50)
Intestine Small, Duodenum	(50)	(50)	(50)	(50)
Intestine Small, Ileum	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum	1 (2%)			
Intestine Small, Jejunum	(50)	(50)	(50)	(50)
Adenocarcinoma	1 (2%)	2 (4%)		2 (4%)
Liver	(50)	(50)	(50)	(50)
Hepatocellular Adenoma				1 (2%)
Hepatocellular Carcinoma		1 (2%)		
Hepatocholangiocarcinoma				1 (2%)
Mesentery	(1)	(3)	(1)	(1)
Hemangiosarcoma		1 (33%)		
Oral Mucosa	(0)	(0)	(0)	(1)
Pancreas	(50)	(50)	(50)	(50)
Mixed Tumor Benign		1 (2%)		1 (2%)
Acinus, Adenoma	2 (4%)	4 (8%)	2 (4%)	6 (12%)
Acinus, Adenoma, Multiple	3 (6%)	3 (6%)	3 (6%)	3 (6%)
Acinus, Carcinoma		1 (2%)		
Salivary Glands	(50)	(50)	(50)	(50)

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

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Harlan Sprague Dawley RATS MALE	0 ppm Male	1000 ppm Male	3000 ppm Male	10000 ppm Male
Stomach, Forestomach	(50)	(50)	(50)	(50)
Stomach, Glandular	(50)	(50)	(50)	(50)
Tongue	(0)	(0)	(0)	(1)

CARDIOVASCULAR SYSTEM

Blood Vessel	(50)	(50)	(50)	(50)
Heart	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Mammary Gland	1 (2%)			
Schwannoma Malignant	1 (2%)			

ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)
Adenoma	3 (6%)	4 (8%)	3 (6%)	2 (4%)
Adrenal Medulla	(50)	(50)	(50)	(50)
Pheochromocytoma Benign	9 (18%)	4 (8%)	11 (22%)	7 (14%)
Pheochromocytoma Malignant	3 (6%)	1 (2%)		
Bilateral, Pheochromocytoma Benign			1 (2%)	
Islets, Pancreatic	(50)	(50)	(50)	(50)
Adenoma	3 (6%)	4 (8%)	4 (8%)	1 (2%)
Carcinoma				1 (2%)
Parathyroid Gland	(49)	(47)	(45)	(48)
Adenoma			1 (2%)	
Carcinoma, Metastatic, Thyroid Gland	1 (2%)			
Pituitary Gland	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Zymbal'S Gland		1 (2%)		
Meningioma Malignant, Metastatic, Brain			1 (2%)	
Pars Distalis, Adenoma	14 (28%)	13 (26%)	12 (24%)	10 (20%)
Pars Intermedia, Adenoma	2 (4%)	2 (4%)	1 (2%)	
Thyroid Gland	(50)	(50)	(50)	(50)
Carcinoma, Metastatic, Thyroid Gland	1 (2%)			
Bilateral, C-cell, Adenoma	1 (2%)		1 (2%)	2 (4%)
C-cell, Adenoma	6 (12%)	10 (20%)	7 (14%)	6 (12%)
C-cell, Carcinoma	1 (2%)		2 (4%)	1 (2%)

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GENERAL BODY SYSTEM

Peritoneum	(1)	(0)	(1)	(1)
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GENITAL SYSTEM

Epididymis	(50)	(50)	(50)	(50)
Penis	(2)	(0)	(0)	(1)
Preputial Gland	(49)	(50)	(49)	(50)
Duct, Carcinoma	1 (2%)			
Prostate	(50)	(50)	(50)	(49)
Seminal Vesicle	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum	1 (2%)			
Testes	(50)	(50)	(50)	(50)
Interstitial Cell, Adenoma	1 (2%)	3 (6%)	1 (2%)	2 (4%)

HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)
Lymph Node	(4)	(0)	(1)	(5)
Lymph Node, Mandibular	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Zymbal'S Gland		1 (2%)		
Lymph Node, Mediastinal	(1)	(0)	(1)	(0)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum	1 (100%)			
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum	1 (2%)			
Spleen	(50)	(50)	(50)	(50)
Thymus	(46)	(48)	(48)	(49)

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INTEGUMENTARY SYSTEM

Mammary Gland	(49)	(50)	(50)	(50)
Adenocarcinoma	2 (4%)			
Fibroadenoma	2 (4%)			
Skin	(50)	(50)	(50)	(50)
Keratoacanthoma	2 (4%)			1 (2%)
Melanoma Nos		1 (2%)		
Squamous Cell Carcinoma		1 (2%)		
Squamous Cell Papilloma	2 (4%)	1 (2%)	2 (4%)	
Subcutaneous Tissue, Fibroma	3 (6%)	3 (6%)	4 (8%)	3 (6%)
Subcutaneous Tissue, Hemangioma				1 (2%)
Subcutaneous Tissue, Lipoma	2 (4%)			1 (2%)

MUSCULOSKELETAL SYSTEM

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

NERVOUS SYSTEM

Brain	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Zymbal'S Gland		1 (2%)		
Glioma Nos		1 (2%)		
Granular Cell Tumor Benign	2 (4%)		1 (2%)	1 (2%)
Meningioma Malignant		1 (2%)	3 (6%)	
Nerve Trigeminal	(0)	(0)	(1)	(0)
Meningioma Malignant			1 (100%)	
Peripheral Nerve	(2)	(1)	(1)	(0)
Spinal Cord	(2)	(1)	(1)	(0)
Meningioma Malignant			1 (100%)	

RESPIRATORY SYSTEM

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Harlan Sprague Dawley RATS MALE	0 ppm Male	1000 ppm Male	3000 ppm Male	10000 ppm Male
Lung	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum	1 (2%)			
Adenocarcinoma, Metastatic, Mammary Gland	1 (2%)			
Adenocarcinoma, Metastatic, Zymbal'S Gland		1 (2%)		
Alveolar/Bronchiolar Adenoma			1 (2%)	
Alveolar/Bronchiolar Carcinoma			1 (2%)	
Alveolar/Bronchiolar Carcinoma, Multiple	1 (2%)			
Hepatocolangiocarcinoma, Metastatic, Liver				1 (2%)
Pheochromocytoma Malignant, Metastatic, Adrenal Medulla		1 (2%)		
Nose	(50)	(50)	(50)	(50)
Trachea	(50)	(50)	(50)	(50)

SPECIAL SENSES SYSTEM

Eye	(50)	(50)	(50)	(50)
Harderian Gland	(50)	(50)	(50)	(50)
Lacrimal Gland	(0)	(0)	(1)	(0)
Zymbal's Gland	(0)	(1)	(0)	(0)
Adenocarcinoma		1 (100%)		

URINARY SYSTEM

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

SYSTEMIC LESIONS

Multiple Organ	*(50)	*(50)	*(50)	*(50)
Lymphoma Malignant			1 (2%)	1 (2%)
Mesothelioma Malignant	1 (2%)		2 (4%)	1 (2%)

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

* Number of animals with any tissue examined microscopically

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Harlan Sprague Dawley RATS MALE	0 ppm Male	1000 ppm Male	3000 ppm Male	10000 ppm Male
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Tumor Summary for Males

Total Animals with Primary Neoplasms (b)	42	35	38	38
Total Primary Neoplasms	69	63	66	55
Total Animals with Benign Neoplasms	38	30	36	34
Total Benign Neoplasms	58	52	55	48
Total Animals with Malignant Neoplasms	11	9	10	6
Total Malignant Neoplasms	11	9	11	7
Total Animals with Metastatic Neoplasms	3	2	1	1
Total Metastatic Neoplasms	9	5	1	1
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain- Benign or Malignant		2		
Total Uncertain Neoplasms		2		

*** END OF MALE ***

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

b - Primary tumors: all tumors except metastatic tumors

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Harlan Sprague Dawley RATS FEMALE	0 ppm Female	1000 ppm Female	3000 ppm Female	10000 ppm Female
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Disposition Summary

Animals Initially In Study	60	50	50	60
Early Deaths				
Moribund Sacrifice	15	13	10	16
Natural Death	5	4	6	8
Survivors				
Terminal Sacrifice	30	33	34	26
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(50)	(50)	(50)	(50)
Intestine Large, Colon	(50)	(50)	(50)	(50)
Intestine Large, Rectum	(50)	(50)	(50)	(50)
Intestine Small, Duodenum	(50)	(50)	(50)	(50)
Intestine Small, Ileum	(49)	(50)	(50)	(50)
Intestine Small, Jejunum	(50)	(50)	(50)	(50)
Hemangiosarcoma				1 (2%)
Leiomyoma		2 (4%)		
Schwannoma Malignant		1 (2%)		
Liver	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Pancreas				1 (2%)
Hemangiosarcoma				1 (2%)
Hepatocellular Adenoma			2 (4%)	2 (4%)
Mesentery	(1)	(0)	(0)	(1)
Hemangiosarcoma				1 (100%)
Pancreas	(50)	(50)	(50)	(50)
Adenocarcinoma				1 (2%)
Schwannoma Malignant			1 (2%)	
Acinus, Adenoma			1 (2%)	
Salivary Glands	(49)	(50)	(50)	(50)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Stomach, Glandular	(50)	(50)	(50)	(50)

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CARDIOVASCULAR SYSTEM

Blood Vessel	(50)	(50)	(50)	(50)
Heart	(49)	(50)	(50)	(50)

ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Pancreas				1 (2%)
Adenoma	3 (6%)	2 (4%)	2 (4%)	
Adrenal Medulla	(50)	(50)	(50)	(50)
Pheochromocytoma Benign	3 (6%)	2 (4%)	1 (2%)	
Pheochromocytoma Complex		1 (2%)		
Pheochromocytoma Malignant	2 (4%)			
Bilateral, Pheochromocytoma Malignant			1 (2%)	
Islets, Pancreatic	(50)	(50)	(50)	(50)
Adenoma			1 (2%)	
Carcinoma	1 (2%)			
Parathyroid Gland	(41)	(47)	(43)	(42)
Adenoma	1 (2%)			
Pituitary Gland	(50)	(50)	(50)	(50)
Pars Distalis, Adenoma	19 (38%)	25 (50%)	20 (40%)	16 (32%)
Pars Distalis, Adenoma, Multiple			1 (2%)	
Thyroid Gland	(50)	(50)	(50)	(50)
Bilateral, C-cell, Adenoma				1 (2%)
C-cell, Adenoma	5 (10%)	11 (22%)	17 (34%)	9 (18%)
C-cell, Carcinoma	1 (2%)	1 (2%)		1 (2%)

GENERAL BODY SYSTEM

Peritoneum	(0)	(0)	(0)	(1)
Adenocarcinoma, Metastatic, Pancreas				1 (100%)

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Harlan Sprague Dawley RATS FEMALE	0 ppm Female	1000 ppm Female	3000 ppm Female	10000 ppm Female
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GENITAL SYSTEM

Clitoral Gland	(48)	(50)	(50)	(48)
Ovary	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Pancreas				1 (2%)
Granulosa Cell Tumor Benign				1 (2%)
Hemangiosarcoma				1 (2%)
Sertoli Cell Tumor Benign				1 (2%)
Uterus	(50)	(50)	(50)	(50)
Adenocarcinoma	5 (10%)	3 (6%)		4 (8%)
Adenocarcinoma, Metastatic, Pancreas				1 (2%)
Leiomyosarcoma				1 (2%)
Polyp Stromal	7 (14%)	12 (24%)	15 (30%)	10 (20%)
Polyp Stromal, Multiple	1 (2%)	3 (6%)	3 (6%)	
Sarcoma Stromal		1 (2%)	2 (4%)	
Schwannoma Malignant			2 (4%)	
Vagina	(50)	(50)	(50)	(50)

HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)
Pheochromocytoma Malignant, Metastatic, Adrenal Medulla			1 (2%)	
Lymph Node	(0)	(1)	(2)	(1)
Lymph Node, Mandibular	(49)	(50)	(49)	(50)
Lymph Node, Mesenteric	(49)	(50)	(50)	(50)
Spleen	(50)	(50)	(50)	(50)
Thymus	(49)	(50)	(47)	(49)

INTEGUMENTARY SYSTEM

Mammary Gland	(50)	(50)	(50)	(49)
Adenocarcinoma	7 (14%)	3 (6%)	7 (14%)	1 (2%)
Adenocarcinoma, Multiple		2 (4%)		
Fibroadenoma	23 (46%)	14 (28%)	23 (46%)	14 (29%)

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Fibroadenoma, Multiple	9 (18%)	16 (32%)	4 (8%)	4 (8%)
Skin	(50)	(50)	(50)	(50)
Basal Cell Adenoma		1 (2%)		
Fibropapilloma			1 (2%)	
Squamous Cell Carcinoma				2 (4%)
Subcutaneous Tissue, Fibrosarcoma			1 (2%)	

MUSCULOSKELETAL SYSTEM

Bone	(50)	(50)	(50)	(50)
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NERVOUS SYSTEM

Brain	(50)	(50)	(50)	(50)
Granular Cell Tumor Benign	1 (2%)			
Meningioma Malignant			1 (2%)	

RESPIRATORY SYSTEM

Lung	(49)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Pancreas				1 (2%)
Cystic Keratinizing Epithelioma				2 (4%)
Hemangiosarcoma				1 (2%)
Nose	(50)	(50)	(50)	(50)
Trachea	(50)	(50)	(50)	(50)

SPECIAL SENSES SYSTEM

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

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URINARY SYSTEM

Kidney	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus	1 (2%)			
Lipoma				1 (2%)
Renal Tubule, Adenoma		1 (2%)		
Urinary Bladder	(49)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Pancreas				1 (2%)

SYSTEMIC LESIONS

Multiple Organ	*(50)	*(50)	*(50)	*(50)
Adenolipoma	1 (2%)			
Leukemia Mononuclear		2 (4%)		1 (2%)
Lymphoma Malignant				1 (2%)

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Tumor Summary for Females

Total Animals with Primary Neoplasms (b)	47	47	45	40
Total Primary Neoplasms	89	103	106	79
Total Animals with Benign Neoplasms	41	47	42	33
Total Benign Neoplasms	72	89	91	61
Total Animals with Malignant Neoplasms	15	13	13	14
Total Malignant Neoplasms	16	14	15	18
Total Animals with Metastatic Neoplasms	1		1	1
Total Metastatic Neoplasms	1		1	7
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain- Benign or Malignant				
Total Uncertain Neoplasms				

*** END OF REPORT ***

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

b - Primary tumors: all tumors except metastatic tumors