

Experiment Number: 20515 - 04
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

F1_M3

NTP Study Number: C20515
Lock Date: 01/12/2011
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.1.1_001
PWG Approval Date: NONE

Note: Animals arranged according to days on test.

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 Lab: BNW

B6C3F1 MICE 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	
		4	5	5	5	5	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
		9	4	5	6	9	6	9	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Control	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	
		3	4	0	0	3	1	3	0	4	2	2	0	0	0	0	1	1	1	1	2	2	3	3	4	4	
		2	5	9	8	0	2	7	5	2	2	8	3	4	6	7	0	4	5	8	0	9	3	9	0	4	
																									males (cont...)		

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	M	+	+	M	+	+	A	+	+	+	M	+	+	+	+	+	+	+	+	M	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum Adenoma	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hepatocellular Adenoma	X	X		X															X		X			X	
Hepatocellular Adenoma, Multiple									X				X	X	X	X		X							
Hepatocellular Carcinoma				X	X			X		X			X					X							
Hepatocellular Carcinoma, Multiple							X				X														
Mesentery								+		+				+											
Hemangioma																									
Hepatocellular Carcinoma, Metastatic, Liver							X																		
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Carcinoma, Metastatic, Stomach, Glandular											X														

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
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CAS Number: CIMSTAR3800

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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST																								males (cont...)
	0499	0541	0559	0565	0592	0664	0679	0690	0704	0705	0709	0712	0717	0722	0729	0739	0749	0779	0779	0779	0779	0779	0779		
Control	0032	0045	0009	0008	0000	0002	0007	0005	0002	0002	0008	0003	0004	0006	0007	0000	0004	0005	0008	0000	0009	0003	0009		

Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Glandular Carcinoma	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+
Tooth	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Heart Carcinoma, Metastatic, Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+

ENDOCRINE SYSTEM

Adrenal Cortex Adenoma	+	+	+	+	+	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Bilateral, Subcapsular, Adenoma																							X
Subcapsular, Adenoma							X						X										
Subcapsular, Adenoma, Multiple																							X
Adrenal Medulla Bilateral, Pheochromocytoma Benign	+	+	+	+	+	+	M	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+
								X															
Islets, Pancreatic Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X
Parathyroid Gland	M	M	+	+	+	M	+	M	+	M	+	+	+	M	+	+	M	+	+	M	+	+	+

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B6C3F1 MICE MALE	DAY ON TEST																								males (cont...)
	0499	0541	0559	0555	0552	0666	0664	0777	0779	0774	0775	0779	0772	0772	0779	0779	0779	0779	0779	0779	0779	0779	0779	0779	
Control	0032	0045	0009	0008	0000	0002	0007	0005	0002	0002	0008	0003	0004	0006	0007	0000	0004	0005	0008	0000	0009	0003	0009	0004	

Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Lymph Node			+						+		+														
Lymph Node, Bronchial	+	+	M	+	+	+	M	M	+	M	+	+	M	+	+	+	M	M	M	M	+	+	M	M	+
Lymph Node, Mandibular	+	M	M	+	+	M	+	+	M	+	M	+	+	+	M	M	+	M	+	+	M	+	+	M	M
Lymph Node, Mediastinal	M	+	+	+	+	M	M	+	+	+	+	+	+	M	M	+	+	+	+	+	+	+	+	M	
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung		X																							

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Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST																								males (cont...)
	0 4 9 9	0 5 4 1	0 5 5 9	0 5 6 5	0 5 9 2	0 6 6 9	0 6 9 4	0 7 9 0	0 7 0 4	0 7 2 5	0 7 2 5	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9		
Control	ANIMAL ID																								
	0 0 0 3 2	0 0 0 4 5	0 0 0 0 9	0 0 0 0 8	0 0 0 3 0	0 0 0 1 2	0 0 0 3 7	0 0 0 0 5	0 0 0 4 2	0 0 0 2 2	0 0 0 2 2	0 0 0 0 8	0 0 0 2 3	0 0 0 0 4	0 0 0 0 6	0 0 0 0 7	0 0 0 1 0	0 0 0 1 4	0 0 0 1 5	0 0 0 2 8	0 0 0 2 0	0 0 0 3 9	0 0 0 3 9	0 0 0 4 0	0 0 0 4 4
Carcinoma, Metastatic, Stomach, Glandular																									X
Lymph Node, Mesenteric Carcinoma, Metastatic, Stomach, Glandular																									X
Spleen																									
Thymus Carcinoma, Metastatic, Stomach, Glandular																									X
INTEGUMENTARY SYSTEM																									
Mammary Gland																									
Skin Carcinoma, Metastatic, Stomach, Glandular Melanoma Benign																									X
MUSCULOSKELETAL SYSTEM																									
Bone																									
Skeletal Muscle																									
NERVOUS SYSTEM																									
Brain																									
Peripheral Nerve																									
Spinal Cord																									
RESPIRATORY SYSTEM																									

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B6C3F1 MICE MALE	DAY ON TEST																								males (cont...)
	0 4 9 9	0 5 4 1	0 5 5 9	0 5 6 5	0 5 9 2	0 6 6 9	0 6 9 4	0 7 0 9	0 7 2 4	0 7 2 5	0 7 2 5	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9		
Control	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		
	3	4	0	0	3	1	3	0	4	2	2	0	0	0	0	1	1	1	1	2	2	3	3		
	2	5	9	8	0	2	7	5	2	2	8	3	4	6	7	0	4	5	8	0	9	3	9		
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Alveolar/Bronchiolar Adenoma																									
Alveolar/Bronchiolar Carcinoma							X									X									
Alveolar/Bronchiolar Carcinoma, Multiple			X																						
Carcinoma, Metastatic, Harderian Gland																									
Carcinoma, Metastatic, Stomach, Glandular												X													
Hepatocellular Carcinoma, Metastatic, Liver				X				X		X	X							X							
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Pleura																									
Alveolar/Bronchiolar Carcinoma, Metastatic,																									
Lung																									
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			

SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Adenoma																							
Carcinoma																							
Bilateral, Carcinoma											X												

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Carcinoma, Metastatic, Stomach, Glandular																							
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

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B6C3F1 MICE 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		
		4	5	5	5	5	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
		9	4	5	6	9	6	9	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
		9	1	9	5	2	9	4	9	4	5	5	9	9	9	9	9	9	9	9	9	9	9	9	9	
Control	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	
		3	4	0	0	3	1	3	0	4	2	2	0	0	0	0	1	1	1	1	2	2	3	3	4	4
		2	5	9	8	0	2	7	5	2	2	8	3	4	6	7	0	4	5	8	0	9	3	9	0	4

males
(cont...)

Hemangiosarcoma X

SYSTEMIC LESIONS

Multiple Organ	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic Sarcoma								X																
Lymphoma Malignant									X													X		

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B6C3F1 MICE MALE	DAY ON TEST																								* TOTALS		
	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07				
Control	ANIMAL ID																								* TOTALS		
	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	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03			
	09	09	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	01	01	01	01			
	04	05	00	01	01	01	01	02	02	02	02	02	02	03	03	03	03	04	04	04	04	00	01	03	04		
	07	00	01	01	03	06	09	01	03	04	05	06	07	04	05	06	08	01	03	06	09	02	07	01	08		
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Stomach, Glandular Carcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1		
Tooth	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
CARDIOVASCULAR SYSTEM																											
Blood Vessel	+	+	+	+	+	M	M	M	M	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	45	
Heart Carcinoma, Metastatic, Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1	
ENDOCRINE SYSTEM																											
Adrenal Cortex Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49 2	
Bilateral, Subcapsular, Adenoma														X												1	
Subcapsular, Adenoma														X												7	
Subcapsular, Adenoma, Multiple			X						X						X				X							1	
Adrenal Medulla Bilateral, Pheochromocytoma Benign	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48 1	
Islets, Pancreatic Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 2	
Parathyroid Gland	M	+	+	+	+	M	M	M	+	+	+	+	+	M	+	M	+	+	+	M	+	+	+	+	+	34	

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B6C3F1 MICE MALE Control	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	* TOTALS
		7	7	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	3		
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	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4	0	1	3	4			
Pituitary Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Thyroid Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
GENERAL BODY SYSTEM																												
NONE																												
GENITAL SYSTEM																												
Epididymis		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Preputial Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Prostate		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Seminal Vesicle		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Testes		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
HEMATOPOIETIC SYSTEM																												
Bone Marrow		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Lymph Node					+																					4		
Lymph Node, Bronchial		+	+	+	+	+	M	M	M	M	+	M	M	M	M	+	+	M	M	+	+	+	+	M	M	26		
Lymph Node, Mandibular		M	M	+	+	+	+	M	+	+	+	+	+	M	+	M	+	+	+	M	+	M	M	+	+	31		
Lymph Node, Mediastinal		+	M	+	+	M	+	+	+	+	+	+	M	+	+	M	+	+	+	+	+	+	+	M	+	39		
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung																										1		

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST																								* TOTALS	
	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7			
Control	0 0 0 4 7	0 0 0 5 0	0 0 0 0 1	0 0 0 1 1	0 0 0 1 3	0 0 0 1 6	0 0 0 1 9	0 0 0 2 1	0 0 0 2 3	0 0 0 2 4	0 0 0 2 5	0 0 0 2 6	0 0 0 2 7	0 0 0 3 4	0 0 0 3 5	0 0 0 3 6	0 0 0 3 8	0 0 0 4 1	0 0 0 4 3	0 0 0 4 6	0 0 0 4 9	0 0 0 0 2	0 0 0 1 7	0 0 0 3 1	0 0 0 4 8	
Carcinoma, Metastatic, Stomach, Glandular																									1	
Lymph Node, Mesenteric Carcinoma, Metastatic, Stomach, Glandular	+ + + + + + + + + + + + + + + + M + + + + + + +																								49 1	
Spleen	+ +																								50	
Thymus Carcinoma, Metastatic, Stomach, Glandular	+ + + + + + + + + + + + + + + + M + + + M + + + + M																								41 1	
INTEGUMENTARY SYSTEM																										
Mammary Gland	M M																								1	
Skin Carcinoma, Metastatic, Stomach, Glandular Melanoma Benign	+ +																								50 1 1	
MUSCULOSKELETAL SYSTEM																										
Bone	+ +																								50	
Skeletal Muscle																									1	
NERVOUS SYSTEM																										
Brain	+ +																								50	
Peripheral Nerve																									1	
Spinal Cord																									1	
RESPIRATORY SYSTEM																										

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

B6C3F1 MICE MALE Control	DAY ON TEST																									* TOTALS
	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7		
	2 9	2 9	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0		
	0 0 0 4 7	0 0 0 5 0	0 0 0 0 1	0 0 0 1 1	0 0 0 1 3	0 0 0 1 6	0 0 0 1 9	0 0 0 2 1	0 0 0 2 3	0 0 0 2 4	0 0 0 2 5	0 0 0 2 6	0 0 0 2 7	0 0 0 3 4	0 0 0 3 5	0 0 0 3 6	0 0 0 3 8	0 0 0 4 1	0 0 0 4 3	0 0 0 4 6	0 0 0 4 9	0 0 0 0 2	0 0 0 1 7	0 0 0 3 1	0 0 0 4 8	
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Alveolar/Bronchiolar Adenoma									X							X			X			X		5		
Alveolar/Bronchiolar Carcinoma						X			X		X	X	X								X			7		
Alveolar/Bronchiolar Carcinoma, Multiple																								1		
Carcinoma, Metastatic, Harderian Gland							X																	1		
Carcinoma, Metastatic, Stomach, Glandular																								1		
Hepatocellular Carcinoma, Metastatic, Liver																								5		
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Pleura																								1		
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung																								1		
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
SPECIAL SENSES SYSTEM																										
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Adenoma		X			X							X				X		X	X				7			
Carcinoma						X																	4			
Bilateral, Carcinoma																		X					1			
URINARY SYSTEM																										
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Carcinoma, Metastatic, Stomach, Glandular																								1		
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		

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 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

B6C3F1 MICE 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		
		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
		2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Control	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		
		4	5	0	1	1	1	1	2	2	2	2	2	2	3	3	3	3	4	4	4	4	0	1	3	4			
	7	0	1	1	3	6	9	1	3	4	5	6	7	4	5	6	8	1	3	6	9	2	7	1	8		* TOTALS		
Hemangiosarcoma																											1		
SYSTEMIC LESIONS																													
Multiple Organ		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Histiocytic Sarcoma																											1		
Lymphoma Malignant																									X			3	

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	04	05	05	05	05	05	05	05	05	06	06	06	06	06	07	07	07	07	07	07	07	07	07	
	ANIMAL ID	0022	0043	0033	0012	0032	0033	0043	0044	0021	0002	0002	0022	0022	0044	0011	0020	0030	0000	0001	0011	0011	0011	0007	

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	+	+	M	+	M	+	+	+	+	+	+	+	+	+	M	+	+	+	M	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum Adenoma	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum Carcinoma										X													
Liver Hemangiosarcoma, Multiple	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver Hepatoblastoma		X																	X				
Liver Hepatocellular Adenoma		X			X			X							X	X	X			X			
Liver Hepatocellular Adenoma, Multiple			X					X		X					X								
Liver Hepatocellular Carcinoma		X			X		X						X		X	X	X						
Liver Hepatocellular Carcinoma, Multiple			X	X																			
Mesentery										+		+											
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
Metal working fluids (CIMSTAR 3800)
CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
Time Report Requested: 14:13:47
First Dose M/F: 05/05/08 / 05/05/08
Lab: BNW

B6C3F1 MICE 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
		4	5	5	5	5	5	5	5	5	6	6	6	6	6	7	7	7	7	7	7	7	7	7
10 mg/m3	ANIMAL ID	3	4	5	6	9	9	9	9	9	2	2	3	4	6	7	0	0	1	2	2	2	2	2
		9	7	6	5	0	1	1	6	8	0	8	2	7	2	7	6	9	3	7	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	4	3	3	1	2	3	3	4	4	2	1	0	0	4	1	2	0	3	0	0	1	1
		5	2	0	4	6	3	2	7	9	5	7	8	4	8	7	0	8	1	1	2	5	1	4
Salivary Glands		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Stomach, Forestomach		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Stomach, Glandular		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Tooth		+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
CARDIOVASCULAR SYSTEM																								
Blood Vessel		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Heart		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Pericardium, Alveolar/Bronchiolar Carcinoma, Metastatic, Lung			X																					
ENDOCRINE SYSTEM																								
Adrenal Cortex		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Subcapsular, Adenoma							X																	
Adrenal Medulla		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Islets, Pancreatic		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Adenoma																								
Parathyroid Gland		M	M	+	M	+	+	M	M	+	M	+	+	+	+	+	M	M	M	+	M	M	+	
Pituitary Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Thyroid Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
GENERAL BODY SYSTEM																								

males
(cont...)

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Date Report Requested: 03/08/2013

Test Type: CHRONIC

Metal working fluids (CIMSTAR 3800)

Time Report Requested: 14:13:47

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: CIMSTAR3800

First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

		DAY ON TEST																								
		0 4 3 9	0 5 4 7	0 5 5 6	0 5 5 6	0 5 5 9	0 5 9 1	0 5 9 1	0 5 9 6	0 5 9 2	0 5 9 8	0 6 2 8	0 6 3 7	0 6 4 2	0 6 6 7	0 6 7 6	0 7 0 9	0 7 0 3	0 7 2 7	0 7 2 9	0 7 2 9		0 7 2 9	0 7 2 9	0 7 2 9	
B6C3F1 MICE MALE 10 mg/m3	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	
	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	4	3	3	1	2	3	3	4	4	2	1	0	0	4	1	2	0	3	0	0	1	1	1	1	
	5	2	0	4	6	3	2	7	9	5	7	8	4	8	7	0	8	1	1	2	5	1	4	5	7	males (cont...)

Tissue NOS																					
Mediastinum, Alveolar/Bronchiolar Carcinoma, Metastatic, Lung	+										+										
Mediastinum, Hepatocellular Carcinoma, Metastatic, Liver																					

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+
Seminal Vesicle Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	+	+
Testes Interstitial Cell, Adenoma	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph Node											+													
Lymph Node, Bronchial Alveolar/Bronchiolar Carcinoma, Metastatic, Lung	M	+	+	+	M	M	+	+	M	+	M	M	+	M	M	+	M	M	+	+	+	+	+	+
Lymph Node, Mandibular	+	M	M	+	+	+	+	+	+	M	+	M	+	+	+	M	+	+	+	+	+	M	M	M
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	M	+	M	+	+	+	M	+

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
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Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

B6C3F1 MICE 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	* TOTALS	
		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
10 mg/m3	ANIMAL ID	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		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		
		1	2	2	3	3	4	5	0	0	1	1	2	2	2	3	3	4	4	4	4	4	0	0	2	3	
		9	1	6	8	9	4	0	7	9	2	3	0	4	9	3	5	0	1	3	6	8	3	6	2	6	

RESPIRATORY SYSTEM

Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Alveolar/Bronchiolar Adenoma																				X					2
Alveolar/Bronchiolar Carcinoma									X																7
Alveolar/Bronchiolar Carcinoma, Multiple																									1
Hepatocellular Carcinoma, Metastatic, Liver			X							X			X												9
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adenoma									X							X									3
Carcinoma														X				X							5

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

SYSTEMIC LESIONS

Multiple Organ	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymphoma Malignant				X														X							5

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0 4 3 8	0 4 4 7	0 5 3 4	0 5 3 4	0 5 7 3	0 5 8 1	0 6 3 6	0 6 4 0	0 6 4 0	0 6 4 5	0 6 6 3	0 6 8 8	0 7 1 5	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	males (cont...)
	ANIMAL ID	0 4 0 9	0 0 4 6	0 0 4 7	0 0 4 8	0 0 4 8	0 0 4 1	0 0 4 7	0 0 4 2	0 0 4 4	0 0 4 5	0 0 4 5	0 0 4 9	0 0 4 9	0 0 4 2	0 0 4 1	0 0 4 4	0 0 4 6	0 0 4 2	0 0 4 4	0 0 4 5	0 0 4 6	0 0 4 1	

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	+	M	+	+	+	M	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon Serosa, Carcinoma, Metastatic, Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum Carcinoma Hemangiosarcoma	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum Hemangioma	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum Adenoma	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hepatoblastoma														X										
Hepatocellular Adenoma							X					X	X		X	X		X			X	X		
Hepatocellular Adenoma, Multiple										X							X		X		X			X
Hepatocellular Carcinoma	X							X						X				X			X			
Hepatocellular Carcinoma, Multiple											X													
Hepatocholangiocarcinoma	X		X																					
Sarcoma								X																

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

B6C3F1 MICE MALE 30 mg/m3	DAY ON TEST																								ANIMAL ID	males (cont...)
	0 4 3 8	0 4 4 7	0 5 3 4	0 5 3 4	0 5 7 3	0 5 8 1	0 6 3 6	0 6 4 0	0 6 4 0	0 6 4 5	0 6 6 3	0 6 8 3	0 6 9 8	0 7 1 5	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0 4 0 9		

Mesentery Sarcoma, Metastatic, Liver																									
Pancreas Carcinoma, Metastatic, Kidney Sarcoma, Metastatic, Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Tooth	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		

CARDIOVASCULAR SYSTEM

Blood Vessel Aorta, Carcinoma, Metastatic, Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+		
Heart Carcinoma, Metastatic, Kidney Pericardium, Alveolar/Bronchiolar Carcinoma, Metastatic, Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		

ENDOCRINE SYSTEM

Adrenal Cortex Sarcoma, Metastatic, Liver Extra Adrenal Tissue, Carcinoma, Metastatic, Kidney Subcapsular, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	--

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

B6C3F1 MICE MALE 30 mg/m3	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	males (cont...)
	0	4	5	5	5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7		
	3	4	3	3	7	8	3	4	4	4	6	8	9	1	2	2	2	2	2	2	2	2	2	2	0	
	8	7	4	4	3	1	6	0	0	5	3	3	8	5	9	9	9	9	9	9	9	9	9	9	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	0	3	3	3	2	4	4	0	2	3	0	1	3	3	0	0	0	1	1	1	1	2	2	3	9	
	9	6	7	8	8	1	7	2	4	5	5	9	9	2	1	4	6	2	4	5	6	1	3	4	9	

Adrenal Medulla
Pheochromocytoma Benign

+ +

Islets, Pancreatic
Adenoma

+
X

Parathyroid Gland

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

Pituitary Gland

+ +

Thyroid Gland

+ +

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis

+ +

Preputial Gland

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

Prostate

+ +

Seminal Vesicle

+ +

Testes

+ +

HEMATOPOIETIC SYSTEM

Bone Marrow

+ +

Lymph Node

+

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| B6C3F1 MICE MALE
30 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | | | | | |
|------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|
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3 | 0
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4 | 0
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4
5 |

Renal, Sarcoma, Metastatic, Liver

X

Lymph Node, Bronchial
 Alveolar/Bronchiolar Carcinoma, Metastatic,
 Lung

+ + M + + + + M + M M M M M + + + + M + M M + M
 X

Lymph Node, Mandibular

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

Lymph Node, Mediastinal

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

Lymph Node, Mesenteric

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

Spleen

+ + + + + + + + A + + + + + + + + + + + + + +

Thymus

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

INTEGUMENTARY SYSTEM

Mammary Gland

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

Skin
 Carcinoma, Metastatic, Kidney
 Subcutaneous Tissue, Fibroma
 Subcutaneous Tissue, Fibrous Histiocytoma

+
 X
 X

MUSCULOSKELETAL SYSTEM

Bone

+ +

Skeletal Muscle
 Carcinoma, Metastatic, Kidney

+
 X

NERVOUS SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE MALE | DAY ON TEST | ANIMAL ID | | | | | | | | | | | | | | | | | | | | males
(cont...) | |
|------------------|-------------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|------|
| | | 0438 | 0447 | 0454 | 0455 | 0455 | 0455 | 0466 | 0466 | 0466 | 0466 | 0466 | 0466 | 0466 | 0477 | 0477 | 0477 | 0477 | 0477 | 0477 | 0477 | | 0477 |
| 30 mg/m3 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | | 0 | 3 | 3 | 3 | 2 | 4 | 4 | 0 | 2 | 3 | 0 | 1 | 3 | 3 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | |
| | | 9 | 6 | 7 | 8 | 8 | 1 | 7 | 2 | 4 | 5 | 5 | 9 | 9 | 2 | 1 | 4 | 6 | 2 | 4 | 5 | 6 | |

| | | | | | | | | | | | | | | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Alveolar/Bronchiolar Adenoma | | | | | X | | | | | | | | | X | X | | | X | X | | X | |
| Alveolar/Bronchiolar Carcinoma | | | | X | X | X | | | X | X | | | | | | | | | | X | | |
| Carcinoma, Metastatic, Kidney | | | X | | | | | | | | | | | | | | | | | | | |
| Hepatocellular Carcinoma, Metastatic, Liver | | | | | | | | | | | X | | | | | | | | | | | |
| Hepatocholangiocarcinoma, Metastatic, Liver | | | X | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | I | + | I | + |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenoma | | | | | | | | | | | | | | X | | | X | | | | | |
| Carcinoma | | | | | | | | | | | | | | | | | | | | | | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Renal Tubule, Adenoma | | | | | | | | | | | | | | | | | | | | | | |

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B6C3F1 MICE 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 | |
| | | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 30 mg/m3 | ANIMAL ID | 3 | 4 | 3 | 3 | 7 | 8 | 3 | 4 | 4 | 4 | 6 | 8 | 9 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 8 | 7 | 4 | 4 | 3 | 1 | 6 | 0 | 0 | 5 | 3 | 3 | 8 | 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | | 0 | 3 | 3 | 3 | 2 | 4 | 4 | 0 | 2 | 3 | 0 | 1 | 3 | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 |
| | | 9 | 6 | 7 | 8 | 8 | 1 | 7 | 2 | 4 | 5 | 5 | 9 | 9 | 2 | 1 | 4 | 6 | 2 | 4 | 5 | 6 | 1 | 3 | 4 | 5 |

males (cont...)

Renal Tubule, Carcinoma

X

Urinary Bladder

+ +

SYSTEMIC LESIONS

Multiple Organ

Histiocytic Sarcoma

Lymphoma Malignant

+ +

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| B6C3F1 MICE MALE
30 mg/m3 | 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 | * TOTALS |
|------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | | 4 | 5 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 0 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | |
| | | 6 | 0 | 3 | 8 | 0 | 1 | 3 | 8 | 0 | 6 | 1 | 0 | 2 | 3 | 4 | 8 | 7 | 7 | 2 | 5 | 7 | 9 | 0 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------|
| Mesentery
Sarcoma, Metastatic, Liver | | | | | | | | | | | | | | | | | | | | | | | | | 3
1 |
| Pancreas
Carcinoma, Metastatic, Kidney
Sarcoma, Metastatic, Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1
1 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Tooth | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------|
| Blood Vessel
Aorta, Carcinoma, Metastatic, Kidney | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | 48
1 |
| Heart
Carcinoma, Metastatic, Kidney
Pericardium, Alveolar/Bronchiolar Carcinoma,
Metastatic, Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1
1 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------------------|
| Adrenal Cortex
Sarcoma, Metastatic, Liver
Extra Adrenal Tissue, Carcinoma, Metastatic,
Kidney
Subcapsular, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1
1
5 |
| | | | | | | X | X | | | | | X | | | | | X | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| B6C3F1 MICE 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 | * TOTALS |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|-----------------|
| | ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| 30 mg/m3 | | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | | |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | |
| | | 4 | 5 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 0 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | | |
| | | 6 | 0 | 3 | 8 | 0 | 1 | 3 | 8 | 0 | 6 | 1 | 0 | 2 | 3 | 4 | 8 | 7 | 7 | 2 | 5 | 7 | 9 | 0 | 3 | 9 | |
| Adrenal Medulla
Pheochromocytoma Benign | | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | |
| Islets, Pancreatic
Adenoma | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | |
| Parathyroid Gland | | + | + | M | + | M | + | M | M | + | + | M | M | M | M | + | + | + | M | + | M | + | M | M | M | 27 | |
| Pituitary Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Thyroid Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | 49 | |
| GENERAL BODY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GENITAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Epididymis | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Preputial Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| Prostate | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Seminal Vesicle | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Testes | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE MALE
30 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|----------|
| | 0729 | 0729 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | |
| ANIMAL ID | 0044 | 0045 | 0050 | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | |
| | Renal, Sarcoma, Metastatic, Liver | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Lymph Node, Bronchial
Alveolar/Bronchiolar Carcinoma, Metastatic,
Lung | + | + | M | + | M | + | M | + | + | + | M | + | + | M | + | M | M | M | M | + | M | M | M | | 26
1 | |
| Lymph Node, Mandibular | + | + | + | + | + | M | + | M | + | + | M | + | + | + | + | + | + | + | + | + | M | + | + | | 34 | |
| Lymph Node, Mediastinal | + | + | + | + | M | + | + | + | + | + | + | M | + | + | + | + | M | M | + | + | + | + | + | M | 32 | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Thymus | + | + | + | M | M | + | + | + | + | + | M | + | + | + | + | + | M | + | M | + | + | + | + | + | 39 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 1 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Carcinoma, Metastatic, Kidney | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Subcutaneous Tissue, Fibrous Histiocytoma | | | X | | | | | | | | | | | | | | | | | | | | | | 1 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Carcinoma, Metastatic, Kidney | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------------|
| B6C3F1 MICE 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 | males
(cont...) |
| | ANIMAL ID | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| 100 mg/m3 | | 4 | 7 | 9 | 0 | 2 | 6 | 6 | 8 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 4 | 2 | 0 | 7 | 3 | 1 | 2 | 7 | 6 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |
| | | 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 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | | 3 | 2 | 4 | 1 | 0 | 3 | 2 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | |
| | | 1 | 8 | 8 | 2 | 7 | 4 | 9 | 2 | 7 | 7 | 1 | 3 | 6 | 8 | 1 | 5 | 7 | 8 | 9 | 1 | 4 | 2 | 0 | |

Mediastinum, Alveolar/Bronchiolar Carcinoma, Metastatic, Lung

X

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Penis | | | | | | + | | | | | | | | | | | | | | | | | |
| Preputial Gland | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Mast Cell Tumor Malignant, Metastatic, Skin | | | | | | | | | | | | | | | | | | | | | | | X |
| Lymph Node | | | | | | | | | | + | | | | | | | | | | | | | |
| Lymph Node, Bronchial | + | + | M | + | + | + | M | M | M | M | M | M | M | M | + | + | M | + | M | M | + | + | + |
| Lymph Node, Mandibular | + | M | M | M | M | M | + | M | + | + | + | + | + | + | M | + | + | M | + | + | M | + | + |
| Lymph Node, Mediastinal | M | + | + | M | M | + | M | + | + | + | + | M | + | + | + | M | + | + | + | + | + | + | + |
| Alveolar/Bronchiolar Carcinoma, Metastatic, Lung | | | | | | | | | | X | | | | | | | | | | | | | |
| Lymph Node, Mesenteric | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE MALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|------|---|
| | 0729 | 0729 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | | 0730 | |
| ANIMAL ID | 00644 | 00664 | 00664 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | | |
| Alveolar/Bronchiolar Adenoma | X | | | | | | | | X | X | | | | | | | | X | | X | | 9 | |
| Alveolar/Bronchiolar Carcinoma | | | X | | | | | | X | | | | | | | | | X | | | | 5 | |
| Alveolar/Bronchiolar Carcinoma, Multiple | | | | | | | | | | | | | | | X | | | | | | | 5 | |
| Hepatocellular Carcinoma, Metastatic, Liver | | | | | | | | | X | | | | | | | | | | | | | 3 | |
| Mast Cell Tumor Malignant, Metastatic, Uncertain Primary Site | | | | | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 5 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Harderian Gland Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Carcinoma | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Bilateral, Adenoma | | | | | | | | | | | | | | | | | | | | | | 1 | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Renal Tubule, Adenoma | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Ureter | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | 49 | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| | | | | | | | | | | | | | | | | | X | | | | | 1 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

*** END OF MALE DATA ***

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|----------------|------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|
| B6C3F1 MICE FEMALE | DAY ON TEST | 0
1
9
4 | 0
3
4
5 | 0
5
2
7 | 0
5
4
9 | 0
6
0
5 | 0
6
1
3 | 0
6
7
3 | 0
6
8
6 | 0
6
0
2 | 0
7
0
5 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | females
(cont...) |
| | Control | ANIMAL ID | 0
0
1
1
1
9 | 0
0
1
1
2
0 | 0
0
1
1
1
4 | 0
0
1
1
1
4 | 0
0
1
1
0
3 | 0
0
1
1
0
7 | 0
0
1
1
0
8 | 0
0
1
2
5
7 | 0
0
1
2
1
7 | 0
0
1
1
0
0 | 0
0
1
1
1
2 | 0
0
1
1
2
6 | 0
0
1
1
2
9 | 0
0
1
1
3
5 | 0
0
1
1
4
0 | 0
0
1
1
4
1 | 0
0
1
1
4
8 | 0
0
1
1
0
1 | 0
0
1
1
0
5 | 0
0
1
1
0
6 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Gallbladder | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum Adenoma | A | + | + | A | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | A | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hepatoblastoma | | | | | | | | | | | | | | X | | | | | | | | | | |
| Hepatocellular Adenoma | | | X | X | X | | | | | | | | X | X | | X | X | | | | | | | |
| Hepatocellular Adenoma, Multiple | | | | | | | | | | | | | | | | | | | X | | | | | |
| Hepatocellular Carcinoma | | | | X | | | | | | | | X | X | | | | | | | | | | | |
| Mesentery | | | | | | | | | | + | | | | + | + | | + | | | | + | | | + |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--|----------------------|
| | 0
1
9
4 | 0
3
4
5 | 0
5
2
7 | 0
5
4
9 | 0
6
0
5 | 0
6
1
3 | 0
6
7
7 | 0
6
8
3 | 0
6
8
6 | 0
7
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2 | 0
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7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | | |
| Control | 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 | | |
| | 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 | 1 | 1 | 0 | 0 | 1 | 2 | 5 | 1 | 0 | 1 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 0 | 0 | 0 | | |
| | 9 | 0 | 4 | 4 | 3 | 7 | 8 | 7 | 7 | 0 | 2 | 2 | 8 | 6 | 9 | 5 | 0 | 1 | 7 | 8 | 1 | 5 | 6 | | |

Stomach, Glandular

+ +

Tooth

CARDIOVASCULAR SYSTEM

Blood Vessel

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

Heart

+ +

ENDOCRINE SYSTEM

Adrenal Cortex

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

Adrenal Medulla
Pheochromocytoma Benign

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

Islets, Pancreatic
Adenoma

+ +

Parathyroid Gland

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

Pituitary Gland
Pars Distalis, Adenoma

+
X X

Thyroid Gland

+ +

GENERAL BODY SYSTEM

Tissue NOS

+ +

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| B6C3F1 MICE FEMALE
Control | DAY ON TEST | 0
1
9
4 | 0
3
4
5 | 0
5
2
7 | 0
5
4
9 | 0
6
0
5 | 0
6
1
3 | 0
6
7
7 | 0
6
8
3 | 0
6
8
6 | 0
7
0
2 | 0
7
0
5 | 0
7
3
1 | 0
7
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7
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1 | 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
1
1
1
9 | 0
0
1
1
2
0 | 0
0
1
1
1
4 | 0
0
1
1
1
4 | 0
0
1
1
0
3 | 0
0
1
1
0
7 | 0
0
1
1
0
8 | 0
0
1
1
1
7 | 0
0
1
1
2
7 | 0
0
1
1
5
7 | 0
0
1
1
0
0 | 0
0
1
1
1
2 | 0
0
1
1
2
8 | 0
0
1
1
2
6 | 0
0
1
1
3
9 | 0
0
1
1
4
5 | 0
0
1
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4
0 | 0
0
1
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4
4 | 0
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1
1
4
4 | 0
0
1
1
4
1 | 0
0
1
1
4
5 | 0
0
1
1
4
6 | |
| Clitoral Gland | M | + | + | + | + | + | + | M | + | + | M | + | + | M | + | + | + | + | + | + | M | + | + | + |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cystadenoma | | | | | | | | | | | X | | | | | | | | | | | | | |
| Granulosa Cell Tumor Benign | | | | | | | | | | | | | | | | | | | | | | | | |
| Luteoma | | | | | | | | | | | | | X | | | | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Leiomyoma | | | | | | | | | | | | | | X | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node | | | | | | | | | | | | | + | | | + | | | | | | | | |
| Lymph Node, Bronchial | + | + | + | + | + | M | M | + | + | + | M | + | + | + | + | M | M | M | + | M | M | M | M | M |
| Lymph Node, Mandibular | + | M | + | M | + | + | M | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mediastinal | M | M | + | M | M | + | + | M | + | + | + | M | + | M | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Thymus | + | + | + | M | + | M | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------|
| | 0
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2 | 0
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2 | 0
7
3
2 | | |
| Control | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
| | 0
0
1
1
1
9 | 0
0
1
1
1
0 | 0
0
1
1
2
4 | 0
0
1
1
1
4 | 0
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1
1
1
3 | 0
0
1
1
0
7 | 0
0
1
1
0
8 | 0
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7 | 0
0
1
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7 | 0
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7 | 0
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0 | 0
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2 | 0
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1
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8 | 0
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1
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2
6 | 0
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2
9 | 0
0
1
1
3
5 | 0
0
1
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4
0 | 0
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4
1 | 0
0
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4
4 | 0
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8 | 0
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1
1
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1 | 0
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1
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5 | 0
0
1
1
0
6 | 0
0
1
1
0
9 | |
| Mammary Gland
Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Skin
Hemangiosarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Lip, Squamous Cell Papilloma | | | X | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone
Femur, Sarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Skeletal Muscle | | | | | + | | + | | + | | | | | | | | | | | | | | | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Peripheral Nerve | | | | | + | | + | | | | | | | | | | | | | | | | | | |
| Spinal Cord | | | | | + | | + | | + | | | | | | | | | | | | | | | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Larynx | + | + | + | + | + | + | + | + | + | + | + | I | + | + | + | + | + | + | + | + | + | + | + | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Alveolar/Bronchiolar Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alveolar/Bronchiolar Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | X | |
| Hepatocellular Carcinoma, Metastatic, Liver | | | | | | | | | | | | | | | | | | | | | | | | X | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | | |
|------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|------|------|
| | 0194 | 0345 | 0556 | 0667 | 0778 | 0889 | 0990 | 1001 | 1112 | 1223 | 1334 | 1445 | 1556 | 1667 | 1778 | 1889 | 1990 | 2001 | 2112 | 2223 | 2334 | 2445 | 2556 | 2667 | | 2778 | 2889 |
| Control | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0011 | 0011 | 0012 | 0011 | 0011 | 0000 | 0000 | 0001 | 0002 | 0005 | 0001 | 0001 | 0002 | 0001 | 0002 | 0003 | 0004 | 0004 | 0004 | 0001 | 0005 | 0006 | 0009 | 0007 | 0008 | 0009 | 0006 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Histiocytic Sarcoma | | | | | | X | | | | | | | | | | | | | | | | | | | | | |
| Lymphoma Malignant | | | | | | | | | | X | | | X | X | X | X | | | | | | | X | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
| B6C3F1 MICE FEMALE | DAY ON TEST | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
7
3
2 | 0
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3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
3 | * TOTALS |
| | ANIMAL ID | 0
0
1
2
0 | 0
0
1
2
0 | 0
0
1
2
5 | 0
0
1
3
0 | 0
0
1
3
1 | 0
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1
3
3 | 0
0
1
3
4 | 0
0
1
3
7 | 0
0
1
3
8 | 0
0
1
3
9 | 0
0
1
4
2 | 0
0
1
4
3 | 0
0
1
4
5 | 0
0
1
4
9 | 0
0
1
0
3 | 0
0
1
1
4 | 0
0
1
1
1 | 0
0
1
1
1 | 0
0
1
2
2 | 0
0
1
2
2 | 0
0
1
3
3 | 0
0
1
3
6 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------------------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Gallbladder | + | M | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | 46 | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum
Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47
1 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hepatoblastoma | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Hepatocellular Adenoma | | | | | | | | | | | | | | X | | | | | | | | | X | | | 10 |
| Hepatocellular Adenoma, Multiple | X | | | | | | | | | | | | | | | | | X | X | | | | | | | 4 |
| Hepatocellular Carcinoma | | | X | X | | | | X | X | X | | | | X | | | | X | X | | | | | | | 10 |
| Mesentery | | + | | | + | | + | | | | | + | + | | | | | + | + | + | | | + | + | | 16 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|--|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | | | |
| Control | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
| | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | | 0012 | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Tooth | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | M | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 | | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Pheochromocytoma Benign | | | X | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | X | | 1 | | |
| Parathyroid Gland | M | + | M | M | + | + | M | + | + | M | M | + | M | M | + | + | + | + | + | M | M | M | M | M | 26 | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Pars Distalis, Adenoma | | | | | | | | | | | | | | | | | | | | | | | X | | 5 | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| GENERAL BODY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tissue NOS | | | | | | | | | | | | | | | | | | | | | | | | + | 3 | | |
| GENITAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|-----------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|---|---|----|----|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | | 0732 | | | | |
| Control | ANIMAL ID | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
| | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | | 0012 | | | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | 44 | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cystadenoma | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Granulosa Cell Tumor Benign | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Luteoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Leiomyoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Lymph Node | + | + | | | | + | | | | | | | | + | + | | | | | | | | + | | 11 | |
| Lymph Node, Bronchial | + | + | M | M | + | M | + | M | M | M | + | M | + | + | + | + | M | + | M | M | M | + | + | M | M | 26 |
| Lymph Node, Mandibular | + | + | + | M | + | M | M | + | + | + | + | M | + | + | + | + | + | M | + | + | + | + | + | + | 41 | |
| Lymph Node, Mediastinal | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 43 | |
| Lymph Node, Mesenteric | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | 48 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Thymus | M | + | + | + | + | + | + | M | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | 44 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|--|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | | | |
| Control | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
| | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | 0012 | | 0012 | |
| Mammary Gland Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
2 | | |
| Skin Hemangiosarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | | |
| Lip, Squamous Cell Papilloma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Subcutaneous Tissue, Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Femur, Sarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Alveolar/Bronchiolar Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Alveolar/Bronchiolar Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | |
| Hepatocellular Carcinoma, Metastatic, Liver | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|----------|--|
| | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | | |
| Control | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
| | 0012 | 0011 | 0022 | 0023 | 0033 | 0034 | 0044 | 0047 | 0058 | 0059 | 0062 | 0063 | 0065 | 0069 | 0073 | 0074 | 0071 | 0075 | 0071 | 0073 | 0073 | 0073 | 0073 | 0073 | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Harderian Gland Adenoma | + | + | + | + | + | X | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
2 | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Histiocytic Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Lymphoma Malignant | | X | | | | | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | 18 | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
Time Report Requested: 14:13:47
First Dose M/F: 05/05/08 / 05/05/08
Lab: BNW

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------------------------------|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| B6C3F1 MICE FEMALE | | 0 | 5 | 8 | 9 | 9 | 3 | 3 | 5 | 7 | 7 | 9 | 0 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | | 8 | 2 | 3 | 8 | 9 | 4 | 5 | 5 | 7 | 7 | 8 | 1 | 7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 10 mg/m3 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 4 | 2 | 3 | 0 | 3 | 1 | 2 | 0 | 0 | 4 | 3 | 1 | 1 | 2 | 3 | 4 | 4 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 4 | 3 | 7 | 2 | 6 | 6 | 1 | 9 | 1 | 7 | 1 | 1 | 2 | 7 | 2 | 9 | 5 | 6 | 2 | 0 | 4 | 9 | 0 | 4 | 9 | 0 | 1 | 3 | 2 | 3 | 1 | 3 | 0 | 3 | 2 | 3 | 3 |
| ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Esophagus | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gallbladder | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Cecum | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Colon | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Rectum | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum
Carcinoma | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Jejunum | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Liver | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocellular Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocellular Adenoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocellular Carcinoma | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocellular Carcinoma, Multiple | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mesentery
Hemangioma | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | | | | | | | | | | | | | | | | | | | | | | | | | |

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| B6C3F1 MICE FEMALE
10 mg/m3 | 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 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 0 | 5 | 8 | 9 | 9 | 3 | 3 | 5 | 5 | 7 | 7 | 9 | 0 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | | 8 | 2 | 3 | 8 | 9 | 4 | 5 | 5 | 7 | 7 | 8 | 1 | 7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 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 | 4 | 2 | 3 | 0 | 3 | 1 | 2 | 0 | 0 | 4 | 3 | 1 | 1 | 2 | 3 | 4 | 4 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 4 | 3 | 7 | 2 | 6 | 6 | 1 | 9 | 1 | 7 | 1 | 1 | 2 | 7 | 2 | 9 | 5 | 6 | 2 | 0 | 4 | 9 | 0 | 4 | 9 | 0 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| | Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| | Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Adrenal Cortex
Subcapsular, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| | Adrenal Medulla
Pheochromocytoma Benign | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X |
| | Islets, Pancreatic
Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| | Parathyroid Gland | M | M | M | + | + | + | + | + | + | + | M | M | + | M | + | + | + | M | M | + | + | + | + | M | M | + | + | + | + | M | M | M | M | M | M | M | | |
| | Pituitary Gland
Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | Thyroid Gland | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| GENERAL BODY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Tissue NOS
Mediastinum, Carcinoma | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | |

females
(cont...)

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE
10 mg/m3 | DAY ON TEST | | ANIMAL ID | | | | | | | | | | | | | | | | | | | | females
(cont...) | | |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------------|------------------|--|
| | 0
5
0
8 | 0
5
8
2 | 0
5
8
3 | 0
5
9
8 | 0
5
9
4 | 0
6
3
5 | 0
6
3
5 | 0
6
5
5 | 0
6
7
7 | 0
6
7
7 | 0
6
9
8 | 0
7
0
1 | 0
7
1
3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
3 | | 0
7
3
3 | |
| Trachea | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Harderian Gland
Adenoma
Carcinoma | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | X | + | + | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Urethra
Sarcoma | | | | | | | | | | | | | | | | | | | | + | X | | | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ
Histiocytic Sarcoma
Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| | X | | | | | | | X | | X | | X | | | | | | | X | X | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| 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 |
|---------------------------|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B6C3F1 MICE FEMALE | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 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 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 10 mg/m3 | | | | | | | | | | | | | | | | | | | | | | | |
| | 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 |
| | 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 | 3 | 4 | 4 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 |
| | 5 | 8 | 0 | 0 | 2 | 9 | 0 | 3 | 4 | 5 | 8 | 9 | 3 | 5 | 6 | 8 | 4 | 6 | 3 | 5 | 7 | 8 | 4 | 7 |
| | * TOTALS | | | | | | | | | | | | | | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Gallbladder | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Ileum
Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + | 50
1 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hepatocellular Adenoma | | X | X | | X | X | | X | | | | | | | | | | | X | | | | | 11 |
| Hepatocellular Adenoma, Multiple | | | | | | | | | | | | | | | | | | | | X | | | | 3 |
| Hepatocellular Carcinoma | | | X | | | X | | | | | | | | | | | | | X | | | | | 8 |
| Hepatocellular Carcinoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Mesentery | | + | | | | + | | + | | + | | | + | | + | + | | | + | + | + | + | | 23 |
| Hemangioma | | | | | | | | | | | | | | | | | | | X | | | X | | 2 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE

10 mg/m3 | 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 | * TOTALS |
|------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 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 | 2 | 2 | 2 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | |
| | | 2 | 2 | 3 | 4 | 4 | 4 | 5 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | |
| | | 5 | 8 | 0 | 0 | 2 | 9 | 0 | 3 | 4 | 5 | 8 | 9 | 3 | 5 | 6 | 8 | 4 | 6 | 3 | 5 | 7 | 8 | 4 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | M | I | + | M | + | + | + | + | + | + | + | + | + | + | + | + | I | + | + | M | + | + | 44 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex
Subcapsular, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | X | | | | | | | | | | | | | | | | | | | | | | | X | 2 |
| Adrenal Medulla
Pheochromocytoma Benign | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | | | | | | | | | | | | | | | | | | | | | | | X | 2 |
| Islets, Pancreatic
Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | | | | | | | | | | | | | | | | | | | | | | | X | 1 |
| Parathyroid Gland | M | M | + | + | + | + | + | + | M | + | + | M | + | M | + | + | M | + | + | M | + | M | M | M | 29 |
| Pituitary Gland
Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | | | | | | | | | | | | X | | X | | | | | | | | | | 4 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | 48 |

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Tissue NOS
Mediastinum, Carcinoma | + | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 1 |

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| B6C3F1 MICE FEMALE
10 mg/m3 | 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 | * TOTALS |
|--------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 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 | 2 | 2 | 2 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | | |
| | | 2 | 2 | 3 | 4 | 4 | 4 | 5 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | | |
| | | 5 | 8 | 0 | 0 | 2 | 9 | 0 | 3 | 4 | 5 | 8 | 9 | 3 | 5 | 6 | 8 | 4 | 6 | 3 | 5 | 7 | 8 | 4 | | |

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cystadenoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Luteoma | | | | | | | | | | | X | | | | | | | | | | | | | | 1 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Polyp Stromal | X | | | | | | | | X | | | | | | | | | | | | | | | | 3 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | + | | | | | | + | + | | | | + | + | + | + | | | | + | | | | | | 12 |
| Lymph Node, Bronchial | M | + | M | + | + | + | M | + | M | + | + | + | + | + | M | M | + | M | + | M | M | + | M | + | 27 |
| Lymph Node, Mandibular | M | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | M | + | + | + | + | + | 42 |
| Lymph Node, Mediastinal | + | + | + | M | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemangiosarcoma | | | | | | | | | | X | | | | | | | | | | | | | | | 1 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|--------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | | 0732 |
| 10 mg/m3 | 0025 | 0008 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 50 |
| | 0032 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 50 |
| | 0022 | 0022 | 0023 | 0024 | 0024 | 0024 | 0025 | 0020 | 0020 | 0020 | 0020 | 0021 | 0021 | 0021 | 0021 | 0022 | 0022 | 0023 | 0023 | 0023 | 0023 | 1 |
| | 0058 | 0000 | | | | | | | | | | | | | | | | | | | | 1 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Subcutaneous Tissue, Fibrosarcoma | | | | | | | | | | | | | | | | | | | | | | 1 |
| Subcutaneous Tissue, Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | 1 |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | 3 |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | 3 |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | 3 |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Alveolar/Bronchiolar Adenoma | | | | | X | | | | | X | | | | | | | | | | | | 3 |
| Alveolar/Bronchiolar Adenoma, Multiple | | | | | | | | | | | | | | | | | | X | | | | 1 |
| Alveolar/Bronchiolar Carcinoma | | | | | | | | | | | | | | | | | | | | | | 1 |
| Hepatocellular Carcinoma, Metastatic, Liver | | X | | | | X | | | | | | | | | | | X | | | | | 4 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0733 | |
| 10 mg/m3 | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | |
| | 00325 | 00338 | 00300 | 00304 | 00302 | 00309 | 00300 | 00303 | 00304 | 00305 | 00308 | 00309 | 00313 | 00315 | 00316 | 00318 | 00324 | 00326 | 00333 | 00335 | 00337 | 00338 | 00344 | 00347 | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenoma | X | | | | | | | | | | | | | | | | X | | X | | X | | | 6 | |
| Carcinoma | | | | | | | | | | | | X | | | | | | | | | | | | 1 | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Urethra | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Histiocytic Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Lymphoma Malignant | X | X | X | | | | X | | X | | | | | X | X | X | X | | X | | X | X | X | 18 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| B6C3F1 MICE FEMALE
30 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|-----------|----------------------|
| | 04 | 05 | 05 | 05 | 06 | 06 | 06 | 06 | 06 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | | | |
| | 6 | 0 | 7 | 9 | 0 | 4 | 7 | 8 | 9 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| | 0 | 2 | 6 | 5 | 8 | 4 | 7 | 1 | 8 | 0 | 4 | 5 | 9 | 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 | | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| | 0 | 5 | 0 | 4 | 2 | 3 | 3 | 2 | 1 | 4 | 1 | 3 | 2 | 0 | 0 | 1 | 2 | 2 | 2 | 3 | 4 | 4 | 0 | | | |
| | 7 | 0 | 2 | 7 | 1 | 4 | 3 | 8 | 8 | 2 | 6 | 2 | 4 | 4 | 5 | 7 | 2 | 7 | 9 | 6 | 0 | 9 | 1 | | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Thymus
Thymoma Benign | M | + | + | + | M | + | + | + | + | + | M | + | M | + | + | + | + | + | + | + | + | + | + | | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland
Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Skin
Subcutaneous Tissue, Fibrosarcoma
Subcutaneous Tissue, Schwannoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| | | | X | | | | | | | | | | | | | | | | | | | | | | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | + | | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | + | | | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | + | | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

| B6C3F1 MICE FEMALE
30 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|-----------|----------------------|
| | 0
4
6
0 | 0
5
0
2 | 0
5
7
6 | 0
5
9
5 | 0
6
0
8 | 0
6
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7
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9 | 0
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3 | 0
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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
5
0
7 | | |

Alveolar/Bronchiolar Adenoma
 Alveolar/Bronchiolar Carcinoma
 Carcinoma, Metastatic, Mammary Gland
 Hepatocellular Carcinoma, Metastatic, Liver
 Schwannoma Malignant, Metastatic, Skin

X
 X
 X
 X
 X

Nose
 Carcinoma, Metastatic, Harderian Gland

+
 X

Trachea

+ +

SPECIAL SENSES SYSTEM

Eye
 Carcinoma, Metastatic, Harderian Gland

+
 X

Harderian Gland
 Adenoma
 Carcinoma

+
 X
 X

URINARY SYSTEM

Kidney

+ +

Ureter

+ + + + +

Urinary Bladder

+ +

SYSTEMIC LESIONS

Multiple Organ
 Histiocytic Sarcoma
 Lymphoma Malignant

+
 X
 X X X X X X X X X X

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE
30 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | 0
7
3
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2 | 0
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2 | 0
7
3
2 | | |
| ANIMAL ID | 0
0
5
1
2 | 0
0
5
1
4 | 0
0
5
1
5 | 0
0
5
1
9 | 0
0
5
2
5 | 0
0
5
3
0 | 0
0
5
3
1 | 0
0
5
3
9 | 0
0
5
4
3 | 0
0
5
4
4 | 0
0
5
0
0 | 0
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0 | 0
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1 | 0
0
5
2
2 | 0
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2 | 0
0
5
3
3 | 0
0
5
3
3 | 0
0
5
4
1 | 0
0
5
4
5 | 0
0
5
4
6 | 0
0
5
4
8 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Tooth | | | | | + | | | | | | | | | | | | | | | | | 2 |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenoma | | | | | | | | | | | | | | | | | | | X | | | 1 |
| Hepatocellular Carcinoma, Metastatic, Liver | | | | | | | | | | | | | | | | | | | | | | 1 |
| Subcapsular, Adenoma | | | | | | | | | | | | | | | | | | | | | X | 1 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Pheochromocytoma Benign | | | | | | | | | | | | X | | | | | | | | | | 1 |
| Pheochromocytoma Malignant | | | | | | | X | | | | | | | | | | | | | | | 1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenoma | | | | | | | | | | | | | X | | | | | | | | | 1 |
| Parathyroid Gland | M | + | M | M | M | + | M | M | + | + | M | M | + | + | + | M | + | + | M | M | M | 22 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Pars Distalis, Adenoma | | | | | | | | | | | X | X | | | | | | | X | | | 6 |
| Pars Intermedia, Adenoma | | | | | | | X | | X | | | | | | | | | | | | | 2 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013
 Time Report Requested: 14:13:47
 First Dose M/F: 05/05/08 / 05/05/08
 Lab: BNW

| B6C3F1 MICE FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|---------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
| | 0250 | 0433 | 0553 | 0555 | 0557 | 0559 | 0663 | 0664 | 0666 | 0668 | 0669 | 0671 | 0673 | 0675 | 0677 | 0679 | 0771 | 0773 | 0775 | 0777 | 0779 | 0881 | 0883 | 0885 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0078 | | |

Rhabdomyosarcoma, Metastatic, Skeletal Muscle

X

Spinal Cord

+ + +

RESPIRATORY SYSTEM

Larynx

+ +

Lung

+ +

Alveolar/Bronchiolar Adenoma

X

Alveolar/Bronchiolar Carcinoma

X

X

X

X

X

X

Carcinoma, Metastatic, Mammary Gland

X

Nose

+ +

Trachea

+ +

SPECIAL SENSES SYSTEM

Eye

+ +

Harderian Gland

+ +

Adenoma

X

Carcinoma

X

URINARY SYSTEM

Kidney

+ +

Urinary Bladder

+ +

SYSTEMIC LESIONS

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | |
| ANIMAL ID | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Leiomyosarcoma, Metastatic, Intestine Small, Duodenum | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Salivary Glands | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Squamous Cell Papilloma | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Tooth | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | I | + | + | M | + | + | + | + | + | + | + | + | + | + | M | + | + | I | + | + | + | 44 | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Parathyroid Gland | + | M | + | + | M | + | M | M | M | M | + | + | + | + | M | + | M | + | + | + | M | + | M | 25 | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Meningioma Malignant, Metastatic, Brain | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Pars Distalis, Adenoma | | | | | X | | | X | | X | | | | | | | | | | | | | X | 9 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013

Time Report Requested: 14:13:47

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | ANIMAL ID | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|--------------------|-------------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|
| | | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | | 0732 | 0732 |
| 100 mg/m3 | | 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 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 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 | 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 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 0 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | |
| | | 6 | 4 | 7 | 1 | 6 | 8 | 4 | 5 | 7 | 8 | 4 | 7 | 8 | 1 | 5 | 2 | 3 | 6 | 3 | 7 | 3 | 9 | |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Follicular Cell, Carcinoma | | | | | | | | | | | | | | | | | | | | | | X | | 3 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | 44 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node
Renal, Hemangiosarcoma | | | | | + | + | + | | | + | | | | | | | | | | | | | | 10
1 |
| Lymph Node, Bronchial
Carcinoma, Metastatic, Uncertain Primary Site | M | + | + | + | M | M | + | M | M | + | M | + | M | M | + | + | + | M | M | M | M | M | + | 27
1 |
| Lymph Node, Mandibular
Hemangiosarcoma | + | + | + | + | M | + | + | + | + | M | M | M | M | + | + | M | + | M | + | + | M | + | + | 35
1 |
| Lymph Node, Mediastinal | + | + | + | + | + | + | M | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | 47 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | 49 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

