

Version: Jun2013
Contract/Lab: All Laboratories
Species: RATS
Strain: Wistar Han
Length of Study: CHRONIC

Toxicology Data Management System
Tumor Incidence for Selected Control Animal Groups
Route: INHALATION
Vehicle: AIR

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Study Summary

Laboratory Name	Study Number	Study Start Date	Length of Study in Days	Number of Animals Total and (#/Cage)	Number Surviving and (Mean Life Span)	Maximum Mean Weekly Body Weight	Chemical
Male							
Battelle Northwest	052051503	04/14/08	729	50(5)	33(688)	602.8	Metal working fluids (CIMSTAR 3800)
Female							
Battelle Northwest	052051503	04/14/08	731	50(5)	35(700)	384.9	Metal working fluids (CIMSTAR 3800)

NOTE: The text on page 2 ("Report Description") describes how the studies listed here are displayed on the data pages that follow.

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		Male			Female		
#All Organs:							
Benign Tumors							
		32/50 (64%)			42/50 (84%)		
Overall Incidence	Total	32/50 (64%)	Mean 64%	SD 0%	Total	42/50 (84%)	Mean 84% SD 0%
.....							
#All Organs:							
Malignant Tumors							
		13/50 (26%)			11/50 (22%)		
Overall Incidence	Total	13/50 (26%)	Mean 26%	SD 0%	Total	11/50 (22%)	Mean 22% SD 0%
.....							
#All Organs:							
Malignant and Benign Tumors							
		37/50 (74%)			43/50 (86%)		
Overall Incidence	Total	37/50 (74%)	Mean 74%	SD 0%	Total	43/50 (86%)	Mean 86% SD 0%
.....							
#All Organs:							
Hemangioma							
		0/50 (0%)			0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....							
#All Organs:							
Hemangiosarcoma							
		3/50 (6%)			1/50 (2%)		
Overall Incidence	Total	3/50 (6%)	Mean 6%	SD 0%	Total	1/50 (2%)	Mean 2% SD 0%
.....							
#All Organs:							
Hemangiosarcoma or Hemangioma							
		3/50 (6%)			1/50 (2%)		
Overall Incidence	Total	3/50 (6%)	Mean 6%	SD 0%	Total	1/50 (2%)	Mean 2% SD 0%

*: Denominator is number of animals with tissues examined microscopically
 #: Denominator is number of animals necropsied

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Male					Female			
#All Organs:								
Leukemia: Lymphocytic, Monocytic, Mononuclear, or Undifferentiated								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)
.....								
#All Organs:								
Malignant Lymphoma: Histiocytic, Lymphocytic, Mixed, NOS, or Undifferentiated Cell Type								
		0/50	(0%)			2/50	(4%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	2/50	(4%)
.....								
#All Organs:								
Mesothelioma: Benign, Malignant, NOS								
		1/50	(2%)			0/50	(0%)	
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)
.....								
#All Organs:								
Mesothelioma: Malignant								
		1/50	(2%)			0/50	(0%)	
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)
.....								
#All Organs:								
Osteoma								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)
.....								
#All Organs:								
Osteosarcoma								
		1/50	(2%)			0/50	(0%)	
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)

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	Male				Female			
#All Organs:								
Osteosarcoma or Osteoma								
		1/50 (2%)			0/50 (0%)			
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....								
*Adrenal Cortex:								
Adenoma								
		2/50 (4%)			2/50 (4%)			
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	2/50 (4%)	Mean 4%	SD 0%
.....								
*Adrenal Cortex:								
Carcinoma								
		1/50 (2%)			0/50 (0%)			
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....								
*Adrenal Medulla:								
Pheochromocytoma Benign								
		4/50 (8%)			1/49 (2%)			
Overall Incidence	Total	4/50 (8%)	Mean 8%	SD 0%	Total	1/49 (2.04%)	Mean 2.04%	SD 0%
.....								
*Adrenal Medulla:								
Pheochromocytoma Malignant								
		0/50 (0%)			1/49 (2%)			
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	1/49 (2.04%)	Mean 2.04%	SD 0%
.....								
*Adrenal Medulla:								
Pheochromocytoma: Benign, Complex, Malignant, NOS								
		4/50 (8%)			2/49 (4%)			
Overall Incidence	Total	4/50 (8%)	Mean 8%	SD 0%	Total	2/49 (4.08%)	Mean 4.08%	SD 0%

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		Male				Female			
#Blood Vessel:									
Hemangiosarcoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	0/50	(0%)	Mean 0%	SD 0%
.....									
*Bone Marrow:									
Hemangiosarcoma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	0/50	(0%)	Mean 0%	SD 0%
.....									
#Bone:									
Osteoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	0/50	(0%)	Mean 0%	SD 0%
.....									
#Bone:									
Osteosarcoma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	0/50	(0%)	Mean 0%	SD 0%
.....									
#Bone:									
Osteosarcoma or Osteoma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	0/50	(0%)	Mean 0%	SD 0%
.....									
#Bone:									
Sarcoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	0/50	(0%)	Mean 0%	SD 0%

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		Male				Female				
*Brain:										
Glioma										
		2/50	(4%)			0/50	(0%)			
Overall Incidence	Total	2/50	(4%)	Mean 4%	SD 0%	Total	0/50	(0%)	Mean 0%	SD 0%
.....										
*Brain:										
Glioma Malignant										
		0/50	(0%)			0/50	(0%)			
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0%	SD 0%
.....										
*Brain:										
Granular Cell Tumor Benign										
		0/50	(0%)			2/50	(4%)			
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	2/50	(4%)	Mean 4%	SD 0%
.....										
*Brain:										
Meningioma Malignant										
		1/50	(2%)			0/50	(0%)			
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0%	SD 0%
.....										
*Brain:										
Meningioma: Benign, Malignant, NOS										
		1/50	(2%)			0/50	(0%)			
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0%	SD 0%
.....										
*Brain:										
Oligodendroglioma, Glioma, or Astrocytoma										
		0/50	(0%)			0/50	(0%)			
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0%	SD 0%

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		Male				Female			
*Clitoral/Preputial Gland: Carcinoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
*Clitoral/Preputial Gland: Carcinoma or Adenoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
*Heart: Schwannoma Benign									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
#Intestine Small: Duodenum: Leiomyosarcoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
#Intestine Small: Jejunum: Leiomyosarcoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
#Intestine Small: Site Unspecified: Leiomyosarcoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%

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		Male				Female			
*Islets, Pancreatic:									
Adenoma									
		0/50	(0%)			1/49	(2%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	1/49 (2.04%)	Mean 2.04%	SD 0%
.....									
*Islets, Pancreatic:									
Carcinoma or Adenoma									
		0/50	(0%)			1/49	(2%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	1/49 (2.04%)	Mean 2.04%	SD 0%
.....									
*Kidney: Pelvis and Transitional Epithelium:									
Papilloma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....									
*Kidney: Renal Tubule:									
Adenoma									
		0/50	(0%)			1/50	(2%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%
.....									
*Kidney: Renal Tubule:									
Carcinoma or Adenoma									
		0/50	(0%)			1/50	(2%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%
.....									
*Kidney: Renal Tubule:									
Lipoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%

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*Kidney: Renal Tubule:									
Liposarcoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
*Liver:									
Hepatocellular Adenoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
*Liver:									
Hepatocellular Carcinoma or Hepatocellular Adenoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
*Liver:									
Hepatocellular Carcinoma, Hepatocellular Adenoma, or Hepatoblastoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
*Lung:									
Alveolar/Bronchiolar Adenoma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
*Lung:									
Alveolar/Bronchiolar Carcinoma or Alveolar/Bronchiolar Adenoma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%

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		Male			Female		
#Lymph Node, Mesenteric: Hemangioma							
		0/50	(0%)			0/50	(0%)
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)
.....							
#Lymph Node, Mesenteric: Hemangiosarcoma							
		3/50	(6%)			1/50	(2%)
Overall Incidence	Total	3/50	(6%)	Mean 6%	SD 0%	Total	1/50 (2%)
.....							
#Mammary Gland: Adenoma							
		0/50	(0%)			2/50	(4%)
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	2/50 (4%)
.....							
#Mammary Gland: Carcinoma							
		0/50	(0%)			4/50	(8%)
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	4/50 (8%)
.....							
#Mammary Gland: Carcinoma or Adenoma							
		0/50	(0%)			6/50	(12%)
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	6/50 (12%)
.....							
#Mammary Gland: Fibroadenoma							
		0/50	(0%)			9/50	(18%)
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	9/50 (18%)
.....							

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	Male				Female			
#Mammary Gland:								
Fibroma, Fibroadenoma or Adenoma								
		0/50	(0%)			11/50	(22%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	11/50 (22%)	Mean 22% SD 0%
.....								
#Mammary Gland:								
Fibroma, Fibroadenoma, Carcinoma, or Adenoma								
		0/50	(0%)			13/50	(26%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	13/50 (26%)	Mean 26% SD 0%
.....								
#Mesentery:								
Hemangiosarcoma								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....								
#Mesentery:								
Schwannoma Malignant								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....								
*Nose:								
Olfactory Neuroblastoma								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....								
#Oral Cavity (Oral Mucosa, Tongue, Pharynx, Tooth, Gingiva):								
Squamous Cell Carcinoma								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....								

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	Male				Female			
#Oral Cavity (Oral Mucosa, Tongue, Pharynx, Tooth, Gingiva):								
Squamous Cell Carcinoma, Papilloma Squamous, or Papilloma								
		0/50 (0%)			0/50 (0%)			
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....								
#Oral Mucosa:								
Squamous Cell Carcinoma								
		0/50 (0%)			0/50 (0%)			
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....								
*Ovary:								
Granulosa Cell Tumor Benign								
					1/50 (2%)			
Overall Incidence	Total				1/50 (2%)	Mean 2%	SD 0%	
.....								
*Ovary:								
Granulosa Cell Tumor Malignant								
					0/50 (0%)			
Overall Incidence	Total				0/50 (0%)	Mean 0%	SD 0%	
.....								
*Ovary:								
Granulosa Cell Tumor: Benign, Malignant, NOS								
					1/50 (2%)			
Overall Incidence	Total				1/50 (2%)	Mean 2%	SD 0%	
.....								
*Ovary:								
Sex Cord Stromal Tumor, Benign								
					0/50 (0%)			
Overall Incidence	Total				0/50 (0%)	Mean 0%	SD 0%	

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	Male				Female			
*Pancreas:								
Adenoma								
		1/50 (2%)			0/49 (0%)			
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/49 (0%)	Mean 0%	SD 0%
.....								
*Pancreas:								
Carcinoma or Adenoma								
		1/50 (2%)			0/49 (0%)			
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/49 (0%)	Mean 0%	SD 0%
.....								
*Pituitary Gland: Pars Distalis or Unspecified Site:								
Adenoma								
		16/49 (33%)			35/50 (70%)			
Overall Incidence	Total	16/49 (32.65%)	Mean 32.65%	SD 0%	Total	35/50 (70%)	Mean 70%	SD 0%
.....								
*Pituitary Gland: Pars Distalis or Unspecified Site:								
Carcinoma or Adenoma								
		16/49 (33%)			35/50 (70%)			
Overall Incidence	Total	16/49 (32.65%)	Mean 32.65%	SD 0%	Total	35/50 (70%)	Mean 70%	SD 0%
.....								
*Pituitary Gland: Pars Intermedia:								
Adenoma								
		2/49 (4%)			1/50 (2%)			
Overall Incidence	Total	2/49 (4.08%)	Mean 4.08%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%
.....								
*Pituitary Gland: Pars Intermedia:								
Carcinoma or Adenoma								
		2/49 (4%)			1/50 (2%)			
Overall Incidence	Total	2/49 (4.08%)	Mean 4.08%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%

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		Male				Female			
*Prostate:									
Adenoma									
		1/50	(2%)						
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%				
.....									
*Prostate:									
Carcinoma or Adenoma									
		1/50	(2%)						
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%				
.....									
*Salivary Glands:									
Myoepithelioma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
*Salivary Glands:									
Schwannoma Malignant									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
#Seminal Vesicle:									
Adenoma									
		1/50	(2%)						
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%				
.....									
#Skeletal Muscle:									
Sarcoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									

*: Denominator is number of animals with tissues examined microscopically

#: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
Route: INHALATION
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		Male			Female		
#Skin:							
Basal Cell Adenoma							
		0/50	(0%)		0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)
						Mean 0%	SD 0%
.....							
#Skin:							
Basal Cell Adenoma or Basosquamous Tumor Benign							
		0/50	(0%)		0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)
						Mean 0%	SD 0%
.....							
#Skin:							
Basal Cell Adenoma, Basosquamous Tumor Benign, or Trichoepithelioma							
		0/50	(0%)		0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)
						Mean 0%	SD 0%
.....							
#Skin:							
Basal Cell Carcinoma							
		1/50	(2%)		0/50	(0%)	
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50 (0%)
						Mean 0%	SD 0%
.....							
#Skin:							
Basal Cell Carcinoma or Basosquamous Tumor (malignant or NOS)							
		1/50	(2%)		0/50	(0%)	
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50 (0%)
						Mean 0%	SD 0%
.....							
#Skin:							
Basal Cell Carcinoma, Basal Cell Adenoma, Basosquamous Tumor (benign, malignant or NOS), or Trichoepithelioma							
		1/50	(2%)		0/50	(0%)	
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50 (0%)
						Mean 0%	SD 0%

*: Denominator is number of animals with tissues examined microscopically
 #: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
Route: INHALATION
Vehicle: AIR

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	Male				Female			
#Skin:								
Basal or Sq. Cell Carcinoma, Carcinoma, Basosq. Tumor (M or B), Basal Cell Adenoma, Adenoma, Papilloma, Sq Papilloma, Keratoacanthoma, Trichoepithelioma								
		2/50 (4%)				0/50 (0%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....								
#Skin:								
Fibroma								
		1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....								
#Skin:								
Fibroma, Fibrosarcoma, Sarcoma, Myxoma, Myxosarcoma, or Fibrous Histiocytoma								
		2/50 (4%)				0/50 (0%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....								
#Skin:								
Fibrosarcoma								
		1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....								
#Skin:								
Fibrosarcoma, Sarcoma, Myxosarcoma, or Fibrous Histiocytoma								
		1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
.....								
#Skin:								
Hamartoma								
		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%

*: Denominator is number of animals with tissues examined microscopically
 #: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
Route: INHALATION
Vehicle: AIR

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		Male				Female			
#Skin:									
Hemangiosarcoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
#Skin:									
Keratoacanthoma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
#Skin:									
Lipoma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
#Skin:									
Liposarcoma									
		0/50	(0%)			1/50	(2%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	1/50	(2%)	Mean 2% SD 0%
.....									
#Skin:									
Neurofibrosarcoma or Schwannoma (malignant or NOS)									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									
#Skin:									
Neurofibrosarcoma, Neurofibroma, or Schwannoma (benign, malignant or NOS)									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0% SD 0%
.....									

*: Denominator is number of animals with tissues examined microscopically
 #: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
Route: INHALATION
Vehicle: AIR

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	Male				Female			
#Skin:								
Schwannoma Malignant								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)
.....								
#Skin:								
Squamous Cell Carcinoma								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)
.....								
#Skin:								
Squamous Cell Carcinoma, Basal Cell Carcinoma, Basosquamous Tumor (malignant or NOS), or Carcinoma								
		1/50	(2%)			0/50	(0%)	
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)
.....								
#Skin:								
Squamous Cell Papilloma								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)
.....								
#Skin:								
Squamous Cell Papilloma or Papilloma								
		0/50	(0%)			0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)
.....								
#Skin:								
Squamous Cell Papilloma, Papilloma, Squamous Cell Carcinoma or Keratoacanthoma								
		1/50	(2%)			0/50	(0%)	
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)

*: Denominator is number of animals with tissues examined microscopically

#: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
Route: INHALATION
Vehicle: AIR

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		Male			Female		
#Skin:							
Squamous Cell Papilloma, Papilloma, or Keratoacanthoma							
		1/50 (2%)			0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....							
#Skin: Sebaceous Gland:							
Adenoma							
		0/50 (0%)			0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....							
#Skin: Sebaceous Gland:							
Carcinoma or Adenoma							
		0/50 (0%)			0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....							
*Spleen:							
Hemangiosarcoma							
		0/50 (0%)			0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....							
#Stomach, Forestomach:							
Leiomyoma							
		1/50 (2%)			0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....							
#Stomach, Forestomach:							
Leiomyosarcoma							
		0/50 (0%)			1/50 (2%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2% SD 0%

*: Denominator is number of animals with tissues examined microscopically
 #: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
 Route: INHALATION
 Vehicle: AIR

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Male					Female				
#Stomach, Forestomach:									
Sarcoma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0%
									SD 0%
.....									
#Stomach, Forestomach:									
Squamous Cell Carcinoma									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0%
									SD 0%
.....									
#Stomach, Forestomach:									
Squamous Cell Carcinoma or Papilloma Squamous									
		0/50	(0%)			0/50	(0%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50	(0%)	Mean 0%
									SD 0%
.....									
#Stomach, Glandular:									
Leiomyosarcoma									
		0/50	(0%)			1/50	(2%)		
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	1/50	(2%)	Mean 2%
									SD 0%
.....									
#Stomach, Glandular:									
Sarcoma									
		1/50	(2%)			0/50	(0%)		
Overall Incidence	Total	1/50	(2%)	Mean 2%	SD 0%	Total	0/50	(0%)	Mean 0%
									SD 0%
.....									
*Testes:									
Adenoma									
		2/50	(4%)						
Overall Incidence	Total	2/50	(4%)	Mean 4%	SD 0%				
.....									

*: Denominator is number of animals with tissues examined microscopically

#: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
 Route: INHALATION
 Vehicle: AIR

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		Male			Female		
*Thymus:							
Sarcoma							
		0/40	(0%)		0/48	(0%)	
Overall Incidence	Total	0/40	(0%)	Mean 0%	SD 0%	Total	0/48 (0%)
							Mean 0%
							SD 0%
.....							
*Thymus:							
Thymoma Benign							
		1/40	(3%)		5/48	(10%)	
Overall Incidence	Total	1/40	(2.5%)	Mean 2.5%	SD 0%	Total	5/48 (10.42%)
							Mean 10.42%
							SD 0%
.....							
*Thymus:							
Thymoma: Benign, Malignant, NOS							
		1/40	(3%)		5/48	(10%)	
Overall Incidence	Total	1/40	(2.5%)	Mean 2.5%	SD 0%	Total	5/48 (10.42%)
							Mean 10.42%
							SD 0%
.....							
*Thyroid Gland: C-Cell:							
Adenoma							
		7/50	(14%)		3/50	(6%)	
Overall Incidence	Total	7/50	(14%)	Mean 14%	SD 0%	Total	3/50 (6%)
							Mean 6%
							SD 0%
.....							
*Thyroid Gland: C-Cell:							
Carcinoma							
		0/50	(0%)		0/50	(0%)	
Overall Incidence	Total	0/50	(0%)	Mean 0%	SD 0%	Total	0/50 (0%)
							Mean 0%
							SD 0%
.....							
*Thyroid Gland: C-Cell:							
Carcinoma or Adenoma							
		7/50	(14%)		3/50	(6%)	
Overall Incidence	Total	7/50	(14%)	Mean 14%	SD 0%	Total	3/50 (6%)
							Mean 6%
							SD 0%

*: Denominator is number of animals with tissues examined microscopically
 #: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
Route: INHALATION
Vehicle: AIR

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		Male			Female		
*Thyroid Gland: Follicular Cell: Adenoma							
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	1/50 (2%)	Mean 2% SD 0%
.....							
*Thyroid Gland: Follicular Cell: Carcinoma							
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2% SD 0%
.....							
*Thyroid Gland: Follicular Cell: Carcinoma or Adenoma							
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	2/50 (4%)	Mean 4% SD 0%
.....							
*Urinary Bladder: Carcinoma or Papilloma							
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....							
*Urinary Bladder: Papilloma							
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0% SD 0%
.....							
#Uterus: Carcinoma							
Overall Incidence					Total	1/50 (2%)	Mean 2% SD 0%

*: Denominator is number of animals with tissues examined microscopically
 #: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
Route: INHALATION
Vehicle: AIR

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	Male	Female
#Uterus:		
Polyp Stromal		
Overall Incidence	Total 5/50 (10%)	Mean 10% SD 0%
.....		
#Uterus:		
Sarcoma Stromal		
Overall Incidence	Total 2/50 (4%)	Mean 4% SD 0%
.....		
#Uterus:		
Sarcoma Stromal or Polyp Stromal		
Overall Incidence	Total 6/50 (12%)	Mean 12% SD 0%
.....		
#Uterus:		
Schwannoma Malignant		
Overall Incidence	Total 0/50 (0%)	Mean 0% SD 0%
.....		
#Uterus:		
Squamous Cell Papilloma		
Overall Incidence	Total 1/50 (2%)	Mean 2% SD 0%
.....		
#Vagina:		
Leiomyoma		
Overall Incidence	Total 0/50 (0%)	Mean 0% SD 0%
.....		

*: Denominator is number of animals with tissues examined microscopically

#: Denominator is number of animals necropsied

Version: Jun2013
 Contract/Lab: All Laboratories
 Species: RATS
 Strain: Wistar Han
 Length of Study: CHRONIC

Toxicology Data Management System
 Tumor Incidence for Selected Control Animal Groups
Route: INHALATION
Vehicle: AIR

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 Report Date: 06/12/2013

Male					Female					
#Vagina:										
Polyp										
					0/50	(0%)				
Overall Incidence					Total	0/50	(0%)	Mean 0%	SD 0%	
.....										
#Zymbal's Gland:										
Carcinoma										
					2/50	(4%)				
Overall Incidence	Total	2/50	(4%)	Mean 4%	SD 0%	Total	0/50	(0%)	Mean 0%	SD 0%
.....										
#Zymbal's Gland:										
Carcinoma or Adenoma										
					2/50	(4%)				
Overall Incidence	Total	2/50	(4%)	Mean 4%	SD 0%	Total	0/50	(0%)	Mean 0%	SD 0%
.....										

*: Denominator is number of animals with tissues examined microscopically
 #: Denominator is number of animals necropsied