

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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**  
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

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Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST																									males (cont...)	
	0730	0731	0732	0733	0734	0735	0736	0737	0738	0739	0740	0741	0742	0743	0744	0745	0746	0747	0748	0749	0750	0751	0752	0753	0754		0755
Control	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000
	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010	0011	0012	0013	0014	0015	0016	0017	0018	0019	0020	0021	0022	0023	0024	0025	0026	0027

### ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hepatocellular Adenoma		X						X			X			X		X		X									X
Hepatocellular Adenoma, Multiple			X	X		X	X			X				X		X		X				X					
Hepatocellular Carcinoma	X		X		X			X					X									X	X				
Hepatocellular Carcinoma, Multiple																											
Lymphoma Malignant											X																
Mesentery	+			+																							
Hemangioma	X																										
Hepatocellular Carcinoma, Metastatic, Liver																											
Lymphoma Malignant																											

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
+ .. Tissue examined microscopically  
X .. Lesion present  
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M .. Missing tissue  
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Lab: BNW

<b>B6C3F1 MICE MALE</b>	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	
		7	7	7	7	7	7	7	5	5	7	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
<b>Control</b>	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	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5								<b>males</b> <b>(cont...)</b>

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	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Lymph Node										+																									
Lumbar, Lymphoma Malignant																																			X
Pancreatic, Lymphoma Malignant																																			X

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B6C3F1 MICE MALE Control	DAY ON TEST																									males (cont...)	
	0730	0731	0732	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739			
ANIMAL ID	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000			
Renal, Lymphoma Malignant																									X		
Lymph Node, Bronchial Lymphoma Malignant	+	+	+	M	M	+	+	+	M	+	+	+	+	M	M	M	+	M	M	M	M	M	M	M	+		
Lymph Node, Mandibular	+	M	+	+	+	+	M	+	M	M	+	M	+	+	M	+	+	+	M	+	+	+	+	+	+		
Lymph Node, Mediastinal Alveolar/Bronchiolar Carcinoma, Metastatic, Lung	+	M	+	+	+	M	M	+	+	+	+	M	M	+	+	+	+	+	+	+	+	+	+	+	+		
Carcinoma, Metastatic, Stomach, Glandular Lymphoma Malignant																									X		
Lymph Node, Mesenteric Carcinoma, Metastatic, Stomach, Glandular Histiocytic Sarcoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Lymphoma Malignant																									X		
Spleen Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Thymus Carcinoma, Metastatic, Stomach, Glandular Lymphoma Malignant	+	+	+	+	+	+	M	+	M	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+		
																									X		
<b>INTEGUMENTARY SYSTEM</b>																											
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	M		
Skin Carcinoma, Metastatic, Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		

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 Metal working fluids (CIMSTAR 3800)  
 CAS Number: CIMSTAR3800

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 Lab: BNW

B6C3F1 MICE MALE Control	DAY ON TEST	0730	0731	0732	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	ANIMAL ID	males (cont...)
	0730	0731	0732	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0001	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0002	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0003	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0004	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0005	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0006	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0007	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0008	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0009	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0010	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0011	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0012	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0013	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0014	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0015	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0016	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0017	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0018	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0019	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0020	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0021	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0022	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0023	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0024	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0025	

Alveolar/Bronchiolar Carcinoma, Metastatic,  
Lung

Trachea +

**SPECIAL SENSES SYSTEM**

Eye +

Harderian Gland  
 Adenoma +  
 Carcinoma X  
 Bilateral, Carcinoma X

**URINARY SYSTEM**

Kidney +  
 Carcinoma, Metastatic, Stomach, Glandular

Urinary Bladder +  
 Hemangiosarcoma X

**SYSTEMIC LESIONS**

Multiple Organ +  
 Histiocytic Sarcoma X  
 Lymphoma Malignant X

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Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

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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		
		7	7	7	7	5	7	4	7	7	7	7	6	7	7	7	7	7	7	5	7	7	7	7	7	
Control	ANIMAL ID	3	3	2	2	9	3	9	2	3	3	3	9	3	2	2	3	2	3	2	4	3	2	3	2	
		0	0	5	9	2	1	9	9	0	0	0	4	0	9	9	0	4	0	9	1	0	9	1	0	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	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5	
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
<b>* TOTALS</b>																										

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Gallbladder	+	+	M	+	+	+	M	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	M	44
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Duodenum Adenoma	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49 1
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hepatocellular Adenoma							X							X						X					10
Hepatocellular Adenoma, Multiple						X				X					X	X					X		X	X	14
Hepatocellular Carcinoma					X							X													9
Hepatocellular Carcinoma, Multiple			X								X														2
Lymphoma Malignant																									1
Mesentery												+							+						4
Hemangioma																									1
Hepatocellular Carcinoma, Metastatic, Liver												X													1
Lymphoma Malignant																				X					1

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B6C3F1 MICE MALE Control	DAY ON TEST																					* TOTALS	
	0730	0730	0732	0732	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739	0739		0739
ANIMAL ID	0026	0027	0028	0029	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	0040	0041	0042	0043	0044	0045	0046	0047	0048
Pancreas Carcinoma, Metastatic, Stomach, Glandular	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, Glandular Carcinoma	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Tooth	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
<b>CARDIOVASCULAR SYSTEM</b>																							
Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	45
Heart Carcinoma, Metastatic, Stomach, Glandular	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
<b>ENDOCRINE SYSTEM</b>																							
Adrenal Cortex Adenoma Bilateral, Subcapsular, Adenoma Subcapsular, Adenoma Subcapsular, Adenoma, Multiple	+	+	X	+	+	+	+	+	X	+	+	I	+	+	+	+	+	X	+	+	+	+	49 2 1 7 1
Adrenal Medulla Bilateral, Pheochromocytoma Benign	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	48 1
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

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Route: RESPIRATORY EXPOSURE WHOLE BODY  
Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
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	
		7	7	7	7	5	7	4	7	7	7	6	7	7	7	7	7	7	7	5	7	7	7	7	7	
Control	ANIMAL ID	3	3	2	2	9	3	9	2	3	3	3	9	3	2	2	3	2	3	2	4	3	2	3	2	
		0	0	5	9	2	1	9	9	0	0	0	4	0	9	9	0	4	0	9	1	0	1	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	0	0	0	
		2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5	
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
																									<b>* TOTALS</b>	

Adenoma	X																							<b>2</b>		
Parathyroid Gland	+	+	+	+	+	+	M	+	M	+	M	+	+	+	M	+	+	+	M	M	M	+	+	+	<b>34</b>	
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>	
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>

**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>
Lymph Node				+																+	<b>4</b>				
Lumbar, Lymphoma Malignant																								<b>1</b>	
Pancreatic, Lymphoma Malignant																								<b>1</b>	

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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

<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0730	0730	0725	0722	0759	0731	0799	0799	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700	0700												
	ANIMAL ID	00026	00007	00008	00009	00010	00011	00012	00013	00014	00015	00016	00017	00018	00019	00020	00021	00022	00023	00024	00025	00026	00027	00028	00029	00030	00031	00032	00033	00034	00035	00036	00037	00038	00039	00040	00041	00042	00043	00044	00045	00046	00047	00048	00049	00050					
<b>Control</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		<b>* TOTALS</b>																																																	

Melanoma Benign	X	<b>1</b>
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**MUSCULOSKELETAL SYSTEM**

Bone	+	<b>50</b>
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Skeletal Muscle	+	<b>1</b>
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**NERVOUS SYSTEM**

Brain	+	<b>50</b>
-------	---	-----------

Peripheral Nerve	+	<b>1</b>
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Spinal Cord	+	<b>1</b>
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**RESPIRATORY SYSTEM**

Larynx	+	<b>50</b>
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Lung	+	<b>50</b>
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Alveolar/Bronchiolar Adenoma	X	<b>5</b>
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Alveolar/Bronchiolar Carcinoma	X	<b>7</b>
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Alveolar/Bronchiolar Carcinoma, Multiple	X	<b>1</b>
--	---	----------

Carcinoma, Metastatic, Harderian Gland		<b>1</b>
--	--	----------

Carcinoma, Metastatic, Stomach, Glandular	X	<b>1</b>
---	---	----------

Hepatocellular Carcinoma, Metastatic, Liver	X	<b>5</b>
---	---	----------

Nose	+	<b>50</b>
------	---	-----------

Pleura	+	<b>1</b>
--------	---	----------

\* .. 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**  
 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
		7	7	7	6	7	7	7	6	7	7	7	7	7	7	5	7	6	7	7	5	7	4
10 mg/m3		1	2	3	4	2	3	6	3	0	2	3	2	2	9	2	3	2	3	9	3	9	3
		3	9	1	7	9	1	0	2	0	6	9	0	9	0	9	2	9	0	9	1	1	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	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

**males  
(cont...)**

**ALIMENTARY SYSTEM**

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
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

<b>B6C3F1 MICE MALE</b>	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
		7	7	7	6	7	7	7	6	7	7	7	7	7	7	5	7	6	7	7	5	7	7
<b>10 mg/m3</b>	ANIMAL ID	1	2	3	4	2	3	3	6	3	0	2	3	3	2	2	9	2	3	3	9	3	9
		3	9	1	7	9	1	0	2	0	6	9	0	0	9	9	0	9	2	9	0	9	1
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	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
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2

**males**  
**(cont...)**

Mesentery																									+
Lymphoma Malignant																									
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Lymphoma Malignant																									
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Tooth	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		

### CARDIOVASCULAR SYSTEM

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

### ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Subcapsular, Adenoma																							
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenoma																							

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

M .. Missing tissue  
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BLANK .. Not examined microscopically

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0713	0723	0771	0776	0777	0777	0776	0777	0777	0777	0777	0777	0777	0777	0775	0772	0776	0777	0777	0775	0777	0774	
	ANIMAL ID	0020	0002	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	

Parathyroid Gland	M	+	+	+	M	+	M	+	+	+	M	+	M	+	+	+	+	+	M	+	M	+	M	M
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

GENERAL BODY SYSTEM

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

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
-------------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

\* .. 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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BLANK .. Not examined microscopically



Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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 10 mg/m3	DAY ON TEST																							ANIMAL ID	males (cont...)																									
	0713	0723	0731	0764	0772	0777	0777	0766	0777	0777	0777	0777	0777	0777	0752	0772	0766	0777	0777	0752	0777	0743	0743																											
	3	9	1	7	9	1	0	2	0	6	9	0	0	0	0	9	2	9	2	9	0	9	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0										
Lymph Node																																																		
Lumbar, Lymphoma Malignant																																																		
Pancreatic, Lymphoma Malignant																																																		
Renal, Lymphoma Malignant																																																		
Lymph Node, Bronchial	M	+	+	M	+	+	M	+	+	M	+	+	+	+	+	+	+	+	+	M	+	+	+	+	M	M	+	M																						
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung																																																		
Lymphoma Malignant																																																		
Lymph Node, Mandibular	+	+	+	M	+	M	M	+	+	+	+	+	+	+	M	M	+	M	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+						
Lymphoma Malignant																																																		
Lymph Node, Mediastinal	M	M	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+						
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung																																																		
Lymphoma Malignant																																																		
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
Hemangiosarcoma																																																		
Lymphoma Malignant																																																		
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
Hemangiosarcoma																																																		
Lymphoma Malignant																																																		
Thymus	+	M	+	+	+	M	M	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
Lymphoma Malignant																																																		

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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 10 mg/m3	DAY ON TEST	0 7	0 7	0 7	0 6	0 7	0 7	0 7	0 6	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 5	0 7	0 6	0 7	0 7	0 5	0 7	0 4	males (cont...)		
	ANIMAL ID	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3		4	5
Nose		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Trachea		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>SPECIAL SENSES SYSTEM</b>																											
Eye		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Harderian Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Adenoma																	X						X				
Carcinoma																								X			
<b>URINARY SYSTEM</b>																											
Kidney		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Lymphoma Malignant								X																			
Urinary Bladder		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>SYSTEMIC LESIONS</b>																											
Multiple Organ		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Lymphoma Malignant																						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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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

<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0729	0688	0709	0703	0556	0771	0593	0736	0533	0792	0772	0773	0777	0544	0733	0622	0663	0773	0673	0733	0599	0728	<b>* TOTALS</b>
	ANIMAL ID	002226	002227	002228	002229	002230	002231	002232	002233	002234	002235	002236	002237	002238	002239	002240	002241	002242	002243	002244	002245	002246	002247	

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Gallbladder	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	44
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Colon Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Duodenum	+	+	+	+	A	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine Small, Ileum Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+	+	50 1
Intestine Small, Jejunum Adenoma Carcinoma	+	+	+	+	A	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48 1 1
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangiosarcoma, Multiple																									1
Hepatoblastoma																									1
Hepatocellular Adenoma				X							X	X		X	X	X	X						X	18	
Hepatocellular Adenoma, Multiple			X		X													X			X		X	X	6
Hepatocellular Carcinoma				X	X												X								15
Hepatocellular Carcinoma, Multiple					X					X															2
Lymphoma Malignant		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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 10 mg/m3	DAY ON TEST																								* TOTALS	
	0729	0628	0709	0703	0556	0771	0571	0753	0573	0753	0753	0753	0753	0753	0753	0753	0753	0753	0753	0753	0753	0753	0753	0753		
ANIMAL ID	002226	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022	000022		
Mesentery Lymphoma Malignant		+																							51	
Pancreas Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	501	
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Tooth	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47	
<b>CARDIOVASCULAR SYSTEM</b>																										
Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Heart Pericardium, Alveolar/Bronchiolar Carcinoma, Metastatic, Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	501	
<b>ENDOCRINE SYSTEM</b>																										
Adrenal Cortex Subcapsular, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	504	
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Islets, Pancreatic Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	502	

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 10 mg/m3	DAY ON TEST																								* TOTALS		
	0729	0628	0709	0703	0556	0771	0571	0773	0573	0763	0573	0779	0573	0779	0573	0779	0573	0779	0573	0779	0573	0779	0573	0779			
	ANIMAL ID																										
	002226	000222	000222	000222	000331	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333	000333			
Parathyroid Gland	M	+	M	M	+	M	M	M	M	M	+	M	+	+	M	+	M	+	+	M	+	+	M	+	+	28	
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
<b>GENERAL BODY SYSTEM</b>																											
Tissue NOS																											2
Mediastinum, Alveolar/Bronchiolar Carcinoma, Metastatic, Lung																											1
Mediastinum, Hepatocellular Carcinoma, Metastatic, Liver																											1
<b>GENITAL SYSTEM</b>																											
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	49
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Seminal Vesicle Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Interstitial Cell, Adenoma																											1
<b>HEMATOPOIETIC SYSTEM</b>																											
Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 10 mg/m3	DAY ON TEST	0729	0628	0709	0703	0556	0771	0593	0735	0733	0579	0779	0779	0770	0770	0574	0733	0722	0660	0767	0667	0733	0599	0772	* TOTALS	
	ANIMAL ID	002226	002227	002228	002229	002230	002231	002232	002233	002234	002235	002236	002237	002238	002239	002240	002241	002242	002243	002244	002245	002246	002247	002248		002249
Lymph Node																										3
Lumbar, Lymphoma Malignant																										2
Pancreatic, Lymphoma Malignant																										1
Renal, Lymphoma Malignant																										3
Lymph Node, Bronchial																										31
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung																										1
Lymphoma Malignant																										3
Lymph Node, Mandibular																										36
Lymphoma Malignant																										1
Lymph Node, Mediastinal																										39
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung																										1
Lymphoma Malignant																										2
Lymph Node, Mesenteric																										50
Hemangiosarcoma																										1
Lymphoma Malignant																										3
Spleen																										50
Hemangiosarcoma																										2
Lymphoma Malignant																										5
Thymus																										38
Lymphoma Malignant																										1

**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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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 10 mg/m3	DAY ON TEST																								* TOTALS		
	0729	0628	0709	0703	0556	0771	0571	0750	0573	0750	0573	0750	0573	0750	0573	0750	0573	0750	0573	0750	0573	0750	0573	0750			
ANIMAL ID	002226	000227	000228	000229	000230	000231	000232	000233	000234	000235	000236	000237	000238	000239	000240	000241	000242	000243	000244	000245	000246	000247	000248	000249			
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	0		
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49		
<b>MUSCULOSKELETAL SYSTEM</b>																											
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Maxilla, Carcinoma, Metastatic, Harderian Gland																									1		
Skeletal Muscle															+									+	3		
<b>NERVOUS SYSTEM</b>																											
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Peripheral Nerve															+										2		
Spinal Cord															+									+	3		
<b>RESPIRATORY SYSTEM</b>																											
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Alveolar/Bronchiolar Adenoma																									2		
Alveolar/Bronchiolar Carcinoma			X													X									7		
Alveolar/Bronchiolar Carcinoma, Multiple																									1		
Hepatocellular Carcinoma, Metastatic, Liver				X	X	X	X																		9		
Lymphoma Malignant		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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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 10 mg/m3	DAY ON TEST	0729	0628	0709	0703	0526	0721	0529	0730	0536	0733	0733	0529	0722	0722	0733	0733	0524	0733	0622	0623	0733	0529	0739	0728	0627	0637	0739	0528	0729	* TOTALS
	ANIMAL ID	002226	002227	002228	002229	002230	002231	002232	002233	002234	002235	002236	002237	002238	002239	002240	002241	002242	002243	002244	002245	002246	002247	002248	002249	002250	002251	002252	002253	002254	
Nose		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Trachea		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
<b>SPECIAL SENSES SYSTEM</b>																															
Eye		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Harderian Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Adenoma																														3	
Carcinoma				X					X										X				X							5	
<b>URINARY SYSTEM</b>																															
Kidney		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Lymphoma Malignant																														1	
Urinary Bladder		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
<b>SYSTEMIC LESIONS</b>																															
Multiple Organ		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Lymphoma Malignant			X													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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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

<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0729	0640	0730	0763	0779	0771	0773	0748	0774	0777	0773	0773	0772	0779	0779	0773	0773	0768	0773	0729	0773	0772	0773	0772	0764	0773
	ANIMAL ID	0040	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044
<b>30 mg/m3</b>		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	
		<b>males (cont...)</b>																									

**ALIMENTARY SYSTEM**

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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																				males (cont...)	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		7	6	7	7	6	7	7	4	7	7	7	7	7	7	7	7	6	7	7	6		7
B6C3F1 MICE MALE	ANIMAL ID	2	4	3	2	6	2	3	3	3	3	2	2	2	2	3	3	8	3	3	2	4	
		9	0	0	9	3	9	1	0	8	0	9	0	9	9	1	0	3	0	9	1	9	0
30 mg/m3		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	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	
Sarcoma		X																					
Mesentery		+																			+		
Sarcoma, Metastatic, Liver		X																					
Pancreas		+																					
Carcinoma, Metastatic, Kidney		+																					
Sarcoma, Metastatic, Liver		X																					
Salivary Glands		+																					
Stomach, Forestomach		+																					
Stomach, Glandular		+																					
Tooth		+																					
<b>CARDIOVASCULAR SYSTEM</b>																							
Blood Vessel		+																					
Aorta, Carcinoma, Metastatic, Kidney		+																					
Heart		+																					
Carcinoma, Metastatic, Kidney		+																					
Pericardium, Alveolar/Bronchiolar Carcinoma, Metastatic, Lung		+																					
<b>ENDOCRINE SYSTEM</b>																							
Adrenal Cortex		+																					
Sarcoma, 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

<b>B6C3F1 MICE MALE</b>	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	
		7	6	7	7	6	7	7	7	4	7	7	7	7	7	7	7	7	6	7	7	7	6	7	6	7
		2	4	3	2	6	2	3	3	3	3	3	2	3	2	2	2	3	3	8	3	3	2	2	4	3
<b>30 mg/m3</b>	ANIMAL ID	9	0	0	9	3	9	1	0	8	0	0	9	0	9	9	1	0	3	0	9	1	9	0	1	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	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		
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	2		
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3		

males (cont...)

Extra Adrenal Tissue, Carcinoma, Metastatic, Kidney

Subcapsular, Adenoma

X X X

Adrenal Medulla

Pheochromocytoma Benign

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

Islets, Pancreatic

Adenoma

+ +

Parathyroid Gland

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

Pituitary Gland

+ +

Thyroid Gland

+ M + + +

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis

+ +

Preputial Gland

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

Prostate

+ +

Seminal Vesicle

+ +

Testes

+ +

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>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 | ANIMAL ID | males<br>(cont...) |   |
|------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------------|---|
|                              |             | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 |           |                    | 7 |
|                              |             | 2 | 4 | 3 | 2 | 6 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 8 | 3 | 3 | 2 | 4 | 3         |                    |   |
|                              |             | 9 | 0 | 0 | 9 | 3 | 9 | 1 | 0 | 8 | 0 | 9 | 0 | 9 | 9 | 9 | 1 | 0 | 3 | 0 | 9 | 1 | 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         |                    |   |
|                              |             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4         |                    |   |
|                              |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2         |                    |   |
|                              |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3         |                    |   |

### HEMATOPOIETIC SYSTEM

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |   |
| Lymph Node<br>Renal, Sarcoma, Metastatic, Liver                           |   | + |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Bronchial<br>Alveolar/Bronchiolar Carcinoma, Metastatic, Lung | + | M | M | + | 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 | + | + | + | M | + | M | M | + | M | + | + | M | + | M | + |   |
| Lymph Node, Mesenteric<br>Histiocytic Sarcoma<br>Lymphoma Malignant       | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |   |
| Spleen  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |   |
| 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 | M | M | M |
| Skin<br>Carcinoma, Metastatic, Kidney<br>Subcutaneous Tissue, Fibroma<br>Subcutaneous Tissue, Fibrous Histiocytoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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

|                         |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                            |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------------|
| <b>B6C3F1 MICE MALE</b> | DAY ON TEST | 0729 | 0640 | 0730 | 0769 | 0773 | 0777 | 0777 | 0777 | 0474 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0676 | 0777 | 0777 | 0667 | 0776 | 0773 | <b>males<br/>(cont...)</b> |
|                         | ANIMAL ID   | 0040 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 |                            |

**MUSCULOSKELETAL SYSTEM**

|                               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone                          | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Skeletal Muscle               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Carcinoma, Metastatic, Kidney |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**NERVOUS SYSTEM**

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

**RESPIRATORY SYSTEM**

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

**SPECIAL SENSES 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>30 mg/m3                                | DAY ON TEST | 0729 | 0640 | 0730 | 0772 | 0663 | 0773 | 0777 | 0777 | 0474 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0668 | 0773 | 0772 | 0773 | 0776 | 0777 | ANIMAL ID | males<br>(cont...) |  |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|--|
|   | 0000        | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |           |                    |  |
| Eye   |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +         |                    |  |
| Harderian Gland<br>Adenoma<br>Carcinoma                     |             | +    | +    | +    | +    | +    | X    | X    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +         |                    |  |
| <b>URINARY SYSTEM</b>                                       |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                    |  |
| Kidney<br>Renal Tubule, Adenoma<br>Renal Tubule, Carcinoma  |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +         |                    |  |
| Urinary Bladder   |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +         |                    |  |
| <b>SYSTEMIC LESIONS</b>                                     |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                    |  |
| Multiple Organ<br>Histiocytic Sarcoma<br>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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 |
|------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|                  | 0730        | 0731  | 0732  | 0733  | 0734  | 0735  | 0736  | 0737  | 0738  | 0739  | 0740  | 0741  | 0742  | 0743  | 0744  | 0745  | 0746  | 0747  | 0748  | 0749  | 0750  | 0751  | 0752  |       |          |
| 30 mg/m3         | 00426       | 00427 | 00428 | 00429 | 00430 | 00431 | 00432 | 00433 | 00434 | 00435 | 00436 | 00437 | 00438 | 00439 | 00440 | 00441 | 00442 | 00443 | 00444 | 00445 | 00446 | 00447 | 00448 | 00449 | 50       |

### ALIMENTARY SYSTEM

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |              |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------|
| Esophagus   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50           |
| Gallbladder   | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | M | + | + | M | M | + | + | 44           |
| Intestine Large, Cecum  | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49           |
| Intestine Large, Colon<br>Serosa, Carcinoma, Metastatic, Kidney | + | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | 50<br>1      |
| Intestine Large, Rectum   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50           |
| Intestine Small, Duodenum<br>Carcinoma<br>Hemangiosarcoma       | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48<br>1<br>1 |
| Intestine Small, Ileum<br>Hemangioma                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | 49<br>1      |
| Intestine Small, Jejunum<br>Adenoma                             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49<br>1      |
| Liver   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50           |
| Hepatoblastoma  |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   | 1            |
| Hepatocellular Adenoma  |   | X |   |   |   | X | X |   |   |   |   |   |   |   |   |   | X | X |   |   | X |   |   | X | 15           |
| Hepatocellular Adenoma, Multiple                                |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   | X |   |   | X | X |   |   |   | 10           |
| Hepatocellular Carcinoma  |   |   |   |   |   |   |   |   | X |   |   |   |   | X |   |   |   |   |   |   |   |   | X |   | 7            |
| Hepatocellular Carcinoma, Multiple                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1            |
| Hepatocholangiocarcinoma  |   |   |   |   |   |   |   |   |   |   |   | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>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 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |   |
|---|-------------|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|
|   | ANIMAL ID   | 7        | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 4 | 5 | 5 | 6 | 7 | 5 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 6  | 7 | 7 | 7 | 7 | 7 |   |
|   | ANIMAL ID   | 3        | 3 | 7 | 3 | 3 | 3 | 1 | 3 | 2 | 4 | 4 | 3 | 3 | 9 | 3 | 8 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 3  | 3 | 3 | 3 | 2 | 2 |   |
| ANIMAL ID   | 0           | 0        | 1 | 3 | 1 | 1 | 0 | 5 | 1 | 9 | 5 | 7 | 4 | 4 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |   |
| ANIMAL ID   | 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 | 4 | 4 | 4 | 4 | 4  | 4 | 4 | 4 | 4 | 4 |   |
| ANIMAL ID   | 2           | 2        | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4 | 4 | 5 | 2 |   |
| ANIMAL ID   | 6           | 7        | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 |
|   |             | * TOTALS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |
| Sarcoma   |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |   |   |   |   |   |   |
| Mesentery   |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3  |   |   |   |   |   |   |
| Sarcoma, Metastatic, Liver                                    |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |   |   |   |   |   |   |
| Pancreas  |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 50 |   |   |   |   |   |   |
| Carcinoma, Metastatic, Kidney                                 |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |   |   |   |   |   |   |
| Sarcoma, Metastatic, Liver                                    |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |   |   |   |   |   |   |
| Salivary Glands   |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 50 |   |   |   |   |   |   |
| Stomach, Forestomach  |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 50 |   |   |   |   |   |   |
| Stomach, Glandular  |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 50 |   |   |   |   |   |   |
| Tooth   |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 49 |   |   |   |   |   |   |
| CARDIOVASCULAR SYSTEM   |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |
| Blood Vessel  |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 48 |   |   |   |   |   |   |
| Aorta, Carcinoma, Metastatic, Kidney                          |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |   |   |   |   |   |   |
| Heart   |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 50 |   |   |   |   |   |   |
| Carcinoma, Metastatic, Kidney                                 |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |   |   |   |   |   |   |
| Pericardium, Alveolar/Bronchiolar Carcinoma, Metastatic, Lung |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |   |   |   |   |   |   |
| ENDOCRINE SYSTEM  |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |
| Adrenal Cortex  |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 50 |   |   |   |   |   |   |
| Sarcoma, Metastatic, Liver                                    |             |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>30 mg/m3                        | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    | * TOTALS |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|----------|
|   | 0730        | 0731  | 0732  | 0733  | 0734  | 0735  | 0736  | 0737  | 0738  | 0739  | 0740  | 0741  | 0742  | 0743  | 0744  | 0745  | 0746  | 0747  | 0748  | 0749  | 0750  | 0751  | 0752  |    |          |
| ANIMAL ID   | 00426       | 00427 | 00428 | 00429 | 00430 | 00431 | 00432 | 00433 | 00434 | 00435 | 00436 | 00437 | 00438 | 00439 | 00440 | 00441 | 00442 | 00443 | 00444 | 00445 | 00446 | 00447 | 00448 |    |          |
| Extra Adrenal Tissue, Carcinoma, Metastatic, Kidney |             |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       | 1  |          |
| Subcapsular, Adenoma                                |             |       |       |       |       |       |       |       |       |       |       |       |       |       | X     |       |       | X     |       |       |       |       |       | 5  |          |
| Adrenal Medulla                                     | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50 |          |
| Pheochromocytoma Benign                             |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1  |          |
| Islets, Pancreatic                                  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50 |          |
| Adenoma   |             |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       | 1  |          |
| Parathyroid Gland                                   | +           | M     | +     | +     | M     | M     | +     | M     | +     | M     | +     | +     | M     | M     | M     | +     | M     | M     | M     | +     | +     | +     | +     | 27 |          |
| Pituitary Gland                                     | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50 |          |
| Thyroid Gland                                       | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 49 |          |
| <b>GENERAL BODY SYSTEM</b>                          |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |          |
| NONE  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |          |
| <b>GENITAL SYSTEM</b>                               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |          |
| Epididymis  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50 |          |
| Preputial Gland                                     | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 48 |          |
| Prostate  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50 |          |
| Seminal Vesicle                                     | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50 |          |
| Testes  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**  
 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<br>7 | 0<br>7 | 0<br>5 | 0<br>7 | 0<br>7 | 0<br>7 | 0<br>7 | 0<br>7 | 0<br>7 | 0<br>6 | 0<br>4 | 0<br>5 | 0<br>5 | 0<br>6 | 0<br>7 | 0<br>5 | 0<br>7 | 0<br>7 | 0<br>7 | 0<br>6 | 0<br>7 | 0<br>7 | 0<br>7 |                 |
|-------------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|
| <b>B6C3F1 MICE MALE</b> |             | 3      | 3      | 7      | 3      | 3      | 3      | 1      | 3      | 2      | 4      | 4      | 3      | 3      | 9      | 3      | 8      | 3      | 3      | 3      | 3      | 2      | 2      | 3      | 3               |
| <b>30 mg/m3</b>         |             | 0      | 1      | 3      | 1      | 1      | 0      | 5      | 1      | 9      | 5      | 7      | 4      | 4      | 8      | 0      | 1      | 0      | 0      | 0      | 0      | 9      | 9      | 6      | 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               |
|                         |             | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4               |
|                         |             | 2      | 2      | 2      | 2      | 3      | 3      | 3      | 3      | 3      | 3      | 3      | 3      | 3      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 5               |
|                         |             | 6      | 7      | 8      | 9      | 0      | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 0      | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9               |
|                         |             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | <b>* TOTALS</b> |

**HEMATOPOIETIC SYSTEM**

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |           |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|
| Bone Marrow                                      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | <b>50</b> |           |
| Lymph Node                                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>1</b>  |           |
| Renal, Sarcoma, Metastatic, Liver                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>1</b>  |           |
| Lymph Node, Bronchial                            | + | M | + | + | M | + | M | M | + | M | + | M | + | M | M | + | + | + | M | M | + | + | + | M | +         | <b>26</b> |
| Alveolar/Bronchiolar Carcinoma, Metastatic, Lung |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           | <b>1</b>  |
| Lymph Node, Mandibular                           | + | + | + | + | M | + | M | + | M | M | M | + | + | M | M | + | + | + | + | M | + | + | + | + | <b>34</b> |           |
| Lymph Node, Mediastinal                          | + | + | M | + | + | + | + | + | M | + | M | M | + | M | + | M | M | + | + | + | + | + | + | M | +         | <b>32</b> |
| Lymph Node, Mesenteric                           | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +         | <b>48</b> |
| Histiocytic Sarcoma                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           | <b>1</b>  |
| Lymphoma Malignant                               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           | <b>1</b>  |
| Spleen   | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | <b>49</b> |           |
| Thymus   | + | + | + | + | + | M | + | + | + | + | + | M | M | M | + | + | + | + | + | + | + | M | + | + | <b>39</b> |           |

**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 | <b>1</b>  |
| Skin                                      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | <b>50</b> |
| Carcinoma, Metastatic, Kidney             |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   | <b>1</b>  |
| Subcutaneous Tissue, Fibroma              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>1</b>  |
| Subcutaneous Tissue, Fibrous Histiocytoma |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X | <b>1</b>  |

\* .. 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**  
 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<br>30 mg/m3 | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  | * TOTALS |
|------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|----------|
|                              | 0730        | 0731  | 0732  | 0733  | 0734  | 0735  | 0736  | 0737  | 0738  | 0739  | 0740  | 0741  | 0742  | 0743  | 0744  | 0745  | 0746  | 0747  | 0748  | 0749  | 0750  | 0751  | 0752  |  |          |
| ANIMAL ID                    | 00426       | 00427 | 00428 | 00429 | 00430 | 00431 | 00432 | 00433 | 00434 | 00435 | 00436 | 00437 | 00438 | 00439 | 00440 | 00441 | 00442 | 00443 | 00444 | 00445 | 00446 | 00447 | 00448 |  |          |
|                              | 6           | 7     | 8     | 9     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     |  |          |

**MUSCULOSKELETAL SYSTEM**

|                               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone                          | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Skeletal Muscle               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2  |
| Carcinoma, Metastatic, Kidney |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |

**NERVOUS SYSTEM**

|                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Brain            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Peripheral Nerve |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |
| Spinal Cord      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |

**RESPIRATORY SYSTEM**

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Larynx                                      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Lung  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Alveolar/Bronchiolar Adenoma                |   |   | X |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 8  |
| Alveolar/Bronchiolar Carcinoma              |   |   | X |   |   |   |   |   |   |   | X |   |   | X |   | X |   |   |   |   |   |   |   | 8  |
| Carcinoma, Metastatic, Kidney               |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   | 1  |
| Hepatocellular Carcinoma, Metastatic, Liver |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |
| Hepatocholangiocarcinoma, Metastatic, Liver |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   | 1  |
| Nose  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Trachea                                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | 47 |

**SPECIAL SENSES 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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  | * TOTALS |
|-------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----------|
|                         |             | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 6 | 4 | 5 | 5 | 6 | 7 | 5 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7  |          |
| 30 mg/m3                | ANIMAL ID   | 3 | 3 | 7 | 3 | 3 | 3 | 1 | 3 | 2 | 4 | 4 | 3 | 3 | 9 | 3 | 8 | 3 | 3 | 3 | 2 | 2 | 3 | 3  | * TOTALS |
|                         |             | 0 | 1 | 3 | 1 | 1 | 0 | 5 | 1 | 9 | 5 | 7 | 4 | 4 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 9 | 9 | 6  |          |
| Eye                     |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |
| Harderian Gland         |             | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |          |
| Adenoma                 |             |   |   |   | X |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4  |          |
| Carcinoma               |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |          |
| <b>URINARY SYSTEM</b>   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          |
| Kidney                  |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |
| Renal Tubule, Adenoma   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |          |
| Renal Tubule, Carcinoma |             |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   | 1  |          |
| Urinary Bladder         |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |
| <b>SYSTEMIC LESIONS</b> |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          |
| Multiple Organ          |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |
| Histiocytic Sarcoma     |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |          |
| Lymphoma Malignant      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>100 mg/m3 | DAY ON TEST | 0729 | 0687 | 0772 | 0773 | 0773 | 0772 | 0772 | 0773 | 0770 | 0771 | 0779 | 0776 | 0777 | 0773 | 0773 | 0772 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | ANIMAL ID | males<br>(cont...) |
|-------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
|                               | 0060        | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 | 0066 |           |                    |

ALIMENTARY SYSTEM

|                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus<br>Squamous Cell Papilloma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Gallbladder                          | M | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | M | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum<br>Adenoma | + | + | + | + | + | + | A | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum               | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum             | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver                                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hepatocellular Adenoma               |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   | X | X | X |   | X |   |   |   | X |   |
| Hepatocellular Adenoma, Multiple     |   |   |   | X | X | X |   | X | X |   |   | X |   |   |   |   |   |   |   | X |   |   |   |   | X |   |   | X |
| Hepatocellular Carcinoma             |   | X |   | X | X |   |   |   | X |   | X |   |   |   |   |   |   | X |   | X |   |   |   |   |   |   |   |   |
| Hepatocellular Carcinoma, Multiple   |   |   |   |   |   |   | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | males<br>(cont...) |        |   |  |
|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|--------|---|--|
|  | 0729        | 0687   | 0729   | 0733   | 0731   | 0722   | 0623   | 0729   | 0700   | 0700   | 0700   | 0700   | 0700   | 0700   | 0700   | 0700   | 0700   | 0700   | 0700   | 0700   | 0700   | 0700   |                    | 0700   |   |  |
| 100 mg/m3  | ANIMAL ID   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | males<br>(cont...) |        |   |  |
| 006011   | 006623      | 006634 | 006645 | 006656 | 006667 | 006678 | 006689 | 006690 | 006601 | 006612 | 006623 | 006634 | 006645 | 006656 | 006667 | 006678 | 006689 | 006690 | 006601 | 006612 | 006623 | 006634 |                    | 006645 |   |  |
| Lymph Node, Mediastinal<br>Alveolar/Bronchiolar Carcinoma, Metastatic,<br>Lung | +           | +      | M      | +      | M      | +      | M      | +      | +      | +      | +      | M      | +      | +      | M      | +      | +      | +      | +      | M      | +      | M      | +                  | +      | M |  |
| Lymphoma Malignant   |             | X      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |                    |        | X |  |
| Lymph Node, Mesenteric   | +           | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +                  | +      | + |  |
| Spleen<br>Lymphoma Malignant   | +           | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +                  | +      | X |  |
| Thymus   | +           | M      | +      | +      | +      | +      | +      | +      | M      | M      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +                  | +      | + |  |
| <b>INTEGUMENTARY SYSTEM</b>  |             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |                    |        |   |  |
| 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      | M |  |
| Skin<br>Melanoma Benign  | +           | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +                  | +      | + |  |
| Subcutaneous Tissue, Hemangiosarcoma   | X           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |                    |        | X |  |
| Subcutaneous Tissue, Mast Cell Tumor<br>Malignant                              |             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |                    |        | X |  |
| <b>MUSCULOSKELETAL SYSTEM</b>  |             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |                    |        |   |  |
| Bone   | +           | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +                  | +      | + |  |
| Skeletal Muscle  |             |        |        |        |        | +      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |                    |        | + |  |
| <b>NERVOUS SYSTEM</b>  |             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |                    |        |   |  |
| Brain  | +           | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +                  | +      | + |  |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>100 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 | ANIMAL ID | males<br>(cont...) |   |
|-------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------------|---|
|                               | 7           | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |           |                    | 0 |
|                               | 2           | 8 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 0 | 3 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 3         | 0                  |   |
|                               | 9           | 7 | 9 | 0 | 1 | 9 | 3 | 9 | 0 | 1 | 9 | 7 | 1 | 0 | 9 | 0 | 9 | 9 | 9 | 0 | 9 | 0 | 1 | 1         | 0                  |   |
|                               | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0         | 0                  |   |
|                               | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0         | 0                  |   |
|                               | 6           | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6         | 6                  |   |
|                               | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2         | 0                  |   |
|                               | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4         | 1                  |   |

Peripheral Nerve

+

Spinal Cord

+

### RESPIRATORY SYSTEM

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Larynx  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lung  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Alveolar/Bronchiolar Adenoma                                  |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |
| Alveolar/Bronchiolar Carcinoma                                |   |   |   |   |   |   |   | X |   | X |   |   |   |   |   |   |   |   |   |   |   | X |   |
| Alveolar/Bronchiolar Carcinoma, Multiple                      |   | X | X |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   | X |   |   |   |   |
| Hepatocellular Carcinoma, Metastatic, Liver                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Mast Cell Tumor Malignant, Metastatic, Uncertain Primary Site |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |
| Nose  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

### SPECIAL SENSES SYSTEM

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

### URINARY 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
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<br>100 mg/m3        | DAY ON TEST | ANIMAL ID |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | males<br>(cont...) |
|--------------------------------------|-------------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|
|                                      |             | 0729      | 0679 | 0720 | 0731 | 0779 | 0673 | 0779 | 0771 | 0773 | 0779 | 0673 | 0771 | 0773 | 0779 | 0673 | 0771 | 0773 | 0779 | 0673 | 0771 | 0773 | 0779 | 0673 | 0771 | 0773 |                    |
| Kidney<br>Renal Tubule, Adenoma      |             | +         | +    | +    | +    | +    | +    | +    | +    | X    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                    |
| Ureter                               |             |           |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                    |
| Urinary Bladder                      |             | +         | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | M    | +    | +    |                    |
| <b>SYSTEMIC LESIONS</b>              |             |           |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                    |
| Multiple Organ<br>Lymphoma Malignant |             | +         | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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  | * TOTALS |    |
|------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----------|----|
|                              |             | 7 | 7 | 5 | 6 | 7 | 3 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7  |          |    |
| 100 mg/m3                    | ANIMAL ID   | 3 | 0 | 7 | 6 | 3 | 4 | 2 | 3 | 6 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 0 | 9 | 0 | 9  |          |    |
|                              |             | 0 | 6 | 2 | 2 | 0 | 4 | 9 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 9 | 9 | 0 | 9 | 0 | 9 | 0  |          |    |
| Salivary Glands              |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| Stomach, Forestomach         |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| Stomach, Glandular           |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| Tooth                        |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| <b>CARDIOVASCULAR SYSTEM</b> |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          |    |
| Blood Vessel                 |             | + | + | + | I | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | 48 |          |    |
| Heart                        |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| <b>ENDOCRINE SYSTEM</b>      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          |    |
| Adrenal Cortex               |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| Adenoma                      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   | 4  |          |    |
| Subcapsular, Adenoma         |             |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   | 6  |          |    |
| Adrenal Medulla              |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| Islets, Pancreatic           |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| Adenoma                      |             |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   | 1  |          |    |
| Parathyroid Gland            |             | M | + | + | M | M | M | + | M | + | M | M | + | M | M | M | + | M | + | + | M | M | M | +  | M        | 21 |
| Pituitary Gland              |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +  | 48       |    |
| Thyroid Gland                |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +  | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

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

**GENERAL BODY SYSTEM**

|  |          |
|--|----------|
| Tissue NOS   | <b>1</b> |
| Mediastinum, Alveolar/Bronchiolar Carcinoma,<br>Metastatic, Lung | <b>1</b> |

**GENITAL SYSTEM**

|                 |   |           |
|-----------------|---|-----------|
| Epididymis      | + | <b>50</b> |
| Penis           | +   | <b>1</b>  |
| Preputial Gland | + | <b>49</b> |
| Prostate        | + | <b>50</b> |
| Seminal Vesicle | + | <b>50</b> |
| Testes          | + | <b>50</b> |

**HEMATOPOIETIC SYSTEM**

|   |   |           |
|---|---|-----------|
| Bone Marrow                                 | +       | <b>50</b> |
| Mast Cell Tumor Malignant, Metastatic, Skin |   | <b>1</b>  |
| Lymph Node                                  |   | <b>1</b>  |
| Lymph Node, Bronchial                       | M M + M + + M M + M M M + M + M + + M M + M M M M | <b>18</b> |
| Lymph Node, Mandibular                      | M + M + M + + M M M + + + M M + + + + + + + M + + | <b>33</b> |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>100 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  | * TOTALS |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----------|
|  | ANIMAL ID   | 7 | 7 | 5 | 6 | 7 | 3 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 |    |          |
| Lymph Node, Mediastinal<br>Alveolar/Bronchiolar Carcinoma, Metastatic,<br>Lung<br>Lymphoma Malignant | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 |          |
|  | 0           | 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  |          |
|  | 6           | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 1  |          |
|  | 2           | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1  |          |
|  | 6           | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 41 |          |
| <b>INTEGUMENTARY SYSTEM</b>  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          |
| 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 | M | 0  |          |
| Skin<br>Melanoma Benign  | +           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |
| Subcutaneous Tissue, Hemangiosarcoma   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |          |
| Subcutaneous Tissue, Mast Cell Tumor<br>Malignant  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |          |
| <b>MUSCULOSKELETAL SYSTEM</b>  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          |
| Bone   | +           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |
| Skeletal Muscle  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3  |          |
| <b>NERVOUS SYSTEM</b>  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          |
| Brain  | +           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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

|   |             |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                 |
|---|-------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
| <b>B6C3F1 MICE MALE</b><br><b>100 mg/m3</b> | DAY ON TEST | 0<br>7<br>3<br>0      | 0<br>7<br>0<br>6      | 0<br>5<br>7<br>2      | 0<br>6<br>6<br>2      | 0<br>7<br>3<br>4      | 0<br>7<br>2<br>4      | 0<br>7<br>3<br>1      | 0<br>6<br>3<br>1      | 0<br>7<br>3<br>0      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>0      | 0<br>7<br>2<br>1      | 0<br>7<br>2<br>9      | 0<br>7<br>2<br>9      | 0<br>7<br>2<br>9      | 0<br>7<br>3<br>0      | 0<br>7<br>2<br>9      | 0<br>5<br>9<br>0      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>1      | <b>* TOTALS</b> |
|   | ANIMAL ID   | 0<br>0<br>6<br>2<br>6 | 0<br>0<br>6<br>2<br>7 | 0<br>0<br>6<br>2<br>8 | 0<br>0<br>6<br>2<br>9 | 0<br>0<br>6<br>3<br>0 | 0<br>0<br>6<br>3<br>1 | 0<br>0<br>6<br>3<br>2 | 0<br>0<br>6<br>3<br>3 | 0<br>0<br>6<br>3<br>4 | 0<br>0<br>6<br>3<br>5 | 0<br>0<br>6<br>3<br>6 | 0<br>0<br>6<br>3<br>7 | 0<br>0<br>6<br>3<br>8 | 0<br>0<br>6<br>4<br>0 | 0<br>0<br>6<br>4<br>1 | 0<br>0<br>6<br>4<br>2 | 0<br>0<br>6<br>4<br>3 | 0<br>0<br>6<br>4<br>4 | 0<br>0<br>6<br>4<br>5 | 0<br>0<br>6<br>4<br>6 | 0<br>0<br>6<br>4<br>7 |                 |

Peripheral Nerve + **2**

Spinal Cord + **2**

**RESPIRATORY SYSTEM**

Larynx + **50**

Lung + **50**

Alveolar/Bronchiolar Adenoma X **9**

Alveolar/Bronchiolar Carcinoma X **5**

Alveolar/Bronchiolar Carcinoma, Multiple X **5**

Hepatocellular Carcinoma, Metastatic, Liver X **3**

Mast Cell Tumor Malignant, Metastatic, 1 **1**

Uncertain Primary Site

Nose + **50**

Trachea + **50**

**SPECIAL SENSES SYSTEM**

Eye + **50**

Harderian Gland + **50**

Adenoma 2 **2**

Carcinoma 1 **1**

Bilateral, Adenoma 1 **1**

**URINARY 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>100 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 | 5 | 6 | 7 | 3 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7       |          |
|                                      |             | 3 | 0 | 7 | 6 | 3 | 4 | 2 | 3 | 6 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 0 | 0 | 9 | 3 | 3       |          |
|                                      |             | 0 | 6 | 2 | 2 | 0 | 4 | 9 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 9 | 1 | 9 | 9 | 0 | 9 | 9 | 0 | 1 | 1       |          |
|                                      |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0       |          |
|                                      |             | 0 | 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 | 6       |          |
|                                      |             | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5       |          |
|                                      |             | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9       |          |
| Kidney<br>Renal Tubule, Adenoma      |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50<br>1 |          |
| Ureter                               |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | + |   | 1       |          |
| Urinary Bladder                      |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49      |          |
| <b>SYSTEMIC LESIONS</b>              |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |         |          |
| Multiple Organ<br>Lymphoma Malignant |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50<br>1 |          |

\*\*\* 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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

|                           |             |                  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                              |                       |                       |
|---------------------------|-------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|-----------------------|-----------------------|
| <b>B6C3F1 MICE FEMALE</b> | DAY ON TEST | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>2      | 0<br>6<br>1<br>3      | 0<br>6<br>7<br>7      | 0<br>7<br>3<br>2      | 0<br>7<br>4<br>5      | 0<br>7<br>3<br>3      | 0<br>7<br>0<br>5      | 0<br>6<br>0<br>4      | 0<br>7<br>3<br>3      | 0<br>7<br>8<br>3      | 0<br>7<br>3<br>1      | 0<br>7<br>9<br>4      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>2      | 0<br>5<br>2<br>7      | 0<br>7<br>3<br>2      | <b>females<br/>(cont...)</b> |                       |                       |
|                           | CONTROL     | ANIMAL ID        | 0<br>0<br>1<br>0<br>1 | 0<br>0<br>1<br>0<br>2 | 0<br>0<br>1<br>0<br>3 | 0<br>0<br>1<br>0<br>4 | 0<br>0<br>1<br>0<br>5 | 0<br>0<br>1<br>0<br>6 | 0<br>0<br>1<br>0<br>7 | 0<br>0<br>1<br>0<br>8 | 0<br>0<br>1<br>0<br>9 | 0<br>0<br>1<br>0<br>0 | 0<br>0<br>1<br>0<br>1 | 0<br>0<br>1<br>0<br>2 | 0<br>0<br>1<br>0<br>3 | 0<br>0<br>1<br>0<br>4 | 0<br>0<br>1<br>0<br>5 | 0<br>0<br>1<br>0<br>6 | 0<br>0<br>1<br>0<br>7 | 0<br>0<br>1<br>0<br>8 | 0<br>0<br>1<br>0<br>9 | 0<br>0<br>1<br>2<br>0 | 0<br>0<br>1<br>2<br>1 |                              | 0<br>0<br>1<br>2<br>2 | 0<br>0<br>1<br>2<br>3 |

**ALIMENTARY SYSTEM**

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus                                      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Gallbladder                                    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | M | + | + | + |   |
| Intestine Large, Cecum                         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Intestine Large, Colon                         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + |   |
| Intestine Large, Rectum                        | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Intestine Small, Duodenum<br>Adenoma           | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + | + | + | + | + |   |
| Intestine Small, Ileum                         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + |   |
| Intestine Small, Jejunum<br>Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | A | + | + | + | + | + |   |
| Liver  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Hepatoblastoma                                 |   |   |   |   |   |   |   |   |   |   |   |   |   | X | X |   |   | X |   |   |   |   | X |   |
| Hepatocellular Adenoma                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   | X | X |   |   | X |   |
| Hepatocellular Adenoma, Multiple               |   |   |   |   | X |   |   |   |   |   |   |   |   | X |   |   |   | X | X |   |   |   |   |   |
| Hepatocellular Carcinoma                       |   |   |   | X |   |   |   |   |   |   |   |   | X |   |   |   | X |   | X |   |   |   | X |   |
| Histiocytic Sarcoma                            |   |   |   | X |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymphoma Malignant                             |   |   | X |   |   |   |   |   |   |   | X | X |   |   |   |   |   |   |   |   | X | X |   |   |
| Mesentery                                      |   |   |   |   |   | + |   |   |   |   |   |   |   |   | + | + |   |   |   |   |   | + | + | + |
| Lymphoma Malignant                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|                           |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>B6C3F1 MICE FEMALE</b> | 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 |
|                           | ANIMAL ID   | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 3 | 7 | 7 | 6 | 5 | 7 | 7 | 6 | 7 | 1 | 7 | 7 | 7 | 7 | 5 | 7 | 5 | 7 | 3 | 2 | 7 |
| <b>Control</b>            |             | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 7 | 3 | 4 | 3 | 0 | 0 | 4 | 3 | 3 | 8 | 3 | 9 | 3 | 3 | 3 | 3 | 2 | 7 | 3 | 2 | 3 | 2 |   |
|                           |             | 2 | 1 | 3 | 3 | 2 | 2 | 3 | 7 | 2 | 5 | 3 | 5 | 9 | 3 | 2 | 3 | 1 | 4 | 2 | 3 | 2 | 3 | 2 | 3 | 4 | 5 | 7 | 3 | 2 |   |
|                           |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                           |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |   |
|                           |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |   |
|                           |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 2 | 3 | 4 | 5 |   |   |   |   |

females  
(cont...)

Pancreas  
Lymphoma Malignant

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

Salivary Glands

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

Stomach, Forestomach

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

Stomach, Glandular

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

Tooth

**CARDIOVASCULAR SYSTEM**

Blood Vessel

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| M | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |

Heart  
Lymphoma Malignant

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

**ENDOCRINE SYSTEM**

Adrenal Cortex

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |  |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

Adrenal Medulla  
Pheochromocytoma Benign

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |  |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

Islets, Pancreatic  
Adenoma  
Lymphoma Malignant

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

Parathyroid Gland

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|
| + | + | + | + | + | + | + | + | M | + | M | + | + | M | M | + | M | M | M | M | 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  
A .. Autolysis precludes evaluation  
BLANK .. Not examined microscopically

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>Control | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                       | ANIMAL ID | females<br>(cont...) |
|-------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|-----------|----------------------|
|                               | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>2 | 0<br>6<br>1<br>3 | 0<br>6<br>7<br>7 | 0<br>6<br>3<br>2 | 0<br>7<br>4<br>5 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>5 | 0<br>6<br>0<br>5 | 0<br>5<br>4<br>9 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>2 | 0<br>6<br>8<br>3 | 0<br>7<br>3<br>1 | 0<br>1<br>9<br>4 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>5<br>2<br>7 | 0<br>7<br>3<br>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<br>0<br>1<br>0<br>1 |           |                      |

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Pituitary Gland<br>Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Thyroid Gland                             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |

|                            |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |
|----------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|
| <b>GENERAL BODY SYSTEM</b> |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |
| Tissue NOS                 | + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | + |  |

|                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| <b>GENITAL SYSTEM</b>       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Clitoral Gland              | + | + | + | + | M | + | + | + | + | + | + | M | + | + | + | + | M | + | M | + | + | + | + | + |  |
| Ovary                       | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Cystadenoma                 |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |  |
| Granulosa Cell Tumor Benign |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Histiocytic Sarcoma         |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Luteoma                     |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Lymphoma Malignant          | X |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Uterus                      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Hemangiosarcoma             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Histiocytic Sarcoma         |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Leiomyoma                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |

|                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| <b>HEMATOPOIETIC SYSTEM</b> |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Bone Marrow                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Histiocytic Sarcoma         |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Sarcoma                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>Control  | DAY ON TEST | 0732 | 0733 | 0733 | 0733 | 0732 | 0763 | 0767 | 0772 | 0773 | 0773 | 0765 | 0774 | 0773 | 0769 | 0773 | 0767 | 0771 | 0773 | 0773 | 0773 | 0757 | 0773 | ANIMAL ID | females<br>(cont...) |  |  |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|--|--|
|  | ANIMAL ID   | 0010 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 | 0001 |           |                      |  |  |
| Lymph Node   |             | +    | +    |      |      |      |      |      |      |      | +    |      | +    |      |      |      |      |      |      | +    | +    |      |      |           |                      |  |  |
| Deep Cervical, Lymphoma Malignant                                      |             | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                      |  |  |
| Lumbar, Lymphoma Malignant   |             |      |      | X    |      |      |      |      |      |      | X    |      |      |      |      |      |      |      |      |      |      | X    |      |           |                      |  |  |
| Pancreatic, Lymphoma Malignant   |             | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | X    |      |           |                      |  |  |
| Renal, Lymphoma Malignant  |             | X    |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | X    |      |           |                      |  |  |
| Lymph Node, Bronchial<br>Lymphoma Malignant                            |             | M    | +    | +    | +    | M    | M    | M    | M    | +    | M    | M    | +    | +    | +    | M    | +    | +    | +    | +    | M    | +    | M    | +         | M                    |  |  |
|  |             |      |      | X    | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | X    |      |           |                      |  |  |
| Lymph Node, Mandibular<br>Histiocytic Sarcoma<br>Lymphoma Malignant    |             | +    | +    | +    | +    | +    | +    | +    | M    | +    | M    | +    | +    | +    | M    | M    | +    | +    | +    | +    | +    | +    | +    | +         |                      |  |  |
|  |             | X    |      | X    |      |      |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      | X    | X         |                      |  |  |
| Lymph Node, Mediastinal<br>Lymphoma Malignant                          |             | +    | M    | +    | +    | +    | +    | +    | +    | +    | M    | +    | +    | M    | M    | +    | +    | M    | +    | M    | +    | +    | +    | +         |                      |  |  |
|  |             | X    |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | X    | X    | X         |                      |  |  |
| Lymph Node, Mesenteric<br>Histiocytic Sarcoma<br>Lymphoma Malignant    |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +         |                      |  |  |
|  |             | X    |      | X    | X    |      |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      | X    |           |                      |  |  |
| Spleen<br>Hemangiosarcoma<br>Histiocytic Sarcoma<br>Lymphoma Malignant |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +         |                      |  |  |
|  |             | X    |      | X    | X    |      |      | X    |      |      |      | X    | X    |      |      |      |      |      |      |      |      | X    | X    | X         |                      |  |  |
| Thymus<br>Lymphoma Malignant   |             | +    | +    | +    | +    | +    | +    | M    | +    | +    | +    | +    | +    | +    | M    | +    | +    | +    | M    | +    | M    | +    | +    | +         |                      |  |  |
|  |             | X    |      | X    | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | X    | X    | X         |                      |  |  |

**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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>Control | DAY ON TEST | 0732 | 0731 | 0733 | 0733 | 0732 | 0722 | 0763 | 0767 | 0772 | 0773 | 0776 | 0775 | 0759 | 0773 | 0772 | 0763 | 0771 | 0777 | 0773 | 0773 | 0773 | 0752 | 0773 | females<br>(cont...) |
|-------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
|                               | ANIMAL ID   | 0010 | 0001 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |                      |
| Histiocytic Sarcoma           |             |      |      |      |      |      |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Lymphoma Malignant            |             |      |      | X    |      |      |      |      |      |      | X    | X    |      |      |      |      |      |      |      |      | X    | X    |      |      |                      |
| Nose                          |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Trachea                       |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| <b>SPECIAL SENSES SYSTEM</b>  |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Eye                           |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Harderian Gland<br>Adenoma    |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| <b>URINARY SYSTEM</b>         |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Kidney                        |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Histiocytic Sarcoma           |             |      |      |      |      |      |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Lymphoma Malignant            |             | X    |      |      |      |      |      |      |      |      |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Urinary Bladder               |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Lymphoma Malignant            |             |      |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| <b>SYSTEMIC LESIONS</b>       |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Multiple Organ                |             | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Histiocytic Sarcoma           |             |      |      | X    |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Lymphoma Malignant            |             | 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

|                           |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |   |
|---------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|---|
| <b>B6C3F1 MICE FEMALE</b> | 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 |  |  |   |
|                           |             | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |  |  | 7 |
|                           |             | 3 | 8 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |  |  | 3 |
| <b>Control</b>            | 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 |  |  |   |
|                           |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |  | 1 |
|                           |             | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |  |  |   |
|                           |             | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |  |   |
| <b>* TOTALS</b>           |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |   |

ALIMENTARY SYSTEM

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |           |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|-----------|
| Esophagus                        | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +        | <b>50</b> |
| Gallbladder                      | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | +        | <b>46</b> |
| Intestine Large, Cecum           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +        | <b>50</b> |
| Intestine Large, Colon           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +        | <b>49</b> |
| Intestine Large, Rectum          | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +        | <b>50</b> |
| Intestine Small, Duodenum        | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A        | <b>47</b> |
| Adenoma                          |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>1</b> |           |
| Intestine Small, Ileum           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +        | <b>49</b> |
| Intestine Small, Jejunum         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A        | <b>48</b> |
| Lymphoma Malignant               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>1</b> |           |
| Liver                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +        | <b>50</b> |
| Hepatoblastoma                   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          | <b>1</b>  |
| Hepatocellular Adenoma           |   |   |   | X |   |   |   |   | X |   |   |   |   | X | X |   |   |   |   |   |   |   | X | X |          | <b>10</b> |
| Hepatocellular Adenoma, Multiple |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          | <b>4</b>  |
| Hepatocellular Carcinoma         |   |   |   | X | X |   |   |   |   |   |   | X |   | X |   |   | X |   |   |   |   |   |   |   |          | <b>10</b> |
| Histiocytic Sarcoma              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          | <b>2</b>  |
| Lymphoma Malignant               | X |   |   |   |   |   |   |   |   | X |   |   |   |   | X |   |   |   |   | X |   |   |   |   |          | <b>9</b>  |
| Mesentery                        |   |   |   |   | + | + |   |   |   |   |   | + | + |   |   |   | + | + | + | + |   |   |   |   | +        | <b>16</b> |
| Lymphoma Malignant               |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   | X |   |   |   |   |          | <b>5</b>  |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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 |    |  |
|------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|----|--|
|                              | 0731        | 0736 | 0738 | 0739 | 0741 | 0742 | 0743 | 0744 | 0745 | 0746 | 0747 | 0748 | 0749 | 0750 | 0751 | 0752 | 0753 | 0754 | 0755 | 0756 | 0757 | 0758 | 0759 | 0760 |          |    |  |
| Control                      | ANIMAL ID   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | * TOTALS |    |  |
|                              | 001         | 002  | 003  | 004  | 005  | 006  | 007  | 008  | 009  | 010  | 011  | 012  | 013  | 014  | 015  | 016  | 017  | 018  | 019  | 020  | 021  | 022  | 023  | 024  |          |    |  |
| Pancreas                     | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 50       |    |  |
| Lymphoma Malignant           |             |      |      |      |      |      |      |      |      |      |      |      |      |      | X    |      |      |      |      |      |      |      | X    |      | 3        |    |  |
| Salivary Glands              | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 50       |    |  |
| Stomach, Forestomach         | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 50       |    |  |
| Stomach, Glandular           | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 50       |    |  |
| Tooth                        |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      | +    |      |      |      |      |      |      |      |      | 1        |    |  |
| <b>CARDIOVASCULAR SYSTEM</b> |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |          |    |  |
| Blood Vessel                 | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | M    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 46       |    |  |
| Heart                        | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 50       |    |  |
| Lymphoma Malignant           |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1        |    |  |
| <b>ENDOCRINE SYSTEM</b>      |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |          |    |  |
| Adrenal Cortex               | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 49       |    |  |
| Adrenal Medulla              | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 49       |    |  |
| Pheochromocytoma Benign      |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1        |    |  |
| Islets, Pancreatic           | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 50       |    |  |
| Adenoma                      |             |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1        |    |  |
| Lymphoma Malignant           |             |      |      |      |      |      |      |      |      |      |      |      | X    |      |      |      |      |      |      |      |      |      |      |      | 1        |    |  |
| Parathyroid Gland            | M           | +    | M    | +    | M    | +    | M    | +    | M    | +    | M    | +    | +    | M    | +    | +    | M    | +    | M    | M    | M    | +    | +    | M    | +        | 26 |  |

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I .. Insufficient tissue

M .. Missing tissue  
A .. Autolysis precludes evaluation  
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Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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<br>Control | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |
|-------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|
|                               | 0<br>7<br>3<br>1 | 0<br>6<br>8<br>6 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>2 |          |
| ANIMAL ID                     | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                |          |
|                               | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                |          |
|                               | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                |          |
|                               | 2                | 2                | 2                | 2                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 5                |          |
|                               | 6                | 7                | 8                | 9                | 0                | 1                | 2                | 3                | 4                | 5                | 6                | 7                | 8                | 9                | 0                | 1                | 2                | 3                | 4                | 5                | 6                | 7                | 8                | 9                | 0        |
|                               |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Pituitary Gland               | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 50               |          |
| Pars Distalis, Adenoma        |                  |                  | X                | X                |                  | X                |                  |                  |                  |                  |                  |                  |                  |                  | X                |                  |                  |                  |                  |                  |                  |                  |                  | 5                |          |
| Thyroid Gland                 | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 50               |          |
| <b>GENERAL BODY SYSTEM</b>    |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Tissue NOS                    |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 3                |          |
| <b>GENITAL SYSTEM</b>         |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Clitoral Gland                | M                | +                | M                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 44               |          |
| Ovary                         | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 50               |          |
| Cystadenoma                   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | X                |                  |                  |                  |                  |                  |                  |                  |                  | 2                |          |
| Granulosa Cell Tumor Benign   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |          |
| Histiocytic Sarcoma           |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |          |
| Luteoma                       |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |          |
| Lymphoma Malignant            |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 2                |          |
| Uterus                        | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 50               |          |
| Hemangiosarcoma               |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | X                |                  |                  | 1                |          |
| Histiocytic Sarcoma           |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |          |
| Leiomyoma                     | X                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |          |
| <b>HEMATOPOIETIC SYSTEM</b>   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Bone Marrow                   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 50               |          |
| Histiocytic Sarcoma           |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |          |
| Sarcoma                       |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 |
|-----------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|                                   | 0731        | 0686  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  |       |          |
| Control                           | ANIMAL ID   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |
|                                   | 00126       | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 | 00112 |          |
| Lymph Node                        |             |       |       | +     |       |       |       |       | +     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 11       |
| Deep Cervical, Lymphoma Malignant |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        |
| Lumbar, Lymphoma Malignant        |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 5        |
| Pancreatic, Lymphoma Malignant    |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 3        |
| Renal, Lymphoma Malignant         |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 4        |
| Lymph Node, Bronchial             | +           | +     | M     | +     | M     | +     | +     | M     | +     | +     | M     | M     | M     | M     | M     | +     | M     | M     | +     | M     | M     | +     | +     | +     | 26       |
| Lymphoma Malignant                |             |       |       | X     |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       | 5        |
| Lymph Node, Mandibular            | +           | +     | +     | +     | M     | +     | +     | M     | M     | M     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | 41       |
| Histiocytic Sarcoma               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        |
| Lymphoma Malignant                |             |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       | X     | X     |       |       |       |       |       | 8        |
| Lymph Node, Mediastinal           | M           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 43       |
| Lymphoma Malignant                |             |       |       | X     |       |       | X     |       |       | X     |       | X     |       |       | X     |       |       | X     | X     |       |       |       |       |       | 12       |
| Lymph Node, Mesenteric            | +           | +     | +     | +     | +     | M     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 48       |
| Histiocytic Sarcoma               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        |
| Lymphoma Malignant                |             |       |       |       | X     |       |       |       |       | X     | X     |       |       |       |       |       | X     | X     |       |       |       |       |       |       | 9        |
| Spleen                            | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |
| Hemangiosarcoma                   |             |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        |
| Histiocytic Sarcoma               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        |
| Lymphoma Malignant                | X           |       |       | X     |       |       | X     |       | X     | X     |       | X     |       |       | X     |       | X     |       | X     | X     |       |       |       |       | 18       |
| Thymus                            | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 44       |
| Lymphoma Malignant                | X           |       |       | X     |       |       | X     |       | X     |       | X     |       |       |       |       |       |       | X     | X     |       |       |       | M     | +     | 12       |

**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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**  
 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 |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|----------|
|  | 0731        | 0736 | 0738 | 0739 | 0741 | 0742 | 0743 | 0744 | 0745 | 0746 | 0747 | 0748 | 0749 | 0750 | 0751 | 0752 | 0753 | 0754 | 0755 | 0756 | 0757 | 0758 | 0759 | 0760 |     |          |
| Control  | ANIMAL ID   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |          |
|  | 001         | 002  | 003  | 004  | 005  | 006  | 007  | 008  | 009  | 010  | 011  | 012  | 013  | 014  | 015  | 016  | 017  | 018  | 019  | 020  | 021  | 022  | 023  | 024  | 025 |          |
| Mammary Gland Carcinoma                          | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +   | 50<br>2  |
| Skin Hemangiosarcoma                             | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | X    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +   | 50<br>1  |
| Lip, Squamous Cell Papilloma                     |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     | 1        |
| Subcutaneous Tissue, Hemangiosarcoma             |             |      |      |      |      |      |      |      |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     | 1        |
| <b>MUSCULOSKELETAL SYSTEM</b>                    |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |          |
| Bone Femur, Sarcoma                              | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +   | 50<br>1  |
| Skeletal Muscle                                  |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     | 3        |
| <b>NERVOUS SYSTEM</b>                            |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |          |
| Brain  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +   | 50       |
| Peripheral Nerve                                 |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     | 2        |
| Spinal Cord                                      |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     | 3        |
| <b>RESPIRATORY SYSTEM</b>                        |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |          |
| Larynx   | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +   | 49       |
| Lung Alveolar/Bronchiolar Adenoma                | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +   | 50<br>1  |
| Lung Alveolar/Bronchiolar Carcinoma              |             |      |      |      |      |      |      |      |      | X    |      |      |      |      |      |      |      | X    |      |      |      |      | X    |      |     | 4        |
| Lung Hepatocellular Carcinoma, Metastatic, Liver |             |      |      |      |      |      |      |      |      | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 |  |
|------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--|
|                              | 0731        | 0686  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  |          |  |
| Control                      | ANIMAL ID   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |  |
|                              | 00126       | 00112 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 | 00111 |          |  |
| Histiocytic Sarcoma          |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        |  |
| Lymphoma Malignant           |             |       |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       | 7        |  |
| Nose                         | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |  |
| Trachea                      | +           | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 49       |  |
| <b>SPECIAL SENSES SYSTEM</b> |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |  |
| Eye                          | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |  |
| Harderian Gland Adenoma      | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | X     | X     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50<br>2  |  |
| <b>URINARY SYSTEM</b>        |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |  |
| Kidney                       | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |  |
| Histiocytic Sarcoma          |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        |  |
| Lymphoma Malignant           |             |       |       |       |       |       |       | X     |       |       |       | X     |       |       |       |       | X     |       |       | X     |       |       |       |       | 6        |  |
| Urinary Bladder              | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |  |
| Lymphoma Malignant           |             |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       | 2        |  |
| <b>SYSTEMIC LESIONS</b>      |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |  |
| Multiple Organ               | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |  |
| Histiocytic Sarcoma          |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 2        |  |
| Lymphoma Malignant           | X           |       |       | X     |       |       | X     |       | X     | X     |       | X     |       |       | X     |       | X     |       | X     | X     |       |       |       |       | 18       |  |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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 X .. Lesion present  
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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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br><br>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 |   |   |   |  |
|------------------------------------|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
|                                    |  | 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 |   |  |
|                                    |  |             | 6 | 7 | 7 | 7 | 7 | 5 | 6 | 7 | 7 | 7 | 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 | 7 |   |   |  |
|                                    |  |             | 7 | 3 | 3 | 3 | 3 | 9 | 7 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |   |  |
|                                    |  |             | 7 | 2 | 3 | 3 | 3 | 9 | 7 | 3 | 3 | 2 | 5 | 7 | 3 | 2 | 3 | 3 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 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 | 0 | 0 |   |  |
|                                    |  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |   |  |
|                                    |  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|                                    |  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |   |  |
| Pituitary Gland                    |  |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |  |
| Pars Distalis, Adenoma             |  |             |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Thyroid Gland                      |  |             | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| <b>GENERAL BODY SYSTEM</b>         |  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Tissue NOS                         |  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Mediastinum, Carcinoma             |  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | + |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| <b>GENITAL SYSTEM</b>              |  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Clitoral Gland                     |  |             | M | + | + | + | M | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |  |
| Ovary                              |  |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Cystadenoma                        |  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Luteoma                            |  |             |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Lymphoma Malignant                 |  |             |   |   |   |   |   |   | X |   |   |   |   |   |   | X |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Uterus                             |  |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Hemangiosarcoma                    |  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Histiocytic Sarcoma                |  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Lymphoma Malignant                 |  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Polyp Stromal                      |  |             |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   | X |   |   |   |   |   |   |   |   |   |  |
| <b>HEMATOPOIETIC SYSTEM</b>        |  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Bone Marrow                        |  |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |  |
| Lymph Node                         |  |             | + |   |   |   |   | + |   |   |   |   |   |   |   |   |   |   | + | + | + |   |   |   |   |   |   |   |   | + | + |   |   |   |   |   |   |   |   |   |   |   |  |
| Iliac, Lymphoma Malignant          |  |             |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**  
 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

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

Subcutaneous Tissue, Schwannoma Malignant

### MUSCULOSKELETAL SYSTEM

|                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Skeletal Muscle |   |   |   | + |   |   |   |   |   |   |   | + |   |   |   |   |   |   |   |   |   |   |   |   |

### NERVOUS SYSTEM

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

### RESPIRATORY SYSTEM

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Larynx                                      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lung  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Alveolar/Bronchiolar Adenoma                |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Alveolar/Bronchiolar Adenoma, Multiple      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Alveolar/Bronchiolar Carcinoma              |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |
| Hepatocellular Carcinoma, Metastatic, Liver |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Histiocytic Sarcoma                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymphoma Malignant                          |   |   |   |   |   |   |   |   |   | X |   |   |   | X |   | X |   | X |   |   |   |   |   | X |
| Nose  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea                                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|                           |   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                              |
|---------------------------|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------------------------------|
| <b>B6C3F1 MICE FEMALE</b> |   | 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 | <b>females<br/>(cont...)</b> |
|                           |   | ANIMAL ID   | 6 | 7 | 7 | 7 | 7 | 5 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |                              |
| <b>10 mg/m3</b>           | 7 | 3           | 3 | 3 | 3 | 9 | 7 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |                              |

**SPECIAL SENSES SYSTEM**

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

**URINARY SYSTEM**

|                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymphoma Malignant |   |   |   |   |   |   |   |   | X |   |   |   |   |   | X |   |   |   |   | X |   |   |   | X |
| Urethra            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Sarcoma            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Urinary Bladder    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymphoma Malignant |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   | X |   |   |   |

**SYSTEMIC LESIONS**

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Multiple Organ      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Histiocytic Sarcoma |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymphoma Malignant  |   |   |   | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 |      |
|--------------------|-------------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|
|                    |             | 0733      | 0583 | 0732 | 0655 | 0730 | 0759 | 0733 | 0578 | 0733 | 0578 | 0733 | 0674 | 0733 | 0773 | 0773 | 0773 | 0676 | 0733 | 0773 | 0773 |          | 0773 |
| 10 mg/m3           |             | 0         | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0        | 50   |
|                    |             | 0         | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0        | 50   |
|                    |             | 3         | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3        | 49   |
|                    |             | 2         | 2    | 2    | 2    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 4        | 50   |
|                    |             | 6         | 7    | 8    | 9    | 0    | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 0    | 1    | 2    | 3    | 4    | 5    | 6        | 50   |

ALIMENTARY SYSTEM

|                                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |         |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|
| Esophagus                           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50      |
| Gallbladder                         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49      |
| Intestine Large, Cecum              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50      |
| Intestine Large, Colon              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50      |
| Intestine Large, Rectum             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50      |
| Intestine Small, Duodenum           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50      |
| Intestine Small, Ileum<br>Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50<br>1 |
| Intestine Small, Jejunum            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50      |
| Liver                               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50      |
| Hepatocellular Adenoma              |   | X | X |   | X |   |   |   |   | X |   |   |   |   |   |   |   |   | X |   |   | X | X | 11      |
| Hepatocellular Adenoma, Multiple    |   |   |   |   |   | X |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   | 3       |
| Hepatocellular Carcinoma            |   | X | X |   |   |   |   |   |   | X |   |   |   |   |   |   | X |   |   |   |   | X |   | 8       |
| Hepatocellular Carcinoma, Multiple  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1       |
| Histiocytic Sarcoma                 |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1       |
| Lymphoma Malignant                  |   |   | X | X |   |   |   |   |   |   |   |   |   | X |   | X |   |   |   |   |   |   |   | 6       |
| Mesentery                           |   | + | + | + |   |   | + | + |   | + | + | + | + |   |   |   |   |   | + |   | + |   | + | 23      |
| Hemangioma                          |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2       |
| Lymphoma Malignant                  |   |   | 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**  
 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<br>10 mg/m3 | DAY ON TEST |  | 0 |   | 0 |   | 0 |   | 0 |   | 0 |   | 0 |   | 0 |   | 0 |   | 0 |   | 0 |   | 0 |   | 0 |    | * TOTALS |    |
|--------------------------------|-------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----------|----|
|                                | ANIMAL ID   |  | 7 | 5 | 7 | 6 | 7 | 7 | 5 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 5 | 7 | 7 | 3 | 7 | 7 | 7 | 7  |          |    |
|                                |             |  | 3 | 8 | 3 | 5 | 3 | 0 | 9 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 9 | 3 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3  |          |    |
|                                |             |  | 3 | 3 | 2 | 5 | 2 | 1 | 8 | 3 | 8 | 3 | 4 | 3 | 3 | 1 | 2 | 8 | 2 | 2 | 3 | 1 | 1 | 3 | 3 | 2  |          |    |
|                                |             |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |          |    |
|                                |             |  | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3  |          |    |
|                                |             |  | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5  |          |    |
|                                |             |  | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9  |          |    |
| Pancreas                       |             |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| Lymphoma Malignant             |             |  |   |   | X |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4  |          |    |
| Salivary Glands                |             |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| Stomach, Forestomach           |             |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| Stomach, Glandular             |             |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |          |    |
| <b>CARDIOVASCULAR SYSTEM</b>   |             |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          |    |
| Blood Vessel                   |             |  | + | + | + | + | M | + | + | + | + | I | + | + | + | M | I | + | + | + | M | + | + | + | + | M  | +        | 44 |
| Heart                          |             |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +  | +        | 50 |
| Histiocytic Sarcoma            |             |  |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 1        |    |
| <b>ENDOCRINE SYSTEM</b>        |             |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          |    |
| Adrenal Cortex                 |             |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +  | +        | 50 |
| Lymphoma Malignant             |             |  |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          | 1  |
| Subcapsular, Adenoma           |             |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |    |          | 2  |
| Adrenal Medulla                |             |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +  | +        | 50 |
| Lymphoma Malignant             |             |  |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          | 1  |
| Pheochromocytoma Benign        |             |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |          | 2  |
| Islets, Pancreatic             |             |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +  | +        | 50 |
| Adenoma                        |             |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |    |          | 1  |
| Parathyroid Gland              |             |  | M | M | M | + | + | M | + | + | M | + | + | M | + | + | + | M | + | M | M | + | M | M | M | +  | +        | 29 |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>10 mg/m3            | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |     |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-----|
|   | 0733        | 0583  | 0732  | 0655  | 0730  | 0779  | 0573  | 0753  | 0753  | 0773  | 0673  | 0773  | 0773  | 0773  | 0676  | 0773  | 0575  | 0773  | 0773  | 0773  |          | 0773  |     |
| ANIMAL ID                                 | 00326       | 00332 | 00332 | 00332 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333 | 00333    | 00333 |     |
| Pituitary Gland<br>Pars Distalis, Adenoma | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | X     | +     | +     | +     | +     | +     | +        | X     | 504 |
| Thyroid Gland                             | +           | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 48  |
| <b>GENERAL BODY SYSTEM</b>                |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |     |
| Tissue NOS<br>Mediastinum, Carcinoma      |             |       |       |       |       |       |       |       |       |       |       |       |       |       | +     |       |       |       |       |       |          |       | 21  |
| <b>GENITAL SYSTEM</b>                     |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |     |
| Clitoral Gland                            | +           | +     | +     | +     | +     | +     | M     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 45  |
| Ovary<br>Cystadenoma                      | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | X     | 501 |
| Luteoma                                   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       | 1   |
| Lymphoma Malignant                        |             |       |       | X     | X     | X     |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |          |       | 8   |
| Uterus<br>Hemangiosarcoma                 | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 501 |
| Histiocytic Sarcoma                       |             |       |       |       |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |          |       | 1   |
| Lymphoma Malignant                        |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |          |       | 1   |
| Polyp Stromal                             |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       | 3   |
| <b>HEMATOPOIETIC SYSTEM</b>               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |     |
| Bone Marrow                               | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 50  |
| Lymph Node<br>Iliac, Lymphoma Malignant   |             |       |       |       | +     |       |       |       |       |       |       |       |       |       | +     |       |       |       |       |       |          | +     | 122 |

\* .. 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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<br>10 mg/m3             | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |      |   |   |   |    |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|------|---|---|---|----|
|  | 0733        | 0758  | 0773  | 0765  | 0777  | 0757  | 0777  | 0757  | 0777  | 0757  | 0777  | 0766  | 0777  | 0777  | 0777  | 0766  | 0777  | 0757  | 0777  | 0777  |          | 0777 |   |   |   |    |
| ANIMAL ID                                  | 00326       | 00337 | 00338 | 00339 | 00340 | 00341 | 00342 | 00343 | 00344 | 00345 | 00346 | 00347 | 00348 | 00349 | 00350 | 00351 | 00352 | 00353 | 00354 | 00355 | 00356    |      |   |   |   |    |
| Lumbar, Lymphoma Malignant                 |             |       |       | X     |       |       |       |       |       |       |       | X     |       |       |       |       | X     |       |       |       |          | 5    |   |   |   |    |
| Pancreatic, Lymphoma Malignant             |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | X     |       |       |          | 1    |   |   |   |    |
| Renal, Lymphoma Malignant                  |             |       |       | X     |       |       |       |       |       |       |       | X     |       |       |       |       | X     |       |       |       |          | 4    |   |   |   |    |
| Lymph Node, Bronchial Lymphoma Malignant   | M           | M     | +     | +     | M     | +     | +     | +     | M     | M     | +     | M     | +     | +     | +     | M     | +     | +     | M     | +     | M        | +    | + | + | M | 27 |
|  |             |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |      |   |   |   | 2  |
| Lymph Node, Mandibular Lymphoma Malignant  | +           | +     | M     | +     | +     | +     | M     | M     | M     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +    | + | + | + | 42 |
|  |             |       |       | X     |       |       |       |       |       |       |       |       | X     |       |       | X     |       |       |       |       |          |      |   |   |   | 5  |
| Lymph Node, Mediastinal Lymphoma Malignant | +           | +     | +     | +     | +     | M     | +     | +     | +     | +     | M     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +        | +    | + | + | + | 46 |
|  |             |       |       | X     | X     |       |       |       |       |       |       | X     |       |       | X     |       |       |       |       |       |          |      |   | X |   | 13 |
| Lymph Node, Mesenteric Lymphoma Malignant  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +    | + | + | + | 50 |
|  |             |       |       | X     |       |       |       |       |       |       |       | X     |       |       | X     |       |       | X     |       |       |          |      |   |   |   | 8  |
| Spleen                                     | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +    | + | + | + | 50 |
| Hemangiosarcoma                            |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |      |   |   |   | 1  |
| Histiocytic Sarcoma                        |             |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |          |      |   |   |   | 1  |
| Lymphoma Malignant                         |             |       | X     | X     | X     |       |       | X     |       |       |       | X     | X     |       | X     |       | X     |       |       |       |          | X    |   |   |   | 17 |
| Thymus                                     | +           | +     | +     | +     | +     | +     | M     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M        | +    | + | + | + | 46 |
| Lymphoma Malignant                         |             |       |       | X     |       |       |       | X     |       |       |       |       |       |       |       | X     |       |       |       |       |          |      |   | X |   | 8  |

**INTEGUMENTARY SYSTEM**

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland                           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Skin                                    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Subcutaneous Tissue, Fibrosarcoma       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |
| Subcutaneous Tissue, Lymphoma Malignant |   |   | 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  
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Experiment Number: 20515 - 04  
 Test Type: CHRONIC  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>10 mg/m3              | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |      |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|------|
|   | 0733        | 0583  | 0732  | 0655  | 0773  | 0575  | 0775  | 0575  | 0775  | 0575  | 0775  | 0676  | 0777  | 0777  | 0777  | 0676  | 0775  | 0777  | 0777  | 0777  |          | 0777  | 0777 |
| ANIMAL ID                                   | 00026       | 00037 | 00038 | 00039 | 00040 | 00041 | 00042 | 00043 | 00044 | 00045 | 00046 | 00047 | 00048 | 00049 | 00050 | 00051 | 00052 | 00053 | 00054 | 00055 | 00056    | 00057 |      |
| Subcutaneous Tissue, Schwannoma Malignant   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       | 1    |
| <b>MUSCULOSKELETAL SYSTEM</b>               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      |
| Bone  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 50   |
| Skeletal Muscle                             |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       | 3    |
| <b>NERVOUS SYSTEM</b>                       |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      |
| Brain                                       | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 50   |
| Peripheral Nerve                            |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       | 3    |
| Spinal Cord                                 |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       | 3    |
| <b>RESPIRATORY SYSTEM</b>                   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      |
| Larynx                                      | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | I     | +     | +     | +     | +     | +     | +        | +     | 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    |
| Histiocytic Sarcoma                         |             |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |          |       | 1    |
| Lymphoma Malignant                          |             |       | X     | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | X     | 8    |
| Nose  | +           | +     | +     | +     | +     | +     | A     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 49   |
| Trachea                                     | +           | +     | +     | +     | +     | +     | A     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 49   |

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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**  
 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

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

**SPECIAL SENSES SYSTEM**

|                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |   |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|
| Eye             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |   |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |   |
| Adenoma         |   |   |   |   |   |   |   |   |   | X |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6  |   |
| Carcinoma       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 1 |

**URINARY SYSTEM**

|                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|---|
| Kidney             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |    |   |
| Lymphoma Malignant |   |   |   | X |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 6  |   |
| Urethra            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    | 1 |
| Sarcoma            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    | 1 |
| Urinary Bladder    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +  | 50 |   |
| Lymphoma Malignant |   |   |   | X |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 4  |   |

**SYSTEMIC LESIONS**

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|
| Multiple Organ      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |    |
| Histiocytic Sarcoma |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 1  |
| Lymphoma Malignant  |   |   |   | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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

|                           |                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                              |    |
|---------------------------|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------------------------------|----|
| <b>B6C3F1 MICE FEMALE</b> | DAY ON TEST     | 0732 | 0573 | 0773 | 0773 | 0773 | 0476 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0673 | 0773 | 0773 | 0673 | 0773 | 0773 | 0773 | 0773 | <b>females<br/>(cont...)</b> |    |
|                           | <b>30 mg/m3</b> | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 |                              |    |
|                           | ANIMAL ID       | 11   | 22   | 33   | 44   | 55   | 66   | 77   | 88   | 99   | 00   | 11   | 22   | 33   | 44   | 55   | 66   | 77   | 88   | 99   | 00   | 11   | 22   | 33   | 44                           | 55 |

**ALIMENTARY SYSTEM**

|                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Gallbladder<br>Lymphoma Malignant    | M | + | M | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum<br>Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver<br>Hepatocellular Adenoma      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hepatocellular Adenoma, Multiple     | X | X |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   | X |   |   | X | X |   |
| Hepatocellular Carcinoma             |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Histiocytic Sarcoma                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |
| Leiomyosarcoma, Metastatic, Uterus   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymphoma Malignant                   | X |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   | X | X |   |   |   | X |   |   |   |
| Mesentery<br>Hemangiosarcoma         |   | + |   |   | + |   | + | + | + | + | + |   |   |   |   | + | + |   |   |   | + | + |   |   | + |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>(cont...) |      |  |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|------|--|
|   | 0732        | 0736 | 0733 | 0731 | 0772 | 0774 | 0777 | 0778 | 0773 | 0772 | 0773 | 0773 | 0773 | 0773 | 0772 | 0774 | 0771 | 0778 | 0772 | 0773 | 0778 | 0771 | 0773 |                      | 0779 |  |
| <b>30 mg/m3</b>                             | ANIMAL ID   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |
|   | 0050        | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055                 | 0055 |  |
| Lymphoma Malignant                          |             |      |      |      |      |      | X    |      |      |      | X    |      |      |      |      |      |      | X    |      | X    |      |      |      |                      | X    |  |
| Pancreas                                    | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +                    | +    |  |
| Lymphoma Malignant                          |             |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |
| Salivary Glands                             | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +                    | +    |  |
| Stomach, Forestomach                        | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +                    | +    |  |
| Stomach, Glandular                          | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +                    | +    |  |
| Tooth                                       |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |
| <b>CARDIOVASCULAR SYSTEM</b>                |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |
| Blood Vessel                                | +           | +    | +    | +    | +    | +    | M    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +                    | +    |  |
| Heart                                       | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +                    | +    |  |
| Lymphoma Malignant                          |             |      |      |      |      |      | X    |      |      |      |      |      |      |      |      |      | X    |      |      |      |      |      |      |                      |      |  |
| <b>ENDOCRINE SYSTEM</b>                     |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |
| Adrenal Cortex                              | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +                    | +    |  |
| Adenoma                                     |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |
| Hepatocellular Carcinoma, Metastatic, Liver |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |
| Lymphoma Malignant                          |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | X    |      |      |      |      |      |      |                      |      |  |
| Subcapsular, Adenoma                        |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |
| Adrenal Medulla                             | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +                    | +    |  |
| Pheochromocytoma Benign                     |             |      |      |      |      |      |      | X    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |
| Pheochromocytoma Malignant                  |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |      |  |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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Experiment Number: 20515 - 04

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Metal working fluids (CIMSTAR 3800)

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

Lab: BNW

| B6C3F1 MICE FEMALE<br>30 mg/m3 | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | females<br>(cont...) |
|--------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
|                                | 0732        | 0736 | 0733 | 0731 | 0733 | 0733 | 0736 | 0733 | 0733 | 0732 | 0733 | 0732 | 0733 | 0732 | 0734 | 0731 | 0738 | 0732 | 0733 | 0738 | 0731 | 0733 | 0739 |           |                      |
|                                | 0           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0050      | females<br>(cont...) |
|                                | 0           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0055      |                      |
|                                | 0           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0055      |                      |
|                                | 0           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0055      |                      |
|                                | 0           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0055      |                      |

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Islets, Pancreatic<br>Adenoma<br>Lymphoma Malignant                   | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + |   |   |
| Parathyroid Gland   | M | + | M | M | M | M | + | M | + | + | + | M | + | + | M | M | M | + | M | M | M | + | + | + | M |
| Pituitary Gland<br>Pars Distalis, Adenoma<br>Pars Intermedia, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Thyroid Gland<br>Lymphoma Malignant                                   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland  | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + |
| Ovary<br>Cystadenocarcinoma<br>Leiomyosarcoma, Metastatic, Uterus<br>Lymphoma Malignant | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Uterus<br>Carcinoma<br>Leiomyosarcoma<br>Lymphoma Malignant                             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
 + .. Tissue examined microscopically  
 X .. Lesion present  
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| B6C3F1 MICE FEMALE | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | females<br>(cont...) |
|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
|                    | 0<br>7<br>3<br>2      | 0<br>5<br>7<br>6      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>2      | 0<br>4<br>6<br>0      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>2      | 0<br>6<br>9<br>1      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>3      | 0<br>6<br>0<br>8      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>3      | 0<br>7<br>0<br>9      | 0<br>7<br>3<br>2      |                       |                       |                      |
| 30 mg/m3           | ANIMAL ID             |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                      |
|                    | 0<br>0<br>5<br>0<br>1 | 0<br>0<br>5<br>0<br>2 | 0<br>0<br>5<br>0<br>3 | 0<br>0<br>5<br>0<br>4 | 0<br>0<br>5<br>0<br>5 | 0<br>0<br>5<br>0<br>6 | 0<br>0<br>5<br>0<br>7 | 0<br>0<br>5<br>0<br>8 | 0<br>0<br>5<br>0<br>9 | 0<br>0<br>5<br>0<br>0 | 0<br>0<br>5<br>0<br>1 | 0<br>0<br>5<br>0<br>2 | 0<br>0<br>5<br>0<br>3 | 0<br>0<br>5<br>0<br>4 | 0<br>0<br>5<br>0<br>5 | 0<br>0<br>5<br>0<br>6 | 0<br>0<br>5<br>0<br>7 | 0<br>0<br>5<br>0<br>8 | 0<br>0<br>5<br>0<br>9 | 0<br>0<br>5<br>0<br>0 | 0<br>0<br>5<br>0<br>1 | 0<br>0<br>5<br>0<br>2 | 0<br>0<br>5<br>0<br>3 | 0<br>0<br>5<br>0<br>4 | 0<br>0<br>5<br>0<br>5 |                      |
| Polyp Stromal      | X                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | X                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                      |

**HEMATOPOIETIC SYSTEM**

|                                   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bone Marrow                       | +     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymphoma Malignant                | X   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymph Node                        | +     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Axillary, Lymphoma Malignant      | X   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Deep Cervical, Lymphoma Malignant | X   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iliac, Lymphoma Malignant         | X   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lumbar, Lymphoma Malignant        | X   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pancreatic, Lymphoma Malignant    | X   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Renal, Lymphoma Malignant         | X   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymph Node, Bronchial             | + + + + + M + M M + M M M + + M M + + M M + + +       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymphoma Malignant                | X     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymph Node, Mandibular            | + + + + M + + + + + + + + + + + M + + + + + + +       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymphoma Malignant                | X     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymph Node, Mediastinal           | + M + + M + + + + + M + + + M + + + + + + + + + + +   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymphoma Malignant                | X     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymph Node, Mesenteric            | + + + + + M + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymphoma Malignant                | X     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Spleen                            | + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymphoma Malignant                | X     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Thymus                            | + + + + + M + + + + 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  
 A .. Autolysis precludes evaluation  
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|                           |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>B6C3F1 MICE FEMALE</b> | DAY ON TEST | 0732  | 0736  | 0731  | 0733  | 0731  | 0732  | 0730  | 0738  | 0739  | 0730  | 0731  | 0732  | 0733  | 0734  | 0735  | 0736  | 0737  | 0738  | 0739  | 0740  | 0741  | 0742  | 0743  | 0744  | 0745  |
|                           | ANIMAL ID   | 00501 | 00502 | 00503 | 00504 | 00505 | 00506 | 00507 | 00508 | 00509 | 00510 | 00511 | 00512 | 00513 | 00514 | 00515 | 00516 | 00517 | 00518 | 00519 | 00520 | 00521 | 00522 | 00523 | 00524 | 00525 |

females (cont...)

|                    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |   |
|--------------------|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|---|
| Lymphoma Malignant |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |   |
| Thymoma Benign     |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  | X |

**INTEGUMENTARY SYSTEM**

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|---|
| Mammary Gland Carcinoma                        | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |   |  |   |
| Skin Subcutaneous Tissue, Fibrosarcoma         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |   |
| Skin Subcutaneous Tissue, Schwannoma Malignant |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  | X |

**MUSCULOSKELETAL SYSTEM**

|                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |   |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|---|
| Bone            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |  |   |
| Skeletal Muscle |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  | + |

**NERVOUS SYSTEM**

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

**RESPIRATORY SYSTEM**

|                                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Larynx                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |  |
| Lung Alveolar/Bronchiolar 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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

| B6C3F1 MICE FEMALE<br>30 mg/m3              | DAY ON TEST |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          | ANIMAL ID | females<br>(cont...) |          |
|---|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------------------|----------|
|   | 07<br>32    | 05<br>76 | 07<br>33 | 07<br>31 | 07<br>71 | 07<br>72 | 07<br>73 | 07<br>74 | 07<br>75 | 07<br>76 | 07<br>77 | 07<br>78 | 07<br>79 | 07<br>70 | 07<br>71 | 07<br>72 | 07<br>73 | 07<br>74 | 06<br>75 | 07<br>76 |           |                      | 07<br>77 |
| Alveolar/Bronchiolar Carcinoma              |             |          |          |          |          |          | X        | X        |          |          |          |          |          |          | X        |          |          |          |          |          |           |                      |          |
| Carcinoma, Metastatic, Mammary Gland        |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          | X        |          |           |                      |          |
| Hepatocellular Carcinoma, Metastatic, Liver |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |                      |          |
| Lymphoma Malignant                          |             |          |          |          |          |          | X        |          |          |          |          |          |          |          | X        |          |          | X        | X        |          |           |                      |          |
| Schwannoma Malignant, Metastatic, Skin      |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           | X                    |          |
| Nose  | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +         | +                    | +        |
| Carcinoma, Metastatic, Harderian Gland      |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |                      |          |
| Trachea                                     | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +         | +                    | +        |
| <b>SPECIAL SENSES SYSTEM</b>                |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |                      |          |
| Eye   | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +         | +                    | +        |
| Carcinoma, Metastatic, Harderian Gland      |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |                      |          |
| Harderian Gland                             | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +         | +                    | +        |
| Adenoma                                     |             |          |          |          |          |          |          |          |          |          |          |          |          |          | X        | X        |          |          |          |          |           |                      |          |
| Carcinoma                                   |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |                      |          |
| <b>URINARY SYSTEM</b>                       |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |                      |          |
| Kidney                                      | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +         | +                    | +        |
| Lymphoma Malignant                          |             |          |          |          |          |          |          |          |          |          |          |          |          |          | X        | X        |          |          | X        |          |           |                      |          |
| Ureter                                      |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           | +                    |          |
| Lymphoma Malignant                          |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          | X         |                      |          |
| Urinary Bladder                             | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +         | +                    | +        |
| Lymphoma Malignant                          |             |          | 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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

|  |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>B6C3F1 MICE FEMALE</b><br><b>30 mg/m3</b> | DAY ON TEST | 0732 | 0563 | 0771 | 0771 | 0774 | 0777 | 0778 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0678 | 0773 | 0773 | 0678 | 0773 | 0773 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 |      |      |      |
|  | ANIMAL ID   | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 | 0050 |

**SYSTEMIC LESIONS**

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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

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

### ALIMENTARY SYSTEM

|                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |         |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|
| Esophagus                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50      |
| Gallbladder<br>Lymphoma Malignant    | + | + | + | M | + | + | + | + | + | + | + | + | M | M | M | + | M | + | + | M | + | + | + | + | + | 41<br>3 |
| Intestine Large, Cecum               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | 49      |
| Intestine Large, Colon               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | 49      |
| Intestine Large, Rectum              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50      |
| Intestine Small, Duodenum<br>Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50<br>1 |
| Intestine Small, Ileum               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | 49      |
| Intestine Small, Jejunum             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + | + | + | 48      |
| Liver<br>Hepatocellular Adenoma      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50<br>9 |
| Hepatocellular Adenoma, Multiple     |   |   | X |   |   | X |   |   |   |   |   |   | X |   |   |   | X |   |   |   | X |   |   |   |   | 5       |
| Hepatocellular Carcinoma             |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2       |
| Histiocytic Sarcoma                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1       |
| Leiomyosarcoma, Metastatic, Uterus   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1       |
| Lymphoma Malignant                   |   |   |   |   |   |   | X | X |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   | 8       |
| Mesentery<br>Hemangiosarcoma         |   |   |   |   | + | + | + | + |   | + |   |   |   |   |   | + |   |   |   | + | + |   | + |   |   | 21<br>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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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<br><br>30 mg/m3          | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |           | * TOTALS  |  |  |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|-----------|--|--|
|   | 0733        | 0731  | 0681  | 0771  | 0772  | 0773  | 0775  | 0667  | 0664  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0579  | 0773  | 0771  | 0572      |           |  |  |
| ANIMAL ID                                   | 00526       | 00552 | 00552 | 00552 | 00553 | 00553 | 00553 | 00553 | 00553 | 00555 | 00556 | 00557 | 00558 | 00559 | 00560 | 00561 | 00562 | 00563 | 00564 | 00565 | 00566 | 00567 | 00568 | 00569     | 00570     |  |  |
| Lymphoma Malignant                          |             |       |       | X     | X     | X     |       |       |       |       |       |       |       |       |       |       |       |       |       | X     |       | X     |       |           | <b>10</b> |  |  |
| Pancreas                                    | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +         | <b>50</b> |  |  |
| Lymphoma Malignant                          |             |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |           | <b>3</b>  |  |  |
| Salivary Glands                             | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +         | <b>50</b> |  |  |
| Stomach, Forestomach                        | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +         | <b>50</b> |  |  |
| Stomach, Glandular                          | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +         | <b>50</b> |  |  |
| Tooth                                       |             |       |       | +     |       |       |       |       |       |       |       |       |       | +     |       |       |       |       |       |       |       |       |       |           | <b>2</b>  |  |  |
| <b>CARDIOVASCULAR SYSTEM</b>                |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |           |           |  |  |
| Blood Vessel                                | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +         | <b>49</b> |  |  |
| Heart                                       | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +         | <b>50</b> |  |  |
| Lymphoma Malignant                          |             |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | <b>3</b>  |           |  |  |
| <b>ENDOCRINE SYSTEM</b>                     |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |           |           |  |  |
| Adrenal Cortex                              | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +         | <b>50</b> |  |  |
| Adenoma                                     |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       | <b>1</b>  |           |  |  |
| Hepatocellular Carcinoma, Metastatic, Liver |             |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | <b>1</b>  |           |  |  |
| Lymphoma Malignant                          |             |       |       |       |       | X     | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | <b>3</b>  |           |  |  |
| Subcapsular, Adenoma                        |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | X     |       | <b>1</b>  |           |  |  |
| Adrenal Medulla                             | +           | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | <b>49</b> |           |  |  |
| Pheochromocytoma Benign                     |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | <b>1</b>  |           |  |  |
| Pheochromocytoma Malignant                  |             |       |       |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       | <b>1</b>  |           |  |  |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>30 mg/m3  | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS     |   |   |              |   |                   |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|---|---|--------------|---|-------------------|
|   | 0733        | 0733  | 0681  | 0731  | 0733  | 0733  | 0700  | 0675  | 0667  | 0664  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  | 0733  |              |   |   |              |   |                   |
| ANIMAL ID   | 00526       | 00527 | 00528 | 00529 | 00530 | 00531 | 00532 | 00533 | 00534 | 00535 | 00536 | 00537 | 00538 | 00539 | 00540 | 00541 | 00542 | 00543 | 00544 | 00545 | 00546 | 00547 |              |   |   |              |   |                   |
| Islets, Pancreatic<br>Adenoma<br>Lymphoma Malignant                                     | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50<br>1<br>1 |   |   |              |   |                   |
| Parathyroid Gland   | +           | M     | M     | M     | +     | M     | +     | +     | M     | M     | M     | M     | M     | M     | +     | +     | M     | +     | +     | +     | M     | M     | +            | M | + | 22           |   |                   |
| Pituitary Gland<br>Pars Distalis, Adenoma<br>Pars Intermedia, Adenoma                   | +           | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +            | + | + | 49<br>6<br>2 |   |                   |
| Thyroid Gland<br>Lymphoma Malignant   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +            | + | + | 50<br>1      |   |                   |
| <b>GENERAL BODY SYSTEM</b>  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |              |   |   |              |   |                   |
| NONE  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |              |   |   |              |   |                   |
| <b>GENITAL SYSTEM</b>   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |              |   |   |              |   |                   |
| Clitoral Gland  | +           | +     | +     | +     | +     | M     | M     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +            | M | + | +            | M | 43                |
| Ovary<br>Cystadenocarcinoma<br>Leiomyosarcoma, Metastatic, Uterus<br>Lymphoma Malignant | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +            | + | + | +            | M | 48<br>1<br>1<br>5 |
| Uterus<br>Carcinoma<br>Leiomyosarcoma<br>Lymphoma Malignant                             | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +            | + | + | +            | + | 50<br>1<br>1<br>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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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 |      |
|--------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|------|
|                    | 0733        | 0731  | 0678  | 0773  | 0773  | 0773  | 0773  | 0676  | 0676  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  | 0776  |          | 0776 |
| 30 mg/m3           | 00526       | 00527 | 00528 | 00529 | 00530 | 00531 | 00532 | 00533 | 00534 | 00535 | 00536 | 00537 | 00538 | 00539 | 00540 | 00541 | 00542 | 00543 | 00544 | 00545 | 00546 | 00547 | 00548 | 00549 | 00550    | 2    |

Polyp Stromal

2

HEMATOPOIETIC SYSTEM

|                                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow                       | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymphoma Malignant                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |
| Lymph Node                        |   |   | + |   |   |   | + | + |   |   |   |   |   | + |   |   | + | + |   |   |   |   |   |   |   | 16 |
| Axillary, Lymphoma Malignant      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2  |
| Deep Cervical, Lymphoma Malignant |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |
| Iliac, Lymphoma Malignant         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6  |
| Lumbar, Lymphoma Malignant        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5  |
| Pancreatic, Lymphoma Malignant    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2  |
| Renal, Lymphoma Malignant         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10 |
| Lymph Node, Bronchial             | M | + | + | M | + | M | + | M | M | M | + | + | + | + | + | + | M | M | + | + | + | M | M | M | M | 28 |
| Lymphoma Malignant                |   |   |   | X |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10 |
| Lymph Node, Mandibular            | + | + | + | + | + | + | + | + | + | M | + | + | + | M | M | + | + | + | + | + | + | + | M | M | + | 43 |
| Lymphoma Malignant                |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6  |
| Lymph Node, Mediastinal           | + | M | + | + | + | + | + | + | + | + | + | + | M | + | + | M | M | + | + | + | + | + | + | M |   | 40 |
| Lymphoma Malignant                |   |   |   |   |   |   |   |   |   | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 12 |
| Lymph Node, Mesenteric            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Lymphoma Malignant                |   |   |   |   |   |   |   |   |   | X | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   | 10 |
| Spleen                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymphoma Malignant                |   |   |   |   |   |   |   |   |   | X | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   | 16 |
| Thymus                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>30 mg/m3            | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |       |       |       |    |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|----|
|   | 0733        | 0731  | 0678  | 0773  | 0773  | 0773  | 0773  | 0666  | 0666  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  |          | 0575  | 0773  | 0775  |       |    |
| ANIMAL ID                                 | 00526       | 00527 | 00528 | 00529 | 00530 | 00531 | 00532 | 00533 | 00534 | 00535 | 00536 | 00537 | 00538 | 00539 | 00540 | 00541 | 00542 | 00543 | 00544 | 00545 | 00546    | 00547 | 00548 | 00549 | 00550 |    |
| Lymphoma Malignant                        |             |       |       |       |       |       |       | X     | X     |       |       |       |       |       |       |       |       |       |       |       | X        |       |       |       |       | 7  |
| Thymoma Benign                            |             |       |       |       |       |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |          |       | X     |       |       | 1  |
| <b>INTEGUMENTARY SYSTEM</b>               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |    |
| Mammary Gland Carcinoma                   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 50 |
|   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | X     |       |       |       | 2  |
| Skin                                      | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 50 |
| Subcutaneous Tissue, Fibrosarcoma         |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       | X     | 1  |
| Subcutaneous Tissue, Schwannoma Malignant |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       | 1  |
| <b>MUSCULOSKELETAL SYSTEM</b>             |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |    |
| Bone                                      | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 50 |
| Skeletal Muscle                           |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       | 1  |
| <b>NERVOUS SYSTEM</b>                     |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |    |
| Brain                                     | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 50 |
| Peripheral Nerve                          |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       | 1  |
| Spinal Cord                               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       | 1  |
| <b>RESPIRATORY SYSTEM</b>                 |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |    |
| Larynx                                    | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 50 |
| Lung                                      | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 50 |
| Alveolar/Bronchiolar 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>100 mg/m3  | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | females<br>(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
|  | 0733        | 0733 | 0733 | 0593 | 0733 | 0773 | 0423 | 0563 | 0653 | 0643 | 0573 | 0773 | 0773 | 0773 | 0773 | 0773 | 0773 | 0667 | 0771 | 0771 | 0773 | 0573 | 0773 | 0773 | 0575 |                      |
| 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 | 0070 |                      |
| Lymphoma Malignant   |             |      |      |      |      |      |      |      |      |      | X    |      |      |      |      |      |      |      |      |      |      |      |      | X    |      |                      |
| Adrenal Medulla<br>Lymphoma Malignant  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Islets, Pancreatic<br>Adenoma<br>Lymphoma Malignant                                  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | M    |                      |
| Parathyroid Gland  | +           | M    | M    | M    | +    | +    | M    | +    | +    | +    | +    | M    | +    | M    | +    | M    | +    | M    | M    | M    | +    | +    | +    | M    | +    |                      |
| Pituitary Gland<br>Meningioma Malignant, Metastatic, Brain<br>Pars Distalis, Adenoma | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Thyroid Gland<br>C-cell, Adenoma<br>Follicular Cell, Carcinoma                       | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

|                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland              | + | + | + | + | + | + | + | M | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + |
| Ovary<br>Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Uterus                      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>100 mg/m3                            | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |       |      |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|------|
|  | 0732        | 0733  | 0732  | 0731  | 0733  | 0738  | 0736  | 0739  | 0733  | 0732  | 0732  | 0731  | 0732  | 0733  | 0733  | 0733  | 0733  | 0733  | 0734  | 0731  | 0732  | 0739  | 0733  | 0732  |          | 0732  | 0738  | 0733 |
| ANIMAL ID  | 00726       | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707    | 00707 | 00707 |      |
| Lymphoma Malignant   |             |       |       |       | X     | X     |       |       |       |       | X     | X     | X     |       | X     |       |       |       |       |       |       |       | X     |       | X        |       | 11    |      |
| Mesentery  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 15   |
| Lymphoma Malignant   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 6    |
| Fat, Leiomyosarcoma, Metastatic, Intestine Small, Duodenum |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 1    |
| Pancreas   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 50   |
| Leiomyosarcoma, Metastatic, Intestine Small, Duodenum      |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 1    |
| Lymphoma Malignant   |             |       |       |       |       | X     |       |       |       |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |          |       |       | 7    |
| Salivary Glands  | M           |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 49   |
| Lymphoma Malignant   |             |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 1    |
| Stomach, Forestomach                                       |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 50   |
| Squamous Cell Papilloma                                    |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 1    |
| Stomach, Glandular   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 50   |
| Tooth  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 4    |
| <b>CARDIOVASCULAR SYSTEM</b>                               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |      |
| Blood Vessel   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 44   |
| Heart  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 50   |
| <b>ENDOCRINE SYSTEM</b>                                    |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |      |
| Adrenal Cortex   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>100 mg/m3  | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS     |         |    |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|---------|----|
|  | 0732        | 0733  | 0732  | 0731  | 0733  | 0738  | 0736  | 0739  | 0733  | 0732  | 0732  | 0731  | 0732  | 0733  | 0733  | 0733  | 0733  | 0734  | 0731  | 0732  | 0739  | 0733  | 0732  | 0732  | 0738  |              | 0731    |    |
| ANIMAL ID  | 00726       | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707 | 00707        |         |    |
| Lymphoma Malignant   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 2            |         |    |
| Adrenal Medulla<br>Lymphoma Malignant  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50<br>2      |         |    |
| Islets, Pancreatic<br>Adenoma<br>Lymphoma Malignant                                  | +           | +     | +     | +     | +     | X     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 49<br>1<br>1 |         |    |
| Parathyroid Gland  | M           | +     | +     | M     | +     | +     | +     | +     | M     | M     | M     | M     | M     | M     | +     | +     | M     | +     | M     | M     | M     | +     | +     | M     | M     | 25           |         |    |
| Pituitary Gland<br>Meningioma Malignant, Metastatic, Brain<br>Pars Distalis, Adenoma | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50<br>1<br>9 |         |    |
| Thyroid Gland<br>C-cell, Adenoma<br>Follicular Cell, Carcinoma                       | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50<br>1<br>3 |         |    |
| <b>GENERAL BODY SYSTEM</b>   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |              |         |    |
| NONE   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |              |         |    |
| <b>GENITAL SYSTEM</b>  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |              |         |    |
| Clitoral Gland   | +           | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | M     | +            | M       | 44 |
| Ovary<br>Lymphoma Malignant  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +            | 50<br>7 |    |
| Uterus   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +            | 50      |    |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
 + .. Tissue examined microscopically  
 X .. Lesion present  
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Experiment Number: 20515 - 04  
 Test Type: CHRONIC  
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P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 Metal working fluids (CIMSTAR 3800)  
 CAS Number: CIMSTAR3800

Date Report Requested: 03/08/2013  
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 Lab: BNW

| B6C3F1 MICE FEMALE<br>100 mg/m3 | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |
|---------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|                                 | 0732        | 0733  | 0732  | 0731  | 0663  | 0668  | 0669  | 0673  | 0677  | 0672  | 0677  | 0673  | 0673  | 0673  | 0673  | 0673  | 0664  | 0671  | 0672  | 0669  | 0673  | 0672  | 0668  | 0673  |          |
| ANIMAL ID                       | 00726       | 00707 | 00708 | 00709 | 00700 | 00701 | 00702 | 00703 | 00704 | 00705 | 00706 | 00707 | 00708 | 00709 | 00710 | 00711 | 00712 | 00713 | 00714 | 00715 | 00716 | 00717 | 00718 | 00719 |          |
| Lymphoma Malignant              | X           |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | X     | 2        |

**HEMATOPOIETIC SYSTEM**

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|
| Bone Marrow                                   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |    |
| Lymphoma Malignant                            |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |    |
| Lymph Node                                    | + |   | + | + | + |   |   |   | + |   |   |   |   | + |   |   |   |   |   |   |   |   |   |   | 10 |    |
| Axillary, Lymphoma Malignant                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |    |
| Deep Cervical, Lymphoma Malignant             |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2  |    |
| Iliac, Histiocytic Sarcoma                    |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |    |
| Lumbar, Lymphoma Malignant                    |   |   |   |   | X | X |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   | 5  |    |
| Pancreatic, Histiocytic Sarcoma               |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |    |
| Pancreatic, Lymphoma Malignant                |   |   |   |   |   | X |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   | 4  |    |
| Renal, Hemangiosarcoma                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |    |
| Renal, Histiocytic Sarcoma                    |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |    |
| Renal, Lymphoma Malignant                     | X |   |   |   | X | X |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   | 4  |    |
| Lymph Node, Bronchial                         | M | M | M | M | + | + | M | M | + | M | M | M | + | M | M | + | + | M | M | + | M | + | M | M | M  | 27 |
| Carcinoma, Metastatic, Uncertain Primary Site |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |    | 1  |
| Lymphoma Malignant                            |   |   |   |   | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |    | 6  |
| Lymph Node, Mandibular                        | M | + | + | M | + | + | + | M | + | + | + | + | M | + | + | M | + | M | M | + | + | M | M | + | M  | 35 |
| Hemangiosarcoma                               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |    | 1  |
| Lymphoma Malignant                            |   |   |   |   | X | X |   |   |   |   |   | X | X |   |   |   |   |   |   |   |   |   |   | X |    | 11 |
| Lymph Node, Mediastinal                       | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +  | 47 |
| Histiocytic Sarcoma                           |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 1  |
| Lymphoma Malignant                            |   |   |   |   | X | X |   |   |   |   |   |   | X | X |   |   | X | X |   |   |   |   | X |   | X  | 13 |
| Lymph Node, Mesenteric                        | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +  | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>100 mg/m3                         | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |      |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|------|
|   | 0732        | 0733  | 0732  | 0731  | 0733  | 0738  | 0739  | 0733  | 0732  | 0732  | 0731  | 0732  | 0733  | 0733  | 0733  | 0733  | 0733  | 0734  | 0731  | 0732  | 0739  | 0733  | 0732  | 0732  |          | 0738  | 0733 |
| ANIMAL ID   | 00726       | 00707 | 00708 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700    | 00700 |      |
| Histiocytic Sarcoma                                     |             |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | 1     |      |
| Lymphoma Malignant                                      |             |       |       |       | X     | X     |       |       |       |       | X     | X     | X     |       | X     |       |       |       |       |       |       |       | X     |       |          | 11    |      |
| Spleen  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | 49    |      |
| Histiocytic Sarcoma                                     |             |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | 1     |      |
| Lymphoma Malignant                                      | X           |       |       |       | X     | X     |       |       |       |       | X     | X     | X     |       | X     | X     | X     |       |       | X     |       |       | X     | X     | X        | 20    |      |
| Thymus  | +           | +     | +     | +     | +     | M     | M     | +     | +     | I     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +        | 45    |      |
| Lymphoma Malignant                                      |             |       |       |       | X     |       |       |       |       |       | X     |       |       |       | X     | X     |       |       |       |       |       |       |       | X     |          | 8     |      |
| <b>INTEGUMENTARY SYSTEM</b>                             |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      |
| Mammary Gland   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | 50    |      |
| Adenoma   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | 1     |      |
| Carcinoma   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | 1     |      |
| Skin  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | 50    |      |
| Rhabdomyosarcoma, Metastatic, Skeletal Muscle           |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | 1     |      |
| Subcutaneous Tissue, Fibrosarcoma                       |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | 1     |      |
| <b>MUSCULOSKELETAL SYSTEM</b>                           |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      |
| Bone  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | 50    |      |
| Vertebra, Rhabdomyosarcoma, Metastatic, Skeletal Muscle |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | 1     |      |
| Skeletal Muscle   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | 4     |      |
| Leiomyosarcoma, Metastatic, Intestine Small, Duodenum   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | X     |          | 1     |      |
| Rhabdomyosarcoma  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          | 1     |      |

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 + .. 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 FEMALE<br>100 mg/m3 | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |  |
|---------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--|
|                                 | 0732        | 0733  | 0732  | 0731  | 0763  | 0768  | 0769  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  |          |  |
| ANIMAL ID                       | 00726       | 00727 | 00728 | 00729 | 00730 | 00731 | 00732 | 00733 | 00734 | 00735 | 00736 | 00737 | 00738 | 00739 | 00740 | 00741 | 00742 | 00743 | 00744 | 00745 | 00746 | 00747 | 00748 | 00749 | 00750 |          |  |
| Carcinoma                       |             |       |       | X     |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 2     |          |  |
| <b>URINARY SYSTEM</b>           |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |  |
| Kidney                          | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50    |          |  |
| Lymphoma Malignant              | X           |       |       |       | X     |       |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       | X     | 8     |          |  |
| Urinary Bladder                 | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50    |          |  |
| Lymphoma Malignant              |             |       |       |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 2     |          |  |
| <b>SYSTEMIC LESIONS</b>         |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |  |
| Multiple Organ                  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50    |          |  |
| Histiocytic Sarcoma             |             |       | X     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1     |          |  |
| Lymphoma Malignant              | X           |       |       |       | X     | X     |       |       |       |       | X     | X     | X     |       | X     | X     | X     |       | X     |       |       | X     | X     | X     | 20    |          |  |

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

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