APPENDIX A
SUMMARY OF LESIONS IN MALE MICE IN THE 2-YEAR INHALATION STUDY OF 1,3-BUTADIENE

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TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene[a]

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
Disposition Summary						
Animals initially in study	70	70	70	70	70	90
9-Month interim evaluation	10	10	10	10	10	10
15-Month interim evaluation	10	10	10	10	10	7
Early deaths						
Accidental deaths						1
Moribund	9	6	15	15	23	33
Natural deaths	6	5	11	12	23	39
Survivors						
Died last week of study					1	
Terminal sacrifice	35	39	24	22	3	
Missing				1		
Animals examined microscopically	70	70	70	69	70	90
9-Month Interim Evaluation						
Alimentary System						
Liver	(10)	(1)	(2)	(2)	(10)	(10)
Hepatocellular adenoma	4 (40%)		1 (50%)		1 (10%)	1 (10%)
Lymphoma malignant lymphocytic						1 (10%)
Stomach, forestomach	(10)			(2)	(10)	(10)
Squamous cell papilloma						1 (10%)
Cardiovascular System						
None						
Endocrine System						
None						
General Body System						
None						
Genital System						
None						
Hematopoietic System						
Bone marrow	(10)				(10)	(10)
Lymphoma malignant lymphocytic						1 (10%)
Lymph node, mandibular	(7)				(7)	(5)
Lymphoma malignant lymphocytic						1 (20%)
Lymph node, mesenteric	(10)				(10)	(9)
Lymphoma malignant lymphocytic						1 (11%)
Spleen	(10)				(10)	(10)
Lymphoma malignant lymphocytic						1 (10%)

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
9-Month Interim Evaluation (continued)						
Integumentary System						
None						
Musculoskeletal System						
None						
Nervous System						
None						
Respiratory System						
Lung	(10)	(1)	(2)	(10)	(10)	(10)
Alveolar/bronchiolar adenoma		1 (100%)	1 (50%)		2 (20%)	1 (10%)
Alveolar/bronchiolar adenoma, multiple						1 (10%)
Alveolar/bronchiolar carcinoma	1 (10%)					1 (10%)
Special Senses System						
None						
Urinary System						
None						
Systemic Lesions						
Multiple organs[b]	(10)	(10)	(10)	(10)	(10)	(10)
Lymphoma malignant lymphocytic						1 (10%)
15-Month Interim Evaluation						
Alimentary System						
Intestine small, ileum	(10)					(7)
Lymphoma malignant lymphocytic						1 (14%)
Intestine small, jejunum	(10)					(7)
Lymphoma malignant lymphocytic						1 (14%)
Liver	(10)	(10)	(9)	(10)	(10)	(7)
Hepatocellular carcinoma		1 (10%)			1 (10%)	2 (29%)
Hepatocellular carcinoma, multiple						1 (14%)
Hepatocellular adenoma	1 (10%)		4 (44%)	3 (30%)	3 (30%)	
Hepatocellular adenoma, multiple	1 (10%)				1 (10%)	3 (43%)
Lymphoma malignant lymphocytic						2 (29%)
Mast cell tumor NOS, metastatic, bone marrow					1 (10%)	
Mesentery					(1)	(2)
Fat, squamous cell carcinoma, metastatic, stomach						1 (50%)
Pancreas	(10)			(10)	(10)	(7)
Acinus, lymphoma malignant lymphocytic						1 (14%)

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
15-Month Interim Evaluation (continued)						
Alimentary System (continued)						
Pharynx						(1)
Squamous cell papilloma						1 (100%)
Salivary glands	(10)					(7)
Lymphoma malignant lymphocytic						1 (14%)
Stomach, forestomach	(10)		(10)	(10)	(10)	(7)
Lymphoma malignant lymphocytic						1 (14%)
Mast cell tumor NOS, metastatic, bone marrow					1 (10%)	
Squamous cell carcinoma					1 (10%)	2 (29%)
Squamous cell papilloma						1 (14%)
Stomach, glandular	(10)		(10)	(10)	(10)	(7)
Lymphoma malignant lymphocytic						1 (14%)
Squamous cell carcinoma, metastatic, stomach						1 (14%)
Cardiovascular System						
Heart	(10)	(1)	(10)	(10)	(10)	(7)
Hemangiosarcoma					1 (10%)	3 (43%)
Endocrine System						
None						
General Body System						
None						
Genital System						
Testes	(10)		(1)		(10)	(7)
Lymphoma malignant lymphocytic						1 (14%)
Hematopoietic System						
Bone marrow	(10)			(10)	(10)	(7)
Lymphoma malignant lymphocytic						1 (14%)
Mast cell tumor NOS					1 (10%)	
Lymph node	(10)			(9)	(10)	(7)
Iliac, lymphoma malignant lymphocytic						1 (14%)
Lymph node, mandibular	(9)			(4)	(7)	(4)
Lymphoma malignant lymphocytic						2 (50%)
Lymph node, mediastinal	(6)			(7)	(4)	(6)
Lymphoma malignant lymphocytic						2 (33%)
Lymph node, mesenteric	(9)			(9)	(9)	(7)
Lymphoma malignant lymphocytic						2 (29%)
Spleen	(10)		(1)	(10)	(10)	(7)
Lymphoma malignant lymphocytic						2 (29%)
Mast cell tumor NOS, metastatic, bone marrow					1 (10%)	

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
15-Month Interim Evaluation (continued)						
Hematopoietic System (continued)						
Thymus	(9)			(10)	(10)	(6)
Lymphoma malignant lymphocytic						2 (33%)
Mast cell tumor NOS, metastatic, bone marrow					1 (10%)	
Integumentary System						
None						
Musculoskeletal System						
Skeletal muscle						(1)
Diaphragm, squamous cell carcinoma, metastatic, stomach						1 (100%)
Nervous System						
None						
Respiratory System						
Lung	(10)	(1)	(10)	(10)	(10)	(7)
Adenocarcinoma						1 (14%)
Alveolar/bronchiolar adenoma				1 (10%)	1 (10%)	3 (43%)
Alveolar/bronchiolar adenoma, multiple					2 (20%)	2 (29%)
Alveolar/bronchiolar carcinoma				1 (10%)	2 (20%)	1 (14%)
Hemangiosarcoma, metastatic, heart					1 (10%)	
Lymphoma malignant lymphocytic						2 (29%)
Special Senses System						
Harderian gland	(10)	(10)	(10)	(10)	(10)	(7)
Adenoma			2 (20%)	4 (40%)	2 (20%)	2 (29%)
Bilateral, adenoma					1 (10%)	1 (14%)
Urinary System						
Kidney	(10)	(3)	(4)	(2)	(10)	(7)
Adenoma						1 (14%)
Lymphoma malignant lymphocytic						1 (14%)
Mast cell tumor NOS, metastatic, bone marrow					1 (10%)	
Urinary bladder	(10)				(1)	(7)
Lymphoma malignant lymphocytic						1 (14%)
Systemic Lesions						
Multiple organs	(10)	(10)	(10)	(10)	(10)	(7)
Lymphoma malignant lymphocytic						2 (29%)

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
Year Study						
Alimentary System						
Gallbladder	(44)	(47)	(39)	(36)	(32)	(42)
Lymphoma malignant lymphocytic				1 (3%)		3 (7%)
Intestine small, duodenum	(47)	(46)	(42)	(44)	(37)	(51)
Histiocytic sarcoma				1 (2%)		
Lymphoma malignant lymphocytic	1 (2%)					4 (8%)
Intestine small, ileum	(48)	(48)	(43)	(46)	(37)	(51)
Lymphoma malignant histiocytic				1 (2%)		
Lymphoma malignant lymphocytic						2 (4%)
Intestine small, jejunum	(48)	(46)	(43)	(44)	(33)	(48)
Carcinoma		1 (2%)	1 (2%)	1 (2%)	2 (6%)	
Lymphoma malignant lymphocytic						3 (6%)
Lymphoma malignant mixed		1 (2%)	1 (2%)			
Liver	(50)	(50)	(50)	(48)	(48)	(72)
Hemangioma				1 (2%)		
Hemangiosarcoma		2 (4%)				
Hemangiosarcoma, metastatic, heart				3 (6%)	9 (19%)	3 (4%)
Hepatocellular carcinoma	8 (16%)	12 (24%)	10 (20%)	11 (23%)	17 (35%)	1 (1%)
Hepatocellular carcinoma, multiple	3 (6%)	4 (8%)	6 (12%)	6 (13%)	9 (19%)	
Hepatocellular adenoma	12 (24%)	12 (24%)	11 (22%)	11 (23%)	18 (36%)	5 (7%)
Hepatocellular adenoma, multiple	1 (2%)	1 (2%)	8 (16%)	5 (10%)	6 (13%)	
Hepatocholangiocarcinoma	1 (2%)				1 (2%)	
Histiocytic sarcoma			4 (8%)	5 (10%)	7 (15%)	4 (6%)
Lymphoma malignant lymphocytic	2 (4%)		2 (4%)	2 (4%)	2 (4%)	39 (54%)
Lymphoma malignant mixed						1 (1%)
Sarcoma, metastatic, skin	1 (2%)					
Squamous cell carcinoma, metastatic, stomach						1 (1%)
Mesentery	(6)	(5)	(9)	(14)	(9)	(4)
Squamous cell carcinoma, metastatic, stomach						1 (25%)
Lung, adenocarcinoma, metastatic, lung					1 (11%)	
Lung, hemangioma				2 (14%)		
Lung, hemangiosarcoma, metastatic, heart				1 (7%)		1 (25%)
Lung, hemangiosarcoma, metastatic, spleen					1 (11%)	
Lung, histiocytic sarcoma				1 (7%)	3 (33%)	
Lung, sarcoma, metastatic, skin	1 (17%)					
Pancreas	(50)	(49)	(49)	(48)	(46)	(72)
Lymphoma malignant lymphocytic						1 (1%)
Venus, hemangiosarcoma, metastatic, heart			1 (2%)			
Venus, histiocytic sarcoma					1 (2%)	2 (3%)
Venus, lymphoma malignant lymphocytic	1 (2%)		1 (2%)	2 (4%)		22 (31%)
Venus, lymphoma malignant mixed	1 (2%)					
Venus, sarcoma, metastatic, skin	1 (2%)					
Venus, squamous cell carcinoma, metastatic, stomach						1 (1%)
Duct, adenoma, multiple					1 (2%)	
Salivary glands	(50)	(50)	(50)	(48)	(48)	(69)
Histiocytic sarcoma				1 (2%)		1 (1%)
Lymphoma malignant lymphocytic			1 (2%)			19 (28%)

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Alimentary System (continued)						
Stomach, forestomach	(50)	(50)	(50)	(48)	(48)	(72)
Histiocytic sarcoma						1 (1%)
Lymphoma malignant lymphocytic					1 (2%)	8 (11%)
Mast cell tumor NOS, metastatic, bone marrow	1 (2%)					
Sarcoma, metastatic, skin	1 (2%)					
Squamous cell carcinoma					1 (2%)	2 (3%)
Squamous cell papilloma	1 (2%)			1 (2%)	7 (15%)	2 (3%)
Stomach, glandular	(50)	(48)	(50)	(48)	(45)	(66)
Histiocytic sarcoma						1 (2%)
Lymphoma malignant lymphocytic						9 (14%)
Squamous cell carcinoma, metastatic, stomach						1 (2%)
Cardiovascular System						
Heart	(50)	(49)	(50)	(48)	(48)	(73)
Adenocarcinoma, metastatic, lung				2 (4%)	2 (4%)	
Hemangiosarcoma			1 (2%)	5 (10%)	20 (42%)	4 (5%)
Hepatocellular carcinoma, metastatic, liver			1 (2%)			
Histiocytic sarcoma			1 (2%)	1 (2%)	3 (6%)	
Lymphoma malignant lymphocytic	1 (2%)		2 (4%)	1 (2%)	2 (4%)	20 (27%)
Endocrine System						
Adrenal gland, cortex	(50)	(49)	(50)	(47)	(48)	(73)
Adenoma	1 (2%)	4 (8%)		1 (2%)		
Histiocytic sarcoma				2 (4%)	1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)				1 (2%)	6 (8%)
Bilateral, adenoma	1 (2%)					
Adrenal gland, medulla	(50)	(48)	(47)	(44)	(44)	(69)
Histiocytic sarcoma						1 (1%)
Lymphoma malignant lymphocytic						3 (4%)
Pheochromocytoma benign		1 (2%)				1 (1%)
Islets, pancreatic	(50)	(49)	(49)	(48)	(46)	(70)
Adenoma			1 (2%)			
Parathyroid gland	(39)	(36)	(42)	(40)	(38)	(55)
Lymphoma malignant lymphocytic						1 (2%)
Pituitary gland	(50)	(47)	(47)	(48)	(46)	(62)
Lymphoma malignant lymphocytic			1 (2%)		2 (4%)	3 (5%)
Lymphoma malignant mixed						1 (2%)
Pars distalis, adenoma	1 (2%)					
Pars distalis, carcinoma				1 (2%)		
Pars intermedia, adenoma					1 (2%)	
Thyroid gland	(50)	(50)	(50)	(48)	(47)	(70)
Lymphoma malignant lymphocytic						5 (7%)
Follicular cell, adenoma	2 (4%)	4 (8%)		4 (8%)	2 (4%)	
General Body System						
None						

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Genital System						
Epididymis	(50)	(50)	(50)	(48)	(49)	(71)
Histiocytic sarcoma						1 (1%)
Lymphoma malignant lymphocytic			1 (2%)			6 (8%)
Preputial gland	(7)	(2)	(4)	(9)	(6)	(2)
Carcinoma					5 (83%)	
Hemangiosarcoma				1 (11%)		
Prostate	(47)	(50)	(48)	(45)	(46)	(66)
Lymphoma malignant lymphocytic			1 (2%)		1 (2%)	9 (14%)
Seminal vesicle	(50)	(48)	(47)	(46)	(44)	(67)
Hemangioma		1 (2%)				
Hemangiosarcoma, metastatic, spleen		1 (2%)				
Histiocytic sarcoma						1 (1%)
Lymphoma malignant lymphocytic					1 (2%)	7 (10%)
Testes	(50)	(50)	(50)	(48)	(49)	(72)
Hemangioma				1 (2%)		
Lymphoma malignant lymphocytic						4 (6%)
Interstitial cell, adenoma	1 (2%)			1 (2%)		
Hematopoietic System						
Bone marrow	(50)	(50)	(50)	(48)	(49)	(73)
Histiocytic sarcoma			1 (2%)	2 (4%)	4 (8%)	4 (5%)
Lymphoma malignant lymphocytic			2 (4%)		2 (4%)	44 (60%)
Lymphoma malignant mixed						1 (1%)
Mast cell tumor NOS	1 (2%)					
Lymph node	(50)	(50)	(50)	(48)	(48)	(73)
Hemangioma	1 (2%)					
Histiocytic sarcoma						1 (1%)
Lymphoma malignant lymphocytic						2 (3%)
Mast cell tumor NOS, metastatic, bone marrow	1 (2%)					
Axillary, lymphoma malignant lymphocytic			1 (2%)		1 (2%)	8 (11%)
Axillary, lymphoma malignant						1 (1%)
Iliac, histiocytic sarcoma			1 (2%)	1 (2%)		
Iliac, lymphoma malignant lymphocytic				1 (2%)		2 (3%)
Iliac, lymphoma malignant mixed	1 (2%)					
Inguinal, lymphoma malignant lymphocytic					1 (2%)	2 (3%)
Lumbar, lymphoma malignant lymphocytic						1 (1%)
Pancreatic, histiocytic sarcoma				1 (2%)		
Renal, lymphoma malignant lymphocytic	1 (2%)			1 (2%)	1 (2%)	7 (10%)
Renal, lymphoma malignant mixed	1 (2%)					
Lymph node, bronchial	(45)	(42)	(42)	(37)	(37)	(49)
Adenocarcinoma, metastatic, lung			1 (2%)	2 (5%)	2 (5%)	
Alveolar/bronchiolar carcinoma, metastatic, lung			1 (2%)			
Hepatocholangiocarcinoma, metastatic, liver	1 (2%)					
Histiocytic sarcoma			1 (2%)	2 (5%)	3 (8%)	
Lymphoma malignant lymphocytic	1 (2%)		2 (5%)	2 (5%)	2 (5%)	40 (82%)
Lymphoma malignant						1 (2%)
Lymphoma malignant mixed	2 (4%)					
Squamous cell carcinoma, metastatic, stomach						1 (2%)

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Hematopoietic System (continued)						
Lymph node, mandibular	(39)	(39)	(38)	(33)	(39)	(61)
Histiocytic sarcoma			1 (3%)	1 (3%)	2 (5%)	2 (3%)
Lymphoma malignant lymphocytic			1 (3%)	2 (6%)	2 (5%)	37 (61%)
Lymphoma malignant mixed						1 (2%)
Mast cell tumor NOS, metastatic, bone marrow	1 (3%)					
Sarcoma, metastatic, skin			1 (3%)			
Lymph node, mediastinal	(28)	(27)	(33)	(32)	(40)	(58)
Adenocarcinoma, metastatic, lung				2 (6%)	1 (3%)	
Alveolar/bronchiolar carcinoma, metastatic, lung					1 (3%)	
Hepatocholangiocarcinoma, metastatic, liver	1 (4%)					
Histiocytic sarcoma			2 (6%)	1 (3%)	4 (10%)	1 (2%)
Lymphoma malignant lymphocytic	1 (4%)		2 (6%)	3 (9%)	2 (5%)	43 (74%)
Lymphoma malignant						1 (2%)
Lymphoma malignant mixed	1 (4%)					1 (2%)
Squamous cell carcinoma, metastatic, stomach						1 (2%)
Lymph node, mesenteric	(49)	(47)	(47)	(46)	(46)	(68)
Histiocytic sarcoma			3 (6%)	4 (9%)	6 (13%)	3 (4%)
Lymphoma malignant histiocytic				1 (2%)		
Lymphoma malignant lymphocytic	1 (2%)		1 (2%)	4 (9%)	2 (4%)	39 (57%)
Lymphoma malignant						1 (1%)
Lymphoma malignant mixed	2 (4%)		2 (4%)			1 (1%)
Squamous cell carcinoma, metastatic, stomach						1 (1%)
Spleen	(50)	(50)	(50)	(48)	(46)	(70)
Hemangiosarcoma		1 (2%)	1 (2%)		1 (2%)	
Histiocytic sarcoma			4 (8%)	4 (8%)	6 (13%)	4 (6%)
Lymphoma malignant lymphocytic	2 (4%)		1 (2%)	2 (4%)	2 (4%)	42 (60%)
Lymphoma malignant mixed	2 (4%)					1 (1%)
Lymphoma malignant undifferentiated cell type		1 (2%)				
Thymus	(47)	(43)	(42)	(40)	(35)	(64)
Adenocarcinoma, metastatic, lung					1 (3%)	
Histiocytic sarcoma			1 (2%)		2 (6%)	
Lymphoma malignant lymphocytic			2 (5%)	3 (8%)	2 (6%)	43 (67%)
Lymphoma malignant						1 (2%)
Integumentary System						
Skin	(50)	(50)	(50)	(48)	(50)	(73)
Sebaceous gland, adenoma				1 (2%)	1 (2%)	
Subcutaneous tissue, adenocarcinoma, metastatic, lung					1 (2%)	
Subcutaneous tissue, hemangiosarcoma		1 (2%)	1 (2%)		3 (6%)	
Subcutaneous tissue, histiocytic sarcoma						1 (1%)
Subcutaneous tissue, leiomyosarcoma				1 (2%)		
Subcutaneous tissue, lymphoma malignant lymphocytic						1 (1%)
Subcutaneous tissue, mast cell tumor NOS			1 (2%)			
Subcutaneous tissue, mixed tumor malignant				1 (2%)		
Subcutaneous tissue, sarcoma	1 (2%)					
Subcutaneous tissue, head, sarcoma			1 (2%)			

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Musculoskeletal System						
Bone	(50)	(50)	(50)	(48)	(50)	(73)
Lymphoma malignant lymphocytic						1 (1%)
Skeletal muscle	(2)			(2)	(2)	
Adenocarcinoma, metastatic, lung					2 (100%)	
Hemangiosarcoma	1 (50%)			1 (50%)		
Diaphragm, adenocarcinoma, metastatic, lung				1 (50%)		
Nervous System						
Brain	(50)	(50)	(50)	(48)	(50)	(73)
Carcinoma, metastatic, pituitary gland				1 (2%)		
Glioma malignant					1 (2%)	
Hemangiosarcoma, metastatic, heart			1 (2%)			
Histiocytic sarcoma			1 (2%)	1 (2%)	5 (10%)	2 (3%)
Lymphoma malignant lymphocytic			1 (2%)		2 (4%)	10 (14%)
Spinal cord						(12)
Lymphoma malignant lymphocytic						9 (75%)
Respiratory System						
Lung	(50)	(50)	(50)	(49)	(50)	(73)
Adenocarcinoma			1 (2%)	2 (4%)	4 (8%)	
Adenocarcinoma, multiple			1 (2%)			
Adenocarcinoma, metastatic, harderian gland		1 (2%)	1 (2%)	2 (4%)	2 (4%)	
Alveolar/bronchiolar adenoma	14 (28%)	14 (28%)	10 (20%)	19 (39%)	15 (30%)	2 (3%)
Alveolar/bronchiolar adenoma, multiple	4 (8%)	6 (12%)		6 (12%)	6 (12%)	1 (1%)
Alveolar/bronchiolar carcinoma	3 (6%)	6 (12%)	7 (14%)	8 (16%)	10 (20%)	3 (4%)
Alveolar/bronchiolar carcinoma, multiple	2 (4%)		2 (4%)	2 (4%)	12 (24%)	
Carcinoma, metastatic, liver	1 (2%)					
Hemangiosarcoma, metastatic, heart				3 (6%)	7 (14%)	2 (3%)
Hemangiosarcoma, metastatic, skeletal muscle				1 (2%)		
Hepatocellular carcinoma, metastatic					1 (2%)	
Hepatocellular carcinoma, metastatic, liver	3 (6%)	3 (6%)	4 (8%)	3 (6%)	4 (8%)	
Hepatocholangiocarcinoma, metastatic, liver	1 (2%)					
Histiocytic sarcoma			4 (8%)	4 (8%)	7 (14%)	3 (4%)
Leiomyosarcoma, metastatic, skin				1 (2%)		
Lymphoma malignant lymphocytic	2 (4%)		2 (4%)	2 (4%)	2 (4%)	30 (41%)
Lymphoma malignant				1 (2%)		
Neoplasm NOS, metastatic, uncertain primary site						1 (1%)
Sarcoma, metastatic, skin	1 (2%)		1 (2%)			
Squamous cell carcinoma, metastatic, stomach						1 (1%)
Mediastinum, adenocarcinoma, metastatic, lung				2 (4%)	3 (6%)	
Mediastinum, alveolar/bronchiolar carcinoma, metastatic, lung					1 (2%)	
Mediastinum, hemangiosarcoma, metastatic, heart					3 (6%)	
Mediastinum, hepatocholangiocarcinoma, metastatic, liver	1 (2%)					
Mediastinum, sarcoma, metastatic, skin			1 (2%)			

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Respiratory System (continued)						
Nose	(50)	(50)	(50)	(47)	(49)	(71)
Histiocytic sarcoma					1 (2%)	1 (1%)
Leiomyosarcoma, metastatic, skin				1 (2%)		
Lymphoma malignant lymphocytic			1 (2%)		2 (4%)	8 (11%)
Trachea	(50)	(49)	(50)	(46)	(45)	(67)
Lymphoma malignant lymphocytic						3 (4%)
Special Senses System						
Harderian gland	(50)	(49)	(50)	(47)	(47)	(40)
Adenocarcinoma		1 (2%)	1 (2%)	3 (6%)	2 (4%)	
Adenoma	6 (12%)	7 (14%)	8 (16%)	17 (36%)	24 (51%)	5 (13%)
Leiomyosarcoma, metastatic, skin				1 (2%)		
Bilateral, adenoma				2 (4%)	6 (13%)	1 (3%)
Zymbal's gland	(2)					
Adenoma	1 (50%)					
Urinary System						
Kidney	(50)	(50)	(50)	(48)	(49)	(73)
Adenocarcinoma, metastatic, harderian gland					1 (2%)	
Adenocarcinoma, metastatic, lung				2 (4%)	1 (2%)	
Hemangiosarcoma, metastatic, heart			1 (2%)	1 (2%)	2 (4%)	
Histiocytic sarcoma			1 (2%)	3 (6%)	6 (12%)	4 (5%)
Lymphoma malignant lymphocytic			1 (2%)		2 (4%)	28 (38%)
Squamous cell carcinoma, metastatic, stomach						1 (1%)
Renal tubule, adenoma		1 (2%)		3 (6%)	1 (2%)	
Urinary bladder	(50)	(48)	(50)	(48)	(47)	(66)
Histiocytic sarcoma					1 (2%)	2 (3%)
Lymphoma malignant lymphocytic			1 (2%)		1 (2%)	15 (23%)
Squamous cell carcinoma, metastatic, stomach						1 (2%)
Systemic Lesions						
Multiple organs	(50)	(50)	(50)	(50)	(50)	(73)
Histiocytic sarcoma			4 (8%)	5 (10%)	7 (14%)	4 (5%)
Lymphoma malignant				1 (2%)		1 (1%)
Lymphoma malignant histiocytic				1 (2%)		
Lymphoma malignant lymphocytic	2 (4%)		2 (4%)	4 (8%)	2 (4%)	49 (67%)
Lymphoma malignant mixed	2 (4%)	1 (2%)	2 (4%)			1 (1%)
Lymphoma malignant undifferentiated cell		1 (2%)				

TABLE A1
Summary of the Incidence of Neoplasms in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
Neoplasm Summary						
Total animals with primary neoplasms[c]						
9-Month interim evaluation	5	1	2		3	5
15-Month interim evaluation	2	1	5	6	6	7
2-Year study	44	40	45	48	49	62
Total primary neoplasms						
9-Month interim evaluation	5	1	2		3	6
15-Month interim evaluation	2	1	6	9	16	26
2-Year study	70	81	80	129	185	82
Total animals with benign neoplasms						
9-Month interim evaluation	4	1	2		3	3
15-Month interim evaluation	2		5	6	6	6
2-Year study	36	35	34	39	43	12
Total benign neoplasms						
9-Month interim evaluation	4	1	2		3	4
15-Month interim evaluation	2		6	8	10	14
2-Year study	46	51	38	75	88	17
Total animals with malignant neoplasms						
9-Month interim evaluation	1					2
15-Month interim evaluation		1		1	4	6
2-Year study	19	26	34	42	46	58
Total malignant neoplasms						
9-Month interim evaluation	1					2
15-Month interim evaluation		1		1	5	12
2-Year study	23	30	41	54	97	65
Total animals with metastatic neoplasms						
15-Month interim evaluation					1	1
2-Year study	6	5	9	13	19	5
Total metastatic neoplasms						
15-Month interim evaluation					6	3
2-Year study	16	5	14	29	47	17
Total animals with malignant neoplasms uncertain primary site						
2-Year study						1
Total animals with uncertain neoplasms-benign or malignant						
15-Month interim evaluation					1	
2-Year study	1		1			
Total uncertain neoplasms						
15-Month interim evaluation					1	
2-Year study	1		1			

[a] Number of animals examined microscopically at site and number of animals with lesion
[b] Number of animals with any tissue examined microscopically
[c] Primary neoplasms: all neoplasms except metastatic neoplasms

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm

Number of Days on Study	379	476	495	511	540	543	572	596	609	627	625	666	667	693	714	736	736	736	736	736	736	736	736	736	736
Carcass ID Number	0105	0132	0092	0032	0123	0104	0011	0114	0084	0024	0023	0031	0052	0075	0083	0111	0114	0121	0222	0223	0234	0335	0441	0443	0444
Alimentary System																									
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+
Gallbladder	A	M	A	M	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, duodenum	A	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, ileum	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, jejunum	A	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hepatocellular carcinoma								X	X	X			X												X
Hepatocellular carcinoma, multiple					X						X							X							
Hepatocellular adenoma	X	X						X			X									X				X	
Hepatocellular adenoma, multiple																									
Hepatocholangiocarcinoma							X																		
Sarcoma, metastatic, skin							X																		
Mesentery							+				+											+			
Fat, sarcoma, metastatic, skin							X																		
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Acinus, sarcoma, metastatic, skin							X																		
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mast cell tumor NOS, metastatic, bone marrow									X																
Sarcoma, metastatic, skin							X																		
Squamous cell papilloma											X														
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Tooth																						+	+		+
Cardiovascular System																									
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Endocrine System																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenoma																					X				
Bilateral, adenoma								X																	
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Parathyroid gland	+	+	M	M	+	+	+	+	M	+	+	M	M	M	+	+	+	+	+	+	+	I	+	+	+
Pituitary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pars distalis, adenoma																									

+: Tissue examined microscopically
A: Autolysis precludes examination
M: Missing tissue
I: Insufficient tissue
X: Lesion present
Blank: Not examined

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm
(continued)

Number of Days on Study	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	
Carcass ID Number	0051	0053	0054	0055	0063	0065	0072	0074	0081	0091	0095	0111	0113	0115	0121	0124	0131	0133	0134	0135	0141	0142	0143	0144	0145	Total Tissues/ Tumors
Alimentary System																										
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Gallbladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	44
Intestine large	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine large, cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine large, colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine large, rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine small	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Intestine small, duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine small, ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine small, jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hepatocellular carcinoma																	X		X	X						8
Hepatocellular carcinoma, multiple																										3
Hepatocellular adenoma					X									X	X				X		X			X		12
Hepatocellular adenoma, multiple									X																	1
Hepatocholangiocarcinoma																										1
Sarcoma, metastatic, skin																										1
Mesentery							+								+								+			6
Fat, sarcoma, metastatic, skin																										1
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Acinus, sarcoma, metastatic, skin																										1
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Mast cell tumor NOS, metastatic, bone marrow																										1
Sarcoma, metastatic, skin																										1
Squamous cell papilloma																										1
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Tooth							+			+			+				+					+		+		9
Cardiovascular System																										
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Endocrine System																										
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adenoma																										1
Bilateral, adenoma																										1
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Parathyroid gland	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	M	M	39
Pituitary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Pars distalis, adenoma						X																				1

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm
(continued)

Number of Days on Study	379	476	495	511	540	543	572	596	609	627	625	666	677	693	714	736	736	736	736	736	736	736	736	736	736
Carcass ID Number	0105	1032	0092	0032	1023	1040	0021	1014	0084	0024	0023	0031	0052	0075	0083	0011	0014	0012	0022	0023	0034	0035	0041	0043	0044
Endocrine System (continued)																									
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Follicular cell, adenoma																									X
General Body System																									
None																									
Genital System																									
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Penis			+																						
Preputial gland			M							+				+											
Prostate	+	+	+	+	+	+	+	+	+	M	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+
Seminal vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Interstitial cell, adenoma																							X		
Hematopoietic System																									
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mast cell tumor NOS									X																
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangioma																									
Mast cell tumor NOS, metastatic, bone marrow									X																
Lymph node, bronchial	+	+	+	+	+	+	+	M	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hepatocholangiocarcinoma, metastatic, liver							X																		
Lymph node, mandibular	+	+	+	+	+	M	+	M	+	+	+	+	M	+	M	+	+	+	M	+	M	M	M	+	+
Mast cell tumor NOS, metastatic, bone marrow									X																
Lymph node, mediastinal	+	+	M	M	M	+	+	M	+	+	M	+	+	M	M	+	M	+	+	+	+	M	+	M	+
Hepatocholangiocarcinoma, metastatic, liver							X																		
Lymph node, mesenteric	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Thymus	+	+	+	+	+	+	+	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
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Subcutaneous tissue, sarcoma							X																		
Musculoskeletal System																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Skeletal muscle									+																
Hemangiosarcoma																									
Nervous System																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm
(continued)

Number of Days on Study	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	
Carcass ID Number	0051	0053	0054	0055	0063	0065	0072	0074	0081	0091	0095	0111	0113	0115	0121	0124	0131	0133	0134	0135	0141	0142	0143	0144	0145	Total Tissues/ Tumors
Endocrine System (continued)																										
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Follicular cell, adenoma																									X	2
General Body System																										
None																										
Genital System																										
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Penis									+							+				+						4
Preputial gland						+			+	+					+					+						7
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	47
Seminal vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Interstitial cell, adenoma																										1
Hematopoietic System																										
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Mast cell tumor NOS																										1
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangioma												X														1
Mast cell tumor NOS, metastatic, bone marrow																										1
Lymph node, bronchial	+	+	M	M	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Hepatocholangiocarcinoma, metastatic, liver																										1
Lymph node, mandibular	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	M	+	+	+	+	+	M	+	+	+	39
Mast cell tumor NOS, metastatic, bone marrow																										1
Lymph node, mediastinal	M	M	M	M	+	+	+	+	M	+	+	+	M	M	+	+	M	M	M	+	+	M	M	+	+	28
Hepatocholangiocarcinoma, metastatic, liver																										1
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Thymus	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Integumentary System																										
Mammary gland	+	M	I	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	5
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Subcutaneous tissue, sarcoma																										1
Musculoskeletal System																										
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Skeletal muscle																		+								2
Hemangiosarcoma																		X								1
Nervous System																										
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm
(continued)

Number of Days on Study	379	476	495	511	540	543	572	596	609	627	652	666	675	693	714	736	736	736	736	736	736	736	736	736	736
Carcass ID Number	105	132	092	032	123	104	101	114	084	024	033	031	052	075	083	011	014	021	022	023	034	035	041	043	044
Respiratory System																									
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma							X	X						X		X	X								
Alveolar/bronchiolar adenoma, multiple																			X						X
Alveolar/bronchiolar carcinoma																					X				
Alveolar/bronchiolar carcinoma, multiple																									X
Carcinoma, metastatic, liver					X																				
Hepatocellular carcinoma, metastatic, liver								X										X							
Hepatocholangiocarcinoma, metastatic, liver							X																		
Sarcoma, metastatic, skin							X																		
Mediastinum, hepatocholangiocarcinoma, metastatic, liver							X																		
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Special Senses System																									
Ear																									
Eye															+										
Harderian gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenoma						X			X				X		X										X
Zymbal's gland				+												+									
Adenoma																X									
Urinary System																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Urethra																									
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Systemic Lesions																									
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic				X									X												
Lymphoma malignant mixed												X					X								

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm
(continued)

Number of Days on Study	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	
Carcass ID Number	005 1	005 3	005 4	005 5	006 3	006 5	007 2	007 4	008 1	009 1	009 5	011 1	011 3	011 5	012 1	012 4	013 1	013 3	013 4	013 5	014 1	014 2	014 3	014 4	014 5	Total Tissues/ Tumors
Respiratory System																										
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Alveolar/bronchiolar adenoma	X	X	X					X		X		X						X		X	X					14
Alveolar/bronchiolar adenoma, multiple																			X						X	4
Alveolar/bronchiolar carcinoma				X																X						3
Alveolar/bronchiolar carcinoma, multiple																X										2
Carcinoma, metastatic, liver																										1
Hepatocellular carcinoma, metastatic, liver																				X						3
Hepatocholangiocarcinoma, metastatic, liver																										1
Sarcoma, metastatic, skin																										1
Mediastinum, hepatocholangiocarcinoma, metastatic, liver																										1
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Special Senses System																										
Ear															+											1
Eye																										1
Harderian gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adenoma											X															6
Zymbal's gland																										2
Adenoma																										1
Urinary System																										
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Urethra									+							+										2
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Systemic Lesions																										
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymphoma malignant lymphocytic																										2
Lymphoma malignant mixed																										2

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 6.25 ppm

Number of Days on Study	467	484	587	596	601	636	652	653	678	717	723	735	735	735	735	735	735	735	735	735	735	735	735	735	735
Carcass ID Number	0412	0331	0332	0335	0422	0312	0219	0351	0372	0401	0229	0224	0229	0305	0303	0304	0305	0311	0314	0315	0324	0323	0333	0334	0343
Alimentary System																									
Esophagus	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	M	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large	+	A	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, cecum	+	A	A	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, colon	+	A	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, rectum	+	A	A	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small	+	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, duodenum	+	A	A	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, ileum	+	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, jejunum	+	A	A	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Carcinoma																		X							
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma											X														
Hepatocellular carcinoma		X													X		X	X	X	X				X	
Hepatocellular carcinoma, multiple					X	X	X																		
Hepatocellular adenoma		X					X														X		X	X	X
Hepatocellular adenoma, multiple																									
Mesentery																									
Pancreas	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, glandular	+	+	A	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Tooth					+										+			+							
Cardiovascular System																									
Blood vessel									+																
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Endocrine System																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenoma												X											X		
Adrenal gland, medulla	+	+	A	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pheochromocytoma benign																									
Islets, pancreatic	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Parathyroid gland	M	+	M	+	+	M	+	+	+	M	M	+	+	+	+	+	+	+	M	+	+	M	M	+	+
Pituitary gland	+	I	+	+	I	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	+	+	+
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Follicular cell, adenoma								X																	
General Body System																									
None																									
Genital System																									
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Penis	+																								
Preputial gland	+										+														

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 6.25 ppm
(continued)

Number of Days on Study	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	
Carcass ID Number	0344	0345	0352	0353	0354	0355	0361	0371	0373	0374	0375	0381	0382	0383	0391	0393	0394	0395	0404	0405	0415	0421	0423	0424	0425	Total Tissues/ Tumors
Alimentary System																										
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	48
Gallbladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine large	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine large, cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Intestine large, colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine large, rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine small	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine small, duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Intestine small, ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine small, jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Carcinoma																										1
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangiosarcoma																							X			2
Hepatocellular carcinoma		X		X		X		X				X														12
Hepatocellular carcinoma, multiple																							X			4
Hepatocellular adenoma								X								X	X		X				X		X	12
Hepatocellular adenoma, multiple					X																					1
Mesentery							+	+					+					+						+		5
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Tooth														+												4
Cardiovascular System																										
Blood vessel																										1
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	49
Endocrine System																										
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Adenoma										X											X					4
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Pheochromocytoma benign																						X				1
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Parathyroid gland	+	M	+	M	M	+	M	+	+	I	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	36
Pituitary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Follicular cell, adenoma																	X							X	X	4
General Body System																										
None																										
Genital System																										
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Penis																										1
Preputial gland																										2

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 6.25 ppm
(continued)

Number of Days on Study	467	484	587	596	601	663	652	653	678	671	723	735	735	735	735	735	735	735	735	735	735	735	735	735	735
Carcass ID Number	0412	0313	0332	0325	0422	0321	0229	0335	0337	0410	0229	0224	0225	0302	0303	0304	0305	0311	0314	0315	0324	0323	0333	0334	0343
Genital System (continued)																									
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Seminal vesicle	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangioma																									
Hemangiosarcoma, metastatic, spleen			X																						
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hematopoietic System																									
Blood																									
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph node, bronchial	+	+	+	M	+	M	I	+	M	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph node, mandibular	+	+	+	+	+	+	M	+	+	M	M	+	M	+	+	+	+	+	+	+	+	+	+	+	+
Lymph node, mediastinal	+	+	M	+	M	M	M	M	M	+	+	+	+	+	M	M	+	+	M	M	+	+	+	+	+
Lymph node, mesenteric	M	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma			X																						
Thymus	+	+	A	+	+	+	+	+	+	M	+	+	+	+	+	+	I	+	+	+	+	+	+	I	+
Integumentary System																									
Mammary gland	M	M	M	M	M	M	M	M	M	M	M	M	M	M	I	M	+	M	M	M	M	M	M	M	M
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Subcutaneous tissue, hemangiosarcoma																									
Musculoskeletal System																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Nervous System																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Respiratory System																									
Larynx	+	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma, metastatic, harderian gland													X												
Alveolar/bronchiolar adenoma			X					X				X				X		X			X				
Alveolar/bronchiolar adenoma, multiple							X																X		
Alveolar/bronchiolar carcinoma													X			X					X				
Hepatocellular carcinoma, metastatic, liver							X																	X	
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trachea	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Special Senses System																									
Harderian gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma													X												
Adenoma							X						X			X	X	X			X		X		

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 6.25 ppm
(continued)

Number of Days on Study	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	
Carcass ID Number	0344	0345	0352	0353	0354	0355	0361	0371	0373	0374	0375	0381	0382	0383	0391	0393	0394	0395	0404	0405	0415	0421	0423	0424	0425	Total Tissues/ Tumors
Genital System (continued)																										
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Seminal vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Hemangioma							X																			1
Hemangiosarcoma, metastatic, spleen																										1
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hematopoietic System																										
Blood																										
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymph node, bronchial	+	+	+	+	+	+	+	M	M	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	42
Lymph node, mandibular	M	+	+	+	+	I	M	+	+	M	+	+	+	+	M	M	+	+	+	M	+	+	+	+	+	39
Lymph node, mediastinal	+	+	+	M	M	M	+	M	M	+	M	M	+	+	M	M	M	M	+	+	+	+	M	+	M	27
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangiosarcoma																										1
Thymus	+	+	+	+	+	+	M	+	+	+	M	+	+	+	+	+	+	+	+	M	+	+	+	+	+	43
Integumentary System																										
Mammary gland	M	M	I	M	M	M	M	M	M	+	M	M	M	M	+	M	M	M	M	M	M	M	M	M	M	3
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Subcutaneous tissue, hemangiosarcoma												X														1
Musculoskeletal System																										
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Nervous System																										
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Respiratory System																										
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adenocarcinoma, metastatic, harderian gland																										1
Alveolar/bronchiolar adenoma				X						X	X	X			X			X				X			X	14
Alveolar/bronchiolar adenoma, multiple	X	X	X			X																				6
Alveolar/bronchiolar carcinoma					X											X						X				6
Hepatocellular carcinoma, metastatic, liver																							X			3
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Special Senses System																										
Harderian gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	49
Adenocarcinoma																										1
Adenoma																										7

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 6.25 ppm
(continued)

Number of Days on Study	467	484	587	596	601	636	652	653	678	717	723	735	735	735	735	735	735	735	735	735	735	735	735	735	735
Carcass ID Number	0412	0331	0321	0325	0422	0312	0291	0351	0372	0401	0292	0294	0295	0302	0303	0304	0305	0311	0314	0315	0324	0323	0333	0334	0343
Urinary System																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Renal tubule, adenoma																X									
Urethra										+															
Urinary bladder	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Systemic Lesions																									
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant mixed																									
Lymphoma malignant undifferentiated cell type																									

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 6.25 ppm
(continued)

Number of Days on Study	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	
Carcass ID Number	0344	0345	0352	0353	0354	0355	0361	0371	0373	0374	0375	0381	0382	0383	0391	0393	0394	0395	0404	0405	0415	0421	0423	0424	0425	Total Tissues/ Tumors
Urinary System																										
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Renal tubule, adenoma																										1
Urethra												+														2
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Systemic Lesions																										
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymphoma malignant mixed																								X		1
Lymphoma malignant undifferentiated cell type																					X					1

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 20 ppm

Number of Days on Study	289	397	456	517	531	532	536	540	568	573	585	586	604	610	618	632	637	651	658	659	680	682	686	687	689
Carcass ID Number	0641	0571	0591	0582	0692	0694	0701	0575	0653	0645	0592	0652	0583	0602	0594	0574	0765	0634	0623	0682	0585	0661	0624	0623	0631
Alimentary System																									
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	A	+	A	+	+	A	+	+	M	A	A	A	+	+	+	A	+	+	A	+	+	+	+	A
Intestine large	+	+	+	+	+	+	A	+	+	+	+	+	A	+	+	+	+	+	+	A	+	+	+	+	+
Intestine large, cecum	+	A	+	+	+	+	A	+	+	+	+	A	A	+	+	+	A	+	+	A	+	+	+	+	A
Intestine large, colon	+	A	+	+	+	+	A	+	+	+	+	+	A	+	+	+	A	+	+	A	+	+	+	+	+
Intestine large, rectum	+	+	+	+	+	+	A	+	+	+	+	A	A	+	+	+	+	+	+	A	+	+	+	+	+
Intestine small	+	A	+	+	+	+	A	+	+	+	+	A	A	+	+	+	A	+	+	A	+	+	+	+	+
Intestine small, duodenum	+	A	+	+	+	+	A	I	+	+	A	A	A	+	+	+	A	+	+	A	+	+	+	+	+
Intestine small, ileum	+	A	+	A	+	+	A	+	+	+	+	A	A	+	+	+	A	+	+	A	+	+	+	+	+
Intestine small, jejunum	+	A	+	A	+	+	A	+	+	+	+	A	A	+	+	+	A	+	+	A	+	+	+	+	+
Carcinoma																									X
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hepatocellular carcinoma							X		X	X		X		X						X					
Hepatocellular carcinoma, multiple				X												X									
Hepatocellular adenoma		X				X						X						X	X			X	X		
Hepatocellular adenoma, multiple								X									X				X				
Histiocytic sarcoma					X								X					X		X					
Mesentery							+								+						+				
Pancreas	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Acinus, hemangiosarcoma, metastatic, heart																						X			
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Tooth															+										
Cardiovascular System																									
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma																						X			
Hepatocellular carcinoma, metastatic, liver																									
Histiocytic sarcoma													X												
Endocrine System																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	I	A	+	+	+	+	+	+	+	+	+	+	+	+
Islets, pancreatic	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenoma																									
Parathyroid gland	+	+	M	+	+	M	+	+	+	+	+	I	M	+	+	+	+	+	+	M	M	+	+	M	+
Pituitary gland	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	+	M
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
General Body System																									
None																									

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 20 ppm
(continued)

Number of Days on Study	693	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	
Carcass ID Number	0704	0572	0573	0581	0584	0593	0595	0601	0611	0612	0621	0633	0635	0644	0651	0655	0662	0664	0675	0681	0684	0685	0691	0703	0705	Total Tissues/ Tumors
Alimentary System																										
Esophagus	+	M	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	M	+	+	+	47
Gallbladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	39
Intestine large	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine large, cecum	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	42
Intestine large, colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Intestine large, rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Intestine small	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	44
Intestine small, duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	42
Intestine small, ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	43
Intestine small, jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	43
Carcinoma																										1
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hepatocellular carcinoma								X			X				X		X									10
Hepatocellular carcinoma, multiple	X																				X		X	X		6
Hepatocellular adenoma	X						X				X											X				11
Hepatocellular adenoma, multiple					X												X			X			X		X	8
Histiocytic sarcoma																										4
Mesentery			+			+			+	+					+									+		9
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Acinus, hemangiosarcoma, metastatic, heart																										1
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Tooth				+				+										+	+				+			6
Cardiovascular System																										
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangiosarcoma																										1
Hepatocellular carcinoma, metastatic, liver																								X		1
Histiocytic sarcoma																										1
Endocrine System																										
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adrenal gland, medulla	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Adenoma			X																							1
Parathyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	42
Pituitary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
General Body System																										
None																										

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 20 ppm
(continued)

Number of Days on Study	289	397	456	517	531	532	536	540	568	573	585	586	604	610	618	632	637	651	658	659	680	682	686	687	689
Carcass ID Number	0641	0571	0591	0582	0692	0694	0701	0755	0653	0645	0592	0652	0583	0602	0594	0574	0665	0664	0663	0682	0685	0661	0624	0623	0631
Genital System																									
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Penis		+			M	M	+						M				+		M						
Preputial gland													+				+								
Prostate	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Seminal vesicle	+	+	+	+	+	+	A	+	+		+	+	+	+	+	+	+	+	+	A	+	+	+	+	+
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hematopoietic System																									
Blood										+															
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma													X												
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Iliac, histiocytic sarcoma					X																				
Lymph node, bronchial	+	+	+	+	M	M	M	M	+	+	+	+	+	+	+	+	M	M	+	+	+	+	+	+	+
Adenocarcinoma, metastatic, lung																							X		
Alveolar/bronchiolar carcinoma, metastatic, lung									X																
Histiocytic sarcoma													X												
Lymph node, mandibular	+	M	+	M	+	+	+	+	+	+	+	+	M	+	+	+	+	M	+	+	+	+	+	+	M
Histiocytic sarcoma																				X					
Sarcoma, metastatic, skin																					X				
Lymph node, mediastinal	+	+	+	+	+	+	+	I	+	+	M	+	+	+	M	+	+	+	+	+	+	M	+	+	+
Histiocytic sarcoma													X					X							
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma					X													X		X					
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma																									
Histiocytic sarcoma					X								X					X		X					
Thymus	+	+	+	+	M	+	+	+	+	M	+	+	+	+	M	I	+	M	+	+	+	+	+	M	+
Histiocytic sarcoma													X												
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	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Subcutaneous tissue, hemangiosarcoma											X														
Subcutaneous tissue, mast cell tumor NOS																							X		
Subcutaneous tissue, head, sarcoma																					X				
Musculoskeletal System																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Skeletal muscle										M															
Nervous System																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma, metastatic, heart																						X			
Histiocytic sarcoma																		X							

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 20 ppm
(continued)

Number of Days on Study	693	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734
Carcass ID Number	0704	0572	0573	0581	0584	0593	0595	0601	0611	0612	0621	0633	0635	0644	0651	0655	0662	0664	0675	0681	0684	0685	0691	0703	0705	Total Tissues/ Tumors
Genital System																										
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Penis									+																	4
Preputial gland	+															+										4
Prostate	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Seminal vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hematopoietic System																										
Blood																										1
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Histiocytic sarcoma																										1
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Iliac, histiocytic sarcoma																										1
Lymph node, bronchial	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	42
Adenocarcinoma, metastatic, lung																										1
Alveolar/bronchiolar carcinoma, metastatic, lung																										1
Histiocytic sarcoma																										1
Lymph node, mandibular	+	+	+	+	+	+	+	+	+	+	+	M	M	+	+	+	+	M	+	+	+	M	M	M	M	38
Histiocytic sarcoma																										1
Sarcoma, metastatic, skin																										1
Lymph node, mediastinal	+	+	+	M	+	+	M	M	M	M	M	M	+	M	M	M	+	M	M	M	+	+	+	+	+	33
Histiocytic sarcoma																										2
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	+	+	+	M	+	+	+	+	47
Histiocytic sarcoma																										3
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangiosarcoma																		X								1
Histiocytic sarcoma																										4
Thymus	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	42
Histiocytic sarcoma																										1
Integumentary System																										
Mammary gland	M	M	M	M	M	M	M	M	M	M	I	M	M	M	M	M	M	M	M	M	M	I	M	M	M	
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Subcutaneous tissue, hemangiosarcoma																										1
Subcutaneous tissue, mast cell tumor NOS																										1
Subcutaneous tissue, head, sarcoma																										1
Musculoskeletal System																										
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Skeletal muscle																										
Nervous System																										
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangiosarcoma, metastatic, heart																										1
Histiocytic sarcoma																										1

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 20 ppm
(continued)

Number of Days on Study	289	397	456	517	531	532	536	540	568	573	585	586	604	610	618	632	637	651	658	659	680	682	686	687	689
Carcass ID Number	0641	0571	0591	0582	0692	0694	0701	0755	0653	0645	0592	0652	0583	0602	0594	0574	0676	0663	0662	0668	0585	0661	0624	0632	0631
Respiratory System																									
Larynx	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma																								X	
Adenocarcinoma, multiple																							X		
Adenocarcinoma, metastatic, harderian gland																									
Alveolar/bronchiolar adenoma				X			X						X	X	X					X				X	
Alveolar/bronchiolar carcinoma																									X
Alveolar/bronchiolar carcinoma, multiple									X																
Hepatocellular carcinoma, metastatic, liver										X		X													
Histiocytic sarcoma					X								X					X		X					
Sarcoma, metastatic, skin																					X				
Mediastinum, sarcoma, metastatic, skin																					X				
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Special Senses System																									
Eye																					+				
Harderian gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma																									
Adenoma							X				X				X										X
Urinary System																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma, metastatic, heart																						X			
Histiocytic sarcoma																		X							
Urethra																			+						
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Systemic Lesions																									
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma					X								X					X		X					
Lymphoma malignant lymphocytic			X	X																					
Lymphoma malignant mixed																									

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 20 ppm
(continued)

Number of Days on Study	693	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734	
Carcass ID Number	0704	0572	0573	0581	0584	0593	0595	0601	0611	0612	0621	0633	0635	0644	0651	0655	0662	0664	0675	0681	0684	0685	0691	0703	0705	Total Tissues/ Tumors
Respiratory System																										
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adenocarcinoma																										1
Adenocarcinoma, multiple																										1
Adenocarcinoma, metastatic, harderian gland								X																		1
Alveolar/bronchiolar adenoma				X				X							X											10
Alveolar/bronchiolar carcinoma					X			X	X				X	X								X				7
Alveolar/bronchiolar carcinoma, multiple			X																							2
Hepatocellular carcinoma, metastatic, liver	X																							X		4
Histiocytic sarcoma																										4
Sarcoma, metastatic, skin																										1
Mediastinum, sarcoma, metastatic, skin																										1
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Special Senses System																										
Eye																										1
Harderian gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adenocarcinoma								X																		1
Adenoma						X					X										X		X			8
Urinary System																										
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangiosarcoma, metastatic, heart																										1
Histiocytic sarcoma																										1
Urethra																										1
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Systemic Lesions																										
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Histiocytic sarcoma																										4
Lymphoma malignant lymphocytic																										2
Lymphoma malignant mixed										X													X			2

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 62.5 ppm

Number of Days on Study	2	3	3	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	7
	0	5	9	3	6	8	2	3	4	4	4	7	9	9	0	2	3	4	5	6	8	9	9	0
	0	2	8	4	4	1	5	7	0	6	6	4	5	6	7	4	5	9	8	2	0	5	6	7
Carcass ID Number	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9	9	8	9	9	8	8	9	9	8	9	8	9	9	8	9	8	9	9	9	9	8	8	9
	1	0	5	7	0	6	9	3	4	8	1	7	1	3	8	5	6	3	3	4	6	9	7	8
	4	1	4	4	5	3	1	5	5	2	2	1	5	2	5	2	2	4	3	3	3	3	3	1
Alimentary System																								
Esophagus	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I
Gallbladder	A	+	A	A	+	M	+	A	+	M	+	+	+	+	A	+	A	A	+	+	+	+	+	A
Intestine large	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, cecum	A	+	I	+	+	+	+	A	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	A
Intestine large, colon	A	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+
Intestine large, rectum	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small	A	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, duodenum	A	+	+	+	+	A	+	A	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	A
Histiocytic sarcoma																	X							
Intestine small, ileum	A	+	+	I	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, jejunum	A	+	+	A	+	A	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A
Carcinoma																								
Liver	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangioma																								
Hemangiosarcoma, metastatic, heart																							X	
Hepatocellular carcinoma				X															X					
Hepatocellular carcinoma, multiple										X			X							X				
Hepatocellular adenoma				X					X															
Hepatocellular adenoma, multiple						X																		
Histiocytic sarcoma			X									X			X		X							
Mesentery												+					+	+						+
Fat, hemangioma																								
Fat, hemangiosarcoma, metastatic, heart																								
Fat, histiocytic sarcoma																	X							
Pancreas	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pharynx							+																	
Salivary glands	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma												X												
Stomach	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Squamous cell papilloma																								
Stomach, glandular	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Tooth					+																	+		
Cardiovascular System																								
Heart	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma, metastatic, lung									X												X			
Hemangiosarcoma																		X					X	
Histiocytic sarcoma															X									
Endocrine System																								
Adrenal gland	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+
Adrenal gland, cortex	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+
Adenoma																					X			
Histiocytic sarcoma												X			X									
Adrenal gland, medulla	M	+	+	+	+	+	+	A	+	+	+	+	+	+	+	M	M	+	+	+	+	+	+	+

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 62.5 ppm
(continued)

Number of Days on Study	707	713	716	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	
Carcass ID Number	0985	0895	0924	0852	0853	0855	0864	0872	0874	0892	0894	0902	0913	0921	0941	0942	0951	0954	0955	0962	0964	0975	0982	0983	0984	**Total Tissues/ Tumors**
Alimentary System																										
Esophagus	+	+	+	+	+	+	+	M	M	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	44
Gallbladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	I	+	+	+	+	+	M	+	+	+	36
Intestine large	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine large, cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	44
Intestine large, colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Intestine large, rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine small	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine small, duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	44
Histiocytic sarcoma																										1
Intestine small, ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Intestine small, jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	44
Carcinoma												X														1
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Hemangioma																						X				1
Hemangiosarcoma, metastatic, heart													X												X	3
Hepatocellular carcinoma	X							X	X		X	X						X	X		X	X				11
Hepatocellular carcinoma, multiple															X	X				X						6
Hepatocellular adenoma	X			X		X		X			X		X		X			X			X					11
Hepatocellular adenoma, multiple		X			X												X		X							5
Histiocytic sarcoma																							X			5
Mesentery	+					+	+			+				+		+		+					+	+	+	14
Fat, hemangioma	X																	X								2
Fat, hemangiosarcoma, metastatic, heart																									X	1
Fat, histiocytic sarcoma																										1
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Pharynx																										1
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Histiocytic sarcoma																										1
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Squamous cell papilloma														X												1
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Tooth												+														3
Cardiovascular System																										
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Adenocarcinoma, metastatic, lung																										2
Hemangiosarcoma													X											X	X	5
Histiocytic sarcoma																										1
Endocrine System																										
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Adenoma																										1
Histiocytic sarcoma																										2
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	44

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 62.5 ppm
(continued)

Number of Days on Study	200	302	398	434	446	481	525	537	540	544	546	574	595	596	607	624	635	649	658	682	689	695	696	707
Carcass ID Number	0914	0901	0854	0974	0905	0863	0891	0935	0945	0882	0912	0871	0915	0932	0885	0952	0862	0934	0933	0943	0963	0933	0787	0981
Endocrine System (continued)																								
Islets, pancreatic	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Parathyroid gland	M	+	+	+	+	+	M	+	+	+	+	+	M	M	M	+	+	+	+	+	+	+	+	M
Pituitary gland	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pars distalis, carcinoma					X																			
Thyroid gland	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Follicular cell, adenoma																								
General Body System																								
None																								
Genital System																								
Epididymis	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Penis								+					+						+			+		
Preputial gland													+				+		+	+		+		
Hemangiosarcoma																								
Prostate	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Seminal vesicle	A	+	+	+	+	A	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Testes	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangioma																								
Interstitial cell, adenoma																								
Hematopoietic System																								
Bone marrow	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma															X		X							
Lymph node	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Iliac, histiocytic sarcoma			X																					
Pancreatic, histiocytic sarcoma			X																					
Lymph node, bronchial	A	+	M	+	M	M	+	+	+	I	M	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma, metastatic, lung									X												X			
Histiocytic sarcoma																	X							
Lymph node, mandibular	A	M	M	+	M	+	+	+	M	+	+	+	M	+	+	+	M	+	+	+	+	+	+	+
Histiocytic sarcoma																								
Lymph node, mediastinal	A	M	+	M	+	M	+	M	+	+	+	+	M	+	+	+	M	+	M	+	+	+	+	+
Adenocarcinoma, metastatic, lung									X												X			
Histiocytic sarcoma																								
Lymph node, mesenteric	A	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+
Histiocytic sarcoma												X			X		X							
Spleen	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma												X			X		X							
Thymus	A	+	+	+	+	M	+	A	+	+	+	+	M	+	+	+	M	+	+	I	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
Skin	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sebaceous gland, adenoma																			X					
Subcutaneous tissue, leiomyosarcoma																								
Subcutaneous tissue, mixed tumor malignant		X																						

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 62.5 ppm
(continued)

Number of Days on Study	707	713	716	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	
Carcass ID Number	0985	0895	0924	0852	0853	0855	0864	0872	0874	0892	0894	0902	0913	0921	0941	0942	0951	0954	0955	0962	0964	0975	0982	0983	0984	**Total Tissues/ Tumors**
Endocrine System (continued)																										
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Parathyroid gland	+	+	+	+	M	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	M	+	+	+	40
Pituitary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Pars distalis, carcinoma																										1
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Follicular cell, adenoma			X		X																	X			X	4
General Body System																										
None																										
Genital System																										
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Penis					+													+	+							7
Preputial gland	+										+					+							+			9
Hemangiosarcoma											X															1
Prostate	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	M	45
Seminal vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Hemangioma									X																	1
Interstitial cell, adenoma			X																							1
Hematopoietic System																										
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Histiocytic sarcoma																										2
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Iliac, histiocytic sarcoma																										1
Pancreatic, histiocytic sarcoma																										1
Lymph node, bronchial	M	+	+	+	+	+	+	M	M	+	+	+	+	M	+	+	+	M	+	M	+	+	+	+	+	37
Adenocarcinoma, metastatic, lung																										2
Histiocytic sarcoma																							X			2
Lymph node, mandibular	+	M	M	M	+	+	+	+	+	M	M	+	M	M	+	+	+	+	+	M	+	M	+	+	+	33
Histiocytic sarcoma																							X			1
Lymph node, mediastinal	+	M	+	M	+	+	M	M	+	M	+	M	M	M	M	+	+	+	+	+	+	+	+	+	+	32
Adenocarcinoma, metastatic, lung																										2
Histiocytic sarcoma																							X			1
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Histiocytic sarcoma																							X			4
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Histiocytic sarcoma																							X			4
Thymus	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	40
Integumentary System																										
Mammary gland	M	M	+	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	1
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Sebaceous gland, adenoma																										1
Subcutaneous tissue, leiomyosarcoma		X																								1
Subcutaneous tissue, mixed tumor malignant																										1

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 62.5 ppm
(continued)

Number of Days on Study	200	352	398	434	446	481	525	537	540	546	546	574	595	596	607	624	635	649	658	662	680	695	696	707
Carcass ID Number	0914	0991	0805	0974	0995	0863	0891	0935	0945	0882	0991	0817	0915	0993	0885	0952	0862	0943	0933	0934	0963	0933	0878	0981
Musculoskeletal System																								
Bone	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Skeletal muscle									+															+
Hemangiosarcoma																								X
Diaphragm, adenocarcinoma, metastatic, lung									X															
Nervous System																								
Brain	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Carcinoma, metastatic, pituitary gland					X																			
Histiocytic sarcoma			X																					
Respiratory System																								
Larynx	A	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma									X												X			
Adenocarcinoma, metastatic, harderian gland																								
Alveolar/bronchiolar adenoma				X		X	X		X						X			X						
Alveolar/bronchiolar adenoma, multiple																X						X		X
Alveolar/bronchiolar carcinoma							X				X													
Alveolar/bronchiolar carcinoma, multiple																								
Hemangiosarcoma, metastatic, heart																		X					X	
Hemangiosarcoma, metastatic, skeletal muscle																								X
Hepatocellular carcinoma, metastatic, liver																				X				
Histiocytic sarcoma			X									X			X		X							
Leiomyosarcoma, metastatic, skin																								
Mediastinum, adenocarcinoma, metastatic, lung									X												X			
Nose	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+
Leiomyosarcoma, metastatic, skin																								
Trachea	A	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+
Special Senses System																								
Ear																								
Eye									+															
Harderian gland	M	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma																					X			
Adenoma					X										X		X	X	X	X	X			
Leiomyosarcoma, metastatic, skin																								
Bilateral, adenoma																								

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 62.5 ppm
(continued)

Number of Days on Study	707	713	716	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	
Carcass ID Number	0985	0895	0924	0825	0835	0855	0864	0872	0874	0892	0894	0902	0913	0921	0941	0942	0951	0954	0955	0962	0964	0975	0982	0983	0984	Total Tissues/ Tumors
Musculoskeletal System																										
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Skeletal muscle																										2
Hemangiosarcoma																										1
Diaphragm, adenocarcinoma, metastatic, lung																										1
Nervous System																										
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Carcinoma, metastatic, pituitary gland																										1
Histiocytic sarcoma																										1
Respiratory System																										
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Adenocarcinoma																										2
Adenocarcinoma, metastatic, harderian gland		X														X										2
Alveolar/bronchiolar adenoma	X			X				X	X	X	X	X			X			X		X	X		X		X	19
Alveolar/bronchiolar adenoma, multiple		X				X	X																			6
Alveolar/bronchiolar carcinoma				X	X							X	X							X	X					8
Alveolar/bronchiolar carcinoma, multiple														X										X		2
Hemangiosarcoma, metastatic, heart																									X	3
Hemangiosarcoma, metastatic, skeletal muscle																										1
Hepatocellular carcinoma, metastatic, liver															X					X						3
Histiocytic sarcoma																										4
Leiomyosarcoma, metastatic, skin		X																								1
Mediastinum, adenocarcinoma, metastatic, lung																										2
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Leiomyosarcoma, metastatic, skin		X																								1
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Special Senses System																										
Ear						+																				1
Eye								+																		2
Harderian gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Adenocarcinoma		X														X										3
Adenoma				X	X			X	X			X			X	X		X		X				X		17
Leiomyosarcoma, metastatic, skin		X																								1
Bilateral, adenoma						X											X									2

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 62.5 ppm
(continued)

Number of Days on Study	2	3	3	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	7
	0	5	9	3	6	8	2	3	4	4	4	7	9	9	0	2	3	4	5	6	8	9	9	0
	0	2	8	4	4	1	5	7	0	6	6	4	5	6	7	4	5	9	8	2	0	5	6	7
Carcass ID Number	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9	9	8	9	9	8	8	9	9	8	9	8	9	9	8	9	8	9	9	9	9	8	8	9
	1	0	5	7	0	6	9	3	4	8	1	7	1	3	8	5	6	3	3	4	6	9	7	8
	4	1	4	4	5	3	1	5	5	2	2	1	5	2	5	2	2	4	3	3	3	3	3	1
Urinary System																								
Kidney	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma, metastatic, lung									X												X			
Hemangiosarcoma, metastatic, heart																								
Histiocytic sarcoma												X			X		X							
Renal tubule, adenoma																								
Urethra																			+			+		
Urinary bladder	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Systemic Lesions																								
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma			X									X			X		X							
Lymphoma malignant	X																							
Lymphoma malignant histiocytic																								
Lymphoma malignant lymphocytic											X			X		X								

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 62.5 ppm
(continued)

Number of Days on Study	707	713	716	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	733	
Carcass ID Number	0985	0895	0924	0852	0853	0855	0864	0872	0874	0892	0894	0902	0913	0921	0941	0942	0951	0954	0955	0962	0964	0975	0982	0983	0984	**Total Tissues/ Tumors**
Urinary System																										
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**48**
Adenocarcinoma, metastatic, lung																										**2**
Hemangiosarcoma, metastatic, heart													X													**1**
Histiocytic sarcoma																										**3**
Renal tubule, adenoma						X						X											X			**3**
Urethra					+													+	+				+			**6**
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**48**
Systemic Lesions																										
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**49**
Histiocytic sarcoma																							X			**5**
Lymphoma malignant																										**1**
Lymphoma malignant histiocytic																						X				**1**
Lymphoma malignant lymphocytic			X																							**4**

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 200 ppm

Number of Days on Study	1	2	2	2	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5
	7	1	5	8	5	7	8	7	7	7	8	9	9	1	2	3	3	6	6	6	6	6	6	7	8
	1	7	1	8	1	1	2	0	4	4	1	5	5	9	9	0	7	8	8	8	8	9	9	3	2
Carcass ID Number	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	2	2	2	2	1	2	1	2	2	1	2	2	2	2	1	1	1	2	2	1	1	2	2
	5	5	0	0	5	2	3	0	9	1	4	4	3	4	6	3	6	3	8	3	5	8	9	1	1
	1	2	2	1	3	3	3	4	1	1	4	2	5	1	1	3	2	4	3	1	5	5	5	3	5
Alimentary System																									
Esophagus	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+
Gallbladder	A	M	+	A	M	+	+	A	+	+	+	+	A	+	M	A	A	+	+	+	+	A	+	+	A
Intestine large	+	+	+	A	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, cecum	A	+	+	A	A	+	+	A	+	+	+	+	+	+	A	+	A	+	+	+	+	+	+	+	+
Intestine large, colon	+	+	+	A	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, rectum	+	+	+	A	A	+	+	A	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+
Intestine small	A	+	+	A	A	+	+	A	+	+	+	+	A	+	A	A	A	+	+	+	+	+	+	+	+
Intestine small, duodenum	A	+	+	A	A	+	+	A	+	+	+	+	A	+	A	A	M	+	+	+	+	+	+	+	+
Intestine small, ileum	A	+	+	A	A	+	+	A	+	+	+	+	A	+	A	A	A	+	+	+	+	+	+	+	+
Intestine small, jejunum	A	A	+	A	A	+	+	A	+	+	A	+	A	+	A	A	A	+	+	+	+	+	+	+	A
Carcinoma																									
Liver	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma, metastatic, heart																						X	X		X
Hepatocellular carcinoma					X					X								X							
Hepatocellular carcinoma, multiple											X			X	X		X				X				
Hepatocellular adenoma											X		X			X			X	X	X		X		X
Hepatocellular adenoma, multiple					X				X	X															
Hepatocholangiocarcinoma																									
Histiocytic sarcoma				X			X																	X	
Mesentery																					+			+	
Fat, adenocarcinoma, metastatic, lung																									
Fat, hemangiosarcoma, metastatic, spleen																					X				
Fat, histiocytic sarcoma																								X	
Pancreas	+	+	+	A	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Acinus, histiocytic sarcoma																									
Duct, adenoma, multiple																									
Pharynx																									
Salivary glands	+	+	+	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Squamous cell carcinoma																									
Squamous cell papilloma																X						X			
Stomach, glandular	+	+	+	A	A	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+
Tooth																									
Cardiovascular System																									
Heart	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma, metastatic, lung																									
Hemangiosarcoma														X	X		X					X	X		X
Histiocytic sarcoma							X																	X	
Endocrine System																									
Adrenal gland	+	+	+	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, cortex	+	+	+	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																								X	
Adrenal gland, medulla	+	+	+	+	A	M	+	A	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 200 ppm
(continued)

Number of Days on Study	583	595	596	596	596	596	598	610	620	623	624	624	629	639	649	652	660	673	674	692	697	733	733	733	733	
Carcass ID Number	1234	1205	1135	1141	1154	1224	1177	1181	1175	1225	1173	1243	1165	1222	1144	1232	1155	1143	1132	1245	1164	1172	1203	1212	1224	Total Tissues/ Tumors
Alimentary System																										
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Gallbladder	+	+	+	+	+	+	+	A	A	A	+	+	+	A	+	+	A	+	+	+	A	+	+	+	A	32
Intestine large	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Intestine large, cecum	+	+	+	+	+	+	A	A	A	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	40
Intestine large, colon	+	+	+	+	+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Intestine large, rectum	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Intestine small	+	+	+	+	+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	39
Intestine small, duodenum	+	+	+	+	+	+	+	A	A	+	+	+	+	A	+	+	A	+	+	+	A	+	+	+	+	37
Intestine small, ileum	+	+	+	+	+	+	A	A	A	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	A	37
Intestine small, jejunum	+	+	+	+	+	+	A	A	A	+	+	+	+	A	+	+	+	+	+	+	A	+	+	+	A	33
Carcinoma						X																		X		2
Liver	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Hemangiosarcoma, metastatic, heart	X													X			X				X	X		X		9
Hepatocellular carcinoma	X			X	X	X	X	X		X				X	X			X		X			X	X	X	17
Hepatocellular carcinoma, multiple											X								X		X	X				9
Hepatocellular adenoma	X				X		X			X	X				X				X	X			X		X	18
Hepatocellular adenoma, multiple						X								X										X		6
Hepatocholangiocarcinoma													X													1
Histiocytic sarcoma		X						X				X						X								7
Mesentery							+					+			+		+	+	+				+			9
Fat, adenocarcinoma, metastatic, lung																			X							1
Fat, hemangiosarcoma, metastatic, spleen																										1
Fat, histiocytic sarcoma												X						X								3
Pancreas	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Acinus, histiocytic sarcoma												X														1
Duct, adenoma, multiple											X															1
Pharynx																					+					1
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Squamous cell carcinoma									X																	1
Squamous cell papilloma			X				X								X					X			X			7
Stomach, glandular	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Tooth															+											1
Cardiovascular System																										
Heart	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Adenocarcinoma, metastatic, lung																X			X							2
Hemangiosarcoma	X		X	X	X							X		X		X	X		X	X	X	X		X	X	20
Histiocytic sarcoma		X																								3
Endocrine System																										
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Histiocytic sarcoma																										1
Adrenal gland, medulla	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	44

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 200 ppm
(continued)

Number of Days on Study	1	2	2	2	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5
	7	1	5	8	5	7	8	7	7	7	8	9	9	1	2	3	3	6	6	6	6	6	6	7	8
	1	7	1	8	1	1	2	0	4	4	1	5	5	9	9	0	7	8	8	8	8	9	9	3	2
Carcass ID Number	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	2	2	2	2	1	2	1	2	2	1	2	2	2	2	1	1	1	2	2	1	1	2	2
	5	5	0	0	5	2	3	0	9	1	4	4	3	4	6	3	6	3	8	3	5	8	9	1	1
	1	2	2	1	3	3	3	4	1	1	4	2	5	1	1	3	2	4	3	1	5	5	5	3	5
Endocrine System (continued)																									
Islets, pancreatic	+	+	+	A	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Parathyroid gland	M	+	+	+	M	+	+	A	+	+	+	+	+	M	M	M	+	+	+	M	+	+	M	+	+
Pituitary gland	+	+	+	+	+	+	+	A	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pars intermedia, adenoma						X																			
Thyroid gland	+	+	+	A	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Follicular cell, adenoma																									
General Body System																									
None																									
Genital System																									
Epididymis	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Penis																									
Preputial gland																									
Carcinoma																									
Prostate	+	+	+	A	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Seminal vesicle	M	+	+	A	A	+	+	A	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hematopoietic System																									
Blood																									
Bone marrow	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma							X																	X	
Lymph node	+	M	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph node, bronchial	+	M	+	+	M	M	+	M	+	M	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+
Adenocarcinoma, metastatic, lung																									
Histiocytic sarcoma							X																	X	
Lymph node, mandibular	+	M	+	M	+	+	+	M	+	M	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+
Histiocytic sarcoma																								X	
Lymph node, mediastinal	+	M	+	+	+	+	+	A	M	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+
Adenocarcinoma, metastatic, lung																									
Alveolar/bronchiolar carcinoma, metastatic, lung																									
Histiocytic sarcoma				X			X																	X	
Lymph node, mesenteric	+	I	+	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma				X																				X	
Spleen	+	+	+	A	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma																					X				
Histiocytic sarcoma							X																	X	
Thymus	+	M	+	+	+	M	+	A	+	+	+	+	M	+	+	+	M	+	+	+	+	+	+	+	+
Adenocarcinoma, metastatic, lung																									
Histiocytic sarcoma							X																		
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

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 200 ppm
(continued)

Number of Days on Study	583	595	599	599	599	599	598	610	620	623	624	624	629	639	649	652	660	673	674	692	697	733	733	733	733	
Carcass ID Number	1234	1205	1135	1141	1145	1224	1174	1181	1175	1225	1127	1243	1165	1222	1144	1223	1155	1143	1132	1245	1164	1172	1203	1212	1242	Total Tissues/ Tumors
Endocrine System (continued)																										
Islets, pancreatic	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Parathyroid gland	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	M	M	+	+	M	+	+	+	+	+	38
Pituitary gland	+	+	+	+	+	+	+	M	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Pars intermedia, adenoma																										1
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Follicular cell, adenoma										X	X															2
General Body System																										
None																										
Genital System																										
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Penis																				+						1
Preputial gland			+	+	+												+			+		+				6
Carcinoma			X	X	X															X		X				5
Prostate	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Seminal vesicle	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	44
Testes	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Hematopoietic System																										
Blood																										
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Histiocytic sarcoma								X										X								4
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Lymph node, bronchial	M	+	+	+	+	+	+	M	M	+	+	M	+	+	+	+	M	M	+	+	M	+	+	+	+	37
Adenocarcinoma, metastatic, lung																X			X							2
Histiocytic sarcoma		X																								3
Lymph node, mandibular	M	+	+	+	+	+	M	+	+	M	+	+	+	+	M	+	+	+	M	+	+	+	+	M	+	39
Histiocytic sarcoma		X																								2
Lymph node, mediastinal	+	+	+	+	+	+	+	+	M	+	+	+	+	M	+	+	+	M	+	+	+	M	+	M	M	40
Adenocarcinoma, metastatic, lung																			X							1
Alveolar/bronchiolar carcinoma, metastatic, lung													X													1
Histiocytic sarcoma		X																								4
Lymph node, mesenteric	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Histiocytic sarcoma		X						X				X						X								6
Spleen	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Hemangiosarcoma																										1
Histiocytic sarcoma		X						X				X						X								6
Thymus	+	+	+	I	+	+	+	+	M	+	M	M	+	M	M	M	+	+	+	M	+	+	+	M	M	35
Adenocarcinoma, metastatic, lung																			X							1
Histiocytic sarcoma		X																								2
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	4

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 200 ppm
(continued)

Number of Days on Study	1	2	2	2	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5
	7	1	5	8	5	7	8	7	7	7	8	9	9	1	2	3	3	6	6	6	6	6	6	7	8
	1	7	1	8	1	1	2	0	4	4	1	5	5	9	9	0	7	8	8	8	8	9	9	3	2
Carcass ID Number	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	2	2	2	2	1	2	1	2	2	1	2	2	2	2	1	1	1	2	2	1	1	2	2
	5	5	0	0	5	2	3	0	9	1	4	4	3	4	6	3	6	3	8	3	5	8	9	1	1
	1	2	2	1	3	3	3	4	1	1	4	2	5	1	1	3	2	4	3	1	5	5	5	3	5
Integumentary System (continued)																									
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sebaceous gland, adenoma										X															
Subcutaneous tissue, adenocarcinoma, metastatic, lung																									
Subcutaneous tissue, hemangiosarcoma																X				X					
Musculoskeletal System																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Skeletal muscle																									
Adenocarcinoma, metastatic, lung																									
Nervous System																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Glioma malignant									X																
Histiocytic sarcoma							X																	X	
Respiratory System																									
Larynx	+	+	+	A	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma												X													
Adenocarcinoma, metastatic, harderian gland													X												X
Alveolar/bronchiolar adenoma					X	X		X	X		X							X	X				X		
Alveolar/bronchiolar adenoma, multiple																									
Alveolar/bronchiolar carcinoma												X			X							X			
Alveolar/bronchiolar carcinoma, multiple										X													X		
Hemangiosarcoma, metastatic, heart															X							X			X
Hepatocellular carcinoma, metastatic																	X								
Hepatocellular carcinoma, metastatic, liver															X		X								
Histiocytic sarcoma				X			X																	X	
Mediastinum, adenocarcinoma, metastatic, lung												X													
Mediastinum, alveolar/bronchiolar carcinoma, metastatic, lung																									
Mediastinum, hemangiosarcoma, metastatic, heart																						X			
Nose	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																								X	
Trachea	+	+	+	A	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 200 ppm
(continued)

Number of Days on Study	583	595	596	596	596	596	598	610	620	623	624	624	629	639	649	652	660	673	674	692	697	733	733	733	733	
Carcass ID Number	1234	1205	1135	1141	1154	1224	1147	1181	1175	1225	1173	1243	1265	1222	1244	1243	1155	1143	1132	1245	1146	1172	1230	1221	1224	Total Tissues/ Tumors
Integumentary System (continued)																										
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Sebaceous gland, adenoma																										1
Subcutaneous tissue, adenocarcinoma, metastatic, lung																			X							1
Subcutaneous tissue, hemangiosarcoma										X																3
Musculoskeletal System																										
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Skeletal muscle																+			+							2
Adenocarcinoma, metastatic, lung																X			X							2
Nervous System																										
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Glioma malignant																										1
Histiocytic sarcoma		X						X				X														5
Respiratory System																										
Larynx	+	+	+	+	+	+	+	A	A	+	+	+	+	A	+	+	+	+	+	+	+	+	M	+	+	43
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adenocarcinoma															X	X			X							4
Adenocarcinoma, metastatic, harderian gland																										2
Alveolar/bronchiolar adenoma					X	X						X						X				X	X	X		15
Alveolar/bronchiolar adenoma, multiple			X	X						X			X							X					X	6
Alveolar/bronchiolar carcinoma						X			X					X	X	X			X					X		10
Alveolar/bronchiolar carcinoma, multiple		X					X	X			X		X					X		X	X	X	X			12
Hemangiosarcoma, metastatic, heart														X			X				X			X		7
Hepatocellular carcinoma, metastatic																										1
Hepatocellular carcinoma, metastatic, liver											X										X					4
Histiocytic sarcoma		X						X				X						X								7
Mediastinum, adenocarcinoma, metastatic, lung																X			X							3
Mediastinum, alveolar/bronchiolar carcinoma, metastatic, lung													X													1
Mediastinum, hemangiosarcoma, metastatic, heart	X																					X				3
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Histiocytic sarcoma																										1
Trachea	+	+	+	+	+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 200 ppm
(continued)

Number of Days on Study	1	2	2	2	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5
	7	1	5	8	5	7	8	7	7	7	8	9	9	1	2	3	3	6	6	6	6	6	6	7	8
	1	7	1	8	1	1	2	0	4	4	1	5	5	9	9	0	7	8	8	8	8	9	9	3	2
Carcass ID Number	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	2	2	2	2	1	2	1	2	2	1	2	2	2	2	1	1	1	2	2	1	1	2	2
	5	5	0	0	5	2	3	0	9	1	4	4	3	4	6	3	6	3	8	3	5	8	9	1	1
	1	2	2	1	3	3	3	4	1	1	4	2	5	1	1	3	2	4	3	1	5	5	5	3	5
Special Senses System																									
Eye			+						+								+		+						+
Harderian gland	+	M	M	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma													X												X
Adenoma							X	X	X	X					X		X					X	X		X
Bilateral, adenoma																			X		X			X	
Urinary System																									
Kidney	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma, metastatic, harderian gland													X												
Adenocarcinoma, metastatic, lung																									
Hemangiosarcoma, metastatic, heart																									X
Histiocytic sarcoma				X			X																	X	
Renal tubule, adenoma																								X	
Urethra																									
Urinary bladder	+	+	+	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma				X																					
Systemic Lesions																									
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma				X			X																	X	
Lymphoma malignant lymphocytic	X		X																						

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 200 ppm
(continued)

Number of Days on Study	583	595	596	596	596	596	598	610	620	623	624	624	629	639	649	652	660	673	674	692	697	733	733	733	733	
Carcass ID Number	1234	1205	1135	1141	1155	1224	1174	1181	1175	1225	1173	1243	1165	1222	1144	1232	1155	1143	1132	1245	1164	1172	1203	1212	1224	**Total Tissues/ Tumors**
Special Senses System																										
Eye		+				+																	+			8
Harderian gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Adenocarcinoma																										2
Adenoma	X	X	X	X	X	X		X				X	X				X	X		X	X			X	X	24
Bilateral, adenoma														X		X							X			6
Urinary System																										
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Adenocarcinoma, metastatic, harderian gland																										1
Adenocarcinoma, metastatic, lung																X										1
Hemangiosarcoma, metastatic, heart																									X	2
Histiocytic sarcoma		X						X										X								6
Renal tubule, adenoma																										1
Urethra																				+					+	2
Urinary bladder	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Histiocytic sarcoma																										1
Systemic Lesions																										
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Histiocytic sarcoma		X						X				X						X								7
Lymphoma malignant lymphocytic																										2

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm

Number of Days on Study	120	161	163	167	174	180	182	184	187	188	192	199	212	215	216	218	222	222	223	227	228	228	232	236	236
Carcass ID Number	1571	1454	1465	1469	1423	1504	1484	1441	1556	1543	1553	1552	1422	1545	1471	1503	1474	1575	1492	1462	1461	1455	1453	1452	1458
Alimentary System																									
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	A	+	+	+	A	+	A	+	+	+	A	A	A	M	A	A	A	+	A	A	A	A	+	A	+
Intestine large	+	+	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+	+	A	+
Intestine large, cecum	A	+	+	+	A	+	A	+	+	+	A	A	+	A	+	+	+	+	+	A	A	+	+	A	+
Intestine large, colon	A	+	+	+	+	+	A	+	+	+	A	+	+	A	+	+	+	+	+	A	A	+	+	A	+
Intestine large, rectum	+	+	+	+	+	+	A	+	+	+	A	+	+	+	+	+	I	+	A	A	A	+	I	A	+
Intestine small	A	+	+	+	A	+	A	+	+	+	A	A	+	A	+	+	+	+	+	A	A	+	+	A	+
Intestine small, duodenum	A	+	+	+	A	+	A	+	+	+	A	M	+	A	+	M	+	+	I	A	A	A	+	A	+
Intestine small, ileum	A	+	+	+	A	+	A	+	+	+	A	A	A	A	+	+	A	+	+	A	A	I	+	A	+
Intestine small, jejunum	A	+	+	+	A	+	A	+	+	+	A	A	A	A	+	+	A	+	A	A	A	+	+	A	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+
Hemangiosarcoma, metastatic, heart																									
Hepatocellular carcinoma																									
Hepatocellular adenoma																									
Histiocytic sarcoma	X		X																						
Squamous cell carcinoma, metastatic, stomach																									
Mesentery																									
Squamous cell carcinoma, metastatic, stomach																									
Fat, hemangiosarcoma, metastatic, heart																									
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+
Acinus, histiocytic sarcoma	X																								
Acinus, squamous cell carcinoma, metastatic, stomach																									
Pharynx																									
Salivary glands	M	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	+	A	+
Histiocytic sarcoma																									
Stomach	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Squamous cell carcinoma																									
Squamous cell papilloma																									
Stomach, glandular	+	+	+	+	+	M	+	+	+	+	+	A	+	+	+	+	+	+	M	A	A	+	+	+	+
Histiocytic sarcoma																									
Squamous cell carcinoma, metastatic, stomach																									
Cardiovascular System																									
Blood vessel																									
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma																									

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	239	239	240	243	243	243	243	247	249	250	251	254	257	258	259	260	260	264	264	268	271	273	277	280	285
Carcass ID Number	143	156	157	144	144	151	152	155	152	154	144	158	149	173	252	261	185	152	154	144	156	185	149	145	141
Alimentary System																									
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	+	+	+	+	+	+	+	A	M	+	A	+	A	+	+	M	+	A	+	A	+	+	A	+
Intestine large	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+
Intestine large, cecum	+	+	+	+	+	+	+	+	+	A	+	A	+	+	A	+	+	+	+	+	A	+	A	+	+
Intestine large, colon	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	A	M	+	+	+
Intestine large, rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+
Intestine small	+	+	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	A	+	+	+	+	+	+	+
Intestine small, duodenum	+	+	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	A	+	+	A	+	+	+	+
Intestine small, ileum	+	+	+	+	+	+	+	+	+	A	+	A	+	+	A	+	+	A	+	+	A	+	+	+	+
Intestine small, jejunum	+	+	+	+	+	+	+	+	A	A	+	+	+	+	A	A	+	M	A	+	+	+	A	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma, metastatic, heart																									
Hepatocellular carcinoma																									
Hepatocellular adenoma																									
Histiocytic sarcoma														X											
Squamous cell carcinoma, metastatic, stomach																									
Mesentery																									
Squamous cell carcinoma, metastatic, stomach																									
Fat, hemangiosarcoma, metastatic, heart																									
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Acinus, histiocytic sarcoma																									
Acinus, squamous cell carcinoma, metastatic, stomach																									
Pharynx																									
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Squamous cell carcinoma																									
Squamous cell papilloma																									
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Squamous cell carcinoma, metastatic, stomach																									
Cardiovascular System																									
Blood vessel																									
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma																									

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	286	289	289	291	295	297	297	302	306	310	310	315	319	327	352	352	370	376	395	412	414	422	428	
Carcass ID Number	143	153	155	143	153	142	155	153	150	154	156	158	151	154	142	145	146	154	141	151	148	152	141	Total Tissues/ Tumors
Alimentary System																								
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Gallbladder	A	A	+	A	+	I	M	A	+	+	+	+	+	A	+	+	A	+	+	+	+	+	+	42
Intestine large	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	65
Intestine large, cecum	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	M	+	+	55
Intestine large, colon	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	61
Intestine large, rectum	+	A	+	+	+	+	+	M	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	61
Intestine small	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	58
Intestine small, duodenum	+	A	+	+	+	A	+	A	+	+	+	+	+	+	+	+	A	+	M	+	+	+	A	51
Intestine small, ileum	A	A	+	+	+	A	+	I	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	51
Intestine small, jejunum	I	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	A	A	+	+	+	+	A	48
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	72
Hemangiosarcoma, metastatic, heart		X									X							X						3
Hepatocellular carcinoma																						X		1
Hepatocellular adenoma										X									X		X	X	X	5
Histiocytic sarcoma							X																	4
Squamous cell carcinoma, metastatic, stomach																	X							1
Mesentery						+											+	+	+					4
Squamous cell carcinoma, metastatic, stomach																	X							1
Fat, hemangiosarcoma, metastatic, heart																		X						1
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	72
Acinus, histiocytic sarcoma							X																	2
Acinus, squamous cell carcinoma, metastatic, stomach																	X							1
Pharynx														+										1
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	69
Histiocytic sarcoma							X																	1
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	72
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	72
Histiocytic sarcoma							X																	1
Squamous cell carcinoma								X									X							2
Squamous cell papilloma																			X	X				2
Stomach, glandular	I	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	66
Histiocytic sarcoma							X																	1
Squamous cell carcinoma, metastatic, stomach																	X							1
Cardiovascular System																								
Blood vessel																			+					1
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Hemangiosarcoma		X									X							X		X				4

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	120	161	163	167	174	180	182	184	187	188	192	199	212	215	216	218	222	222	223	227	228	228	232	236	236
Carcass ID Number	571	544	565	495	423	504	448	411	565	443	555	552	422	454	470	503	474	575	492	462	461	545	543	452	582
Endocrine System																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, medulla	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	A	+	+	+	+
Histiocytic sarcoma																									
Pheochromocytoma benign																									
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	I	+	+
Parathyroid gland	+	M	M	M	+	+	+	+	+	M	M	M	+	M	+	+	+	+	M	+	+	+	+	+	M
Pituitary gland	+	+	+	M	+	+	+	+	+	+	+	+	I	+	M	+	+	M	+	+	+	+	+	+	+
Thyroid gland	+	+	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+
General Body System																									
None																									
Genital System																									
Coagulating gland																									
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	A	+
Histiocytic sarcoma																									
Penis																					+				
Preputial gland																									
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	A	+	+	A	+
Seminal vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	A	+	+	+	+
Histiocytic sarcoma			X																						
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hematopoietic System																									
Blood								M																	
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma	X		X																						
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Lymph node, bronchial	M	+	M	+	M	+	+	M	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	M	+
Squamous cell carcinoma, metastatic, stomach																									
Lymph node, mandibular	M	+	+	+	+	+	+	+	+	+	A	+	+	+	+	M	+	+	+	+	A	+	+	+	+
Histiocytic sarcoma			X																						
Lymph node, mediastinal	+	+	M	+	+	M	+	M	+	+	M	+	+	M	+	+	+	+	+	+	+	+	M	M	+
Histiocytic sarcoma	X																								
Squamous cell carcinoma, metastatic, stomach																									
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	M	+	+	+	+	+
Histiocytic sarcoma			X																						
Squamous cell carcinoma, metastatic, stomach																									
Spleen	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+	+	+	+
Histiocytic sarcoma	X		X																						
Thymus	+	+	+	+	+	+	+	+	+	+	A	+	+	M	+	+	M	+	+	+	+	+	+	+	+

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	239	239	240	244	243	243	243	247	249	250	251	254	257	258	259	260	260	264	264	268	271	273	277	280	285
Carcass ID Number	143 1	156 2	157 4	144 1	144 2	145 3	125 4	155 1	152 2	151 4	144 3	158 1	149 3	147 3	145 5	156 1	158 5	155 2	158 4	144 4	145 3	144 5	144 1	144 5	145 1
Endocrine System																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma														X											
Pheochromocytoma benign																									
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+
Parathyroid gland	+	+	M	+	+	+	+	+	+	M	M	+	+	+	+	+	+	+	+	+	+	+	I	+	+
Pituitary gland	+	+	+	I	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	I	+	+	+	+	+
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
General Body System																									
None																									
Genital System																									
Coagulating gland																									
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Penis																									
Preputial gland							+																		
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	M	+	+
Seminal vesicle	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+
Histiocytic sarcoma																									
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+
Hematopoietic System																									
Blood																									
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma														X											
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Lymph node, bronchial	+	M	+	+	+	+	+	+	M	M	M	+	+	I	M	+	+	M	+	+	M	M	+	+	M
Squamous cell carcinoma, metastatic, stomach																									
Lymph node, mandibular	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	M	+	M	+	+	+	+	+
Histiocytic sarcoma																									
Lymph node, mediastinal	+	+	+	+	+	+	M	+	+	M	+	+	I	M	+	+	+	M	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Squamous cell carcinoma, metastatic, stomach																									
Lymph node, mesenteric	+	+	+	+	+	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M
Histiocytic sarcoma														X											
Squamous cell carcinoma, metastatic, stomach																									
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma														X											
Thymus	+	+	+	+	+	+	+	+	I	+	+	+	I	+	+	+	+	+	+	+	+	M	+	+	+

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	286	289	289	291	295	297	297	302	306	310	310	315	319	327	352	352	370	376	395	412	414	422	438	
Carcass ID Number	1433	1534	1535	1435	1535	1432	1505	1533	1502	1455	1456	1583	1512	1415	1421	1424	1464	1544	1412	1511	1418	1523	1441	Total Tissues/ Tumors
Endocrine System																								
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	69
Histiocytic sarcoma																								1
Pheochromocytoma benign																		X						1
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	70
Parathyroid gland	+	M	+	M	+	+	+	+	+	+	+	+	+	M	+	+	+	+	M	I	+	+	+	55
Pituitary gland	+	I	+	+	+	+	+	+	+	+	I	M	+	+	+	+	+	+	+	+	+	+	M	62
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	70
General Body System																								
None																								
Genital System																								
Coagulating gland																			+				+	2
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	71
Histiocytic sarcoma							X																	1
Penis																							M	1
Preputial gland																							+	2
Prostate	+	A	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	66
Seminal vesicle	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	67
Histiocytic sarcoma																								1
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	72
Hematopoietic System																								
Blood																								
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Histiocytic sarcoma							X																	4
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Histiocytic sarcoma							X																	1
Lymph node, bronchial	+	+	+	+	M	M	M	+	+	+	M	+	+	M	+	+	+	M	M	+	+	+	M	49
Squamous cell carcinoma, metastatic, stomach																	X							1
Lymph node, mandibular	+	M	+	+	+	M	+	I	+	+	+	M	+	+	+	+	M	+	+	+	+	+	+	61
Histiocytic sarcoma							X																	2
Lymph node, mediastinal	+	+	+	+	+	+	M	+	+	+	M	+	+	+	+	+	+	+	M	+	+	+	+	58
Histiocytic sarcoma																								1
Squamous cell carcinoma, metastatic, stomach																	X							1
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	68
Histiocytic sarcoma							X																	3
Squamous cell carcinoma, metastatic, stomach																	X							1
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	70
Histiocytic sarcoma							X																	4
Thymus	+	+	+	+	+	+	M	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	M	64

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	120	161	163	167	174	180	182	184	187	188	192	199	212	215	216	218	222	222	223	227	228	228	232	236	236
Carcass ID Number	157	154	146	149	152	150	148	141	156	143	135	142	122	145	147	130	174	175	149	146	146	155	143	142	158
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	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Subcutaneous tissue, histiocytic sarcoma			X																						
Musculoskeletal System																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Nervous System																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma	X																								
Spinal cord		+				+												+							
Respiratory System																									
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma																									
Alveolar/bronchiolar adenoma, multiple																									
Alveolar/bronchiolar carcinoma																									
Hemangiosarcoma, metastatic, heart																									
Histiocytic sarcoma	X																								
Neoplasm NOS, metastatic, uncertain primary site																									
Squamous cell carcinoma, metastatic, stomach																									
Nose	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+
Histiocytic sarcoma																									
Trachea	+	+	+	+	+	+	A	+	+	+	I	+	+	+	+	+	+	+	+	+	A	+	+	A	+
Special Senses System																									
Eye																		+				+			
Harderian gland	M	M	M	M	+	+	M	+	M	M	M	M	+	M	+	M	M	M	M	M	+	+	+	I	+
Adenoma																									
Bilateral, adenoma																									
Urinary System																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma	X		X																						
Squamous cell carcinoma, metastatic, stomach																									
Urinary bladder	+	+	+	+	+	+	+	+	+	+	A	A	+	+	+	+	+	+	+	A	A	+	+	+	+
Histiocytic sarcoma																									
Squamous cell carcinoma, metastatic, stomach																									

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	239	239	240	243	243	243	243	247	249	250	251	254	257	258	259	260	260	264	264	268	271	273	277	280	285
Carcass ID Number	1431	1562	1574	1441	1442	1513	1524	1551	1522	1514	1443	1581	1493	1447	1525	1561	1585	1552	1584	1444	1463	1485	1491	1445	1541
Integumentary System																									
Mammary gland	M	M	M	M	M	M	+	M	M	M	M	I	+	M	M	M	+	M	M	M	M	M	M	M	M
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Subcutaneous tissue, histiocytic sarcoma																									
Musculoskeletal System																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Nervous System																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma														X											
Spinal cord		+					+				+									+			+		
Respiratory System																									
Larynx	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma											X														
Alveolar/bronchiolar adenoma, multiple																									
Alveolar/bronchiolar carcinoma											X														
Hemangiosarcoma, metastatic, heart																									
Histiocytic sarcoma														X											
Neoplasm NOS, metastatic, uncertain primary site																			X						
Squamous cell carcinoma, metastatic, stomach																									
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	+	I	+	+
Special Senses System																									
Eye											+														
Harderian gland	M	+	M	M	+	M	M	M	M	M	+	M	M	M	M	+	+	M	+	+	M	+	M	M	+
Adenoma																									
Bilateral, adenoma																									
Urinary System																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma														X											
Squamous cell carcinoma, metastatic, stomach																									
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	M	+	+
Histiocytic sarcoma														X											
Squamous cell carcinoma, metastatic, stomach																									

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	286	289	289	291	295	297	297	302	306	310	310	315	319	327	325	322	370	376	395	412	414	422	438	
Carcass ID Number	143	153	155	143	153	142	150	153	150	145	156	158	151	154	142	145	144	154	141	151	148	152	141	Total Tissue Tumor
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	5
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Subcutaneous tissue, histiocytic sarcoma																								1
Musculoskeletal System																								
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Nervous System																								
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Histiocytic sarcoma																								2
Spinal cord			+								+	+									+			12
Respiratory System																								
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	71
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Alveolar/bronchiolar adenoma																		X						2
Alveolar/bronchiolar adenoma, multiple																						X		1
Alveolar/bronchiolar carcinoma																		X				X		3
Hemangiosarcoma, metastatic, heart											X							X						2
Histiocytic sarcoma							X																	3
Neoplasm NOS, metastatic, uncertain primary site																								1
Squamous cell carcinoma, metastatic, stomach																	X							1
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	71
Histiocytic sarcoma							X																	1
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	67
Special Senses System																								
Eye										+												+		5
Harderian gland	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	40
Adenoma		X	X		X											X							X	5
Bilateral, adenoma																			X					1
Urinary System																								
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Histiocytic sarcoma							X																	4
Squamous cell carcinoma, metastatic, stomach																	X							1
Urinary bladder	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	66
Histiocytic sarcoma							X																	2
Squamous cell carcinoma, metastatic, stomach																	X							1

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	120	161	163	167	174	180	182	184	187	188	192	199	212	215	216	218	222	222	223	227	228	228	232	236	236
Carcass ID Number	157	145	146	149	142	150	148	141	156	143	155	154	142	145	147	150	147	157	149	146	146	155	145	145	158
Systemic Lesions																									
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma	X		X																						
Lymphoma malignant																					X				
Lymphoma malignant lymphocytic		X		X	X	X	X		X	X		X	X	X	X	X	X	X	X	X		X	X	X	X
Lymphoma malignant mixed																									

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	239	239	240	243	243	243	243	247	249	250	251	254	257	258	259	260	260	264	264	268	271	273	277	280	285
Carcass ID Number	143	156	157	144	142	153	154	151	152	154	143	158	149	147	152	161	158	155	158	144	163	185	191	145	141
Systemic Lesions																									
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma														X											
Lymphoma malignant																									
Lymphoma malignant lymphocytic	X	X	X	X	X	X	X	X			X						X	X	X	X	X		X		X
Lymphoma malignant mixed																						X			

TABLE A2
Individual Animal Tumor Pathology of Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 625 ppm
(continued)

Number of Days on Study	286	289	289	291	295	297	297	302	306	310	310	315	319	327	352	352	370	376	395	412	414	422	438	
Carcass ID Number	143	153	155	143	153	142	150	153	150	155	156	158	151	145	141	142	144	145	141	151	148	152	148	Total Tissues/ Tumors
Systemic Lesions																								
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	73
Histiocytic sarcoma							X																	4
Lymphoma malignant																								1
Lymphoma malignant lymphocytic	X		X	X				X	X	X		X	X		X			X		X	X	X		49
Lymphoma malignant mixed																								1

TABLE A3
Statistical Analysis of Primary Neoplasms in Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
Adrenal Cortex: Adenoma						
Overall rate[a]	2/50 (4%)	4/49 (8%)	0/50 (0%)	1/47 (2%)	0/48 (0%)	0/73 (0%)
Adjusted rate[b]	5.1%	10.3%	0.0%	3.4%	0.0%	0.0%
Terminal rate[c]	1/35 (3%)	4/39 (10%)	0/24 (0%)	0/22 (0%)	0/4 (0%)	0/0
First incidence (days)	596	733 (T)	–[e]	680	–	–
Life table test[d]	P=0.839N	P=0.387	P=0.296N	P=0.601N	P=0.535N	–
Logistic regression test[d]	P=0.514N	P=0.347	P=0.228N	P=0.518N	P=0.303N	P=0.942N
Cochran-Armitage test[d]	P=0.059N					
Fisher exact test[d]		P=0.329	P=0.247N	P=0.523N	P=0.258N	P=0.163N
Harderian Gland: Adenoma						
Overall rate	6/50 (12%)	7/50 (14%)	8/50 (16%)	19/50 (38%)	30/50 (60%)	6/73 (8%)
Adjusted rate	14.8%	17.3%	25.8%	63.4%	95.4%	100.0%
Terminal rate	2/35 (6%)	6/39 (15%)	4/24 (17%)	12/22 (55%)	3/4 (75%)	0/0
First incidence (days)	543	652	536	464	382	289
Life table test	P<0.001	P=0.575	P=0.218	P<0.001	P<0.001	P<0.001
Logistic regression test	P<0.001	P=0.497	P=0.395	P<0.001	P<0.001	P=0.264
Cochran-Armitage test	P=0.069N					
Fisher exact test		P=0.500	P=0.387	P=0.002	P<0.001	P=0.346N
Harderian Gland: Carcinoma						
Overall rate	0/50 (0%)	1/50 (2%)	1/50 (2%)	3/50 (6%)	2/50 (4%)	0/73 (0%)
Adjusted rate	0.0%	2.6%	4.2%	11.7%	6.3%	0.0%
Terminal rate	0/35 (0%)	1/39 (3%)	1/24 (4%)	1/22 (5%)	0/4 (0%)	0/0
First incidence (days)	–	733 (T)	733 (T)	680	495	–
Life table test	P=0.080	P=0.522	P=0.425	P=0.067	P=0.166	–
Logistic regression test	P=0.720	P=0.522	P=0.425	P=0.086	P=0.352	–
Cochran-Armitage test	P=0.230N					
Fisher exact test		P=0.500	P=0.500	P=0.121	P=0.247	–
Harderian Gland: Adenoma or Carcinoma						
Overall rate	6/50 (12%)	7/50 (14%)	9/50 (18%)	20/50 (40%)	31/50 (62%)	6/73 (8%)
Adjusted rate	14.8%	17.3%	29.5%	64.9%	95.5%	100.0%
Terminal rate	2/35 (6%)	6/39 (15%)	5/24 (21%)	12/22 (55%)	3/4 (75%)	0/0
First incidence (days)	543	652	536	464	382	289
Life table test	P<0.001	P=0.575	P=0.141	P<0.001	P<0.001	P<0.001
Logistic regression test	P<0.001	P=0.497	P=0.284	P<0.001	P<0.001	P=0.002
Cochran-Armitage test	P=0.054N					
Fisher exact test		P=0.500	P=0.288	P=0.001	P<0.001	P=0.346N
Heart: Hemangiosarcoma						
Overall rate	0/50 (0%)	0/49 (0%)	1/50 (2%)	5/48 (10%)	20/48 (42%)	4/73 (5%)
Adjusted rate	0.0%	0.0%	3.4%	19.4%	93.3%	44.6%
Terminal rate	0/35 (0%)	0/38 (0%)	0/24 (0%)	3/22 (14%)	3/4 (75%)	0/0
First incidence (days)	–	–	682	649	519	289
Life table test	P<0.001	–	P=0.451	P=0.011	P<0.001	P<0.001
Logistic regression test	P<0.001	–	P=0.493	P=0.018	P<0.001	P=0.110
Cochran-Armitage test	P=0.218					
Fisher exact test		–	P=0.500	P=0.025	P<0.001	P=0.120

TABLE A3
Statistical Analysis of Primary Neoplasms in Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
Kidney (Renal Tubule): Adenoma or Carcinoma						
Overall rate	0/50 (0%)	1/50 (2%)	0/50 (0%)	3/48 (6%)	1/49 (2%)	0/73 (0%)
Adjusted rate	0.0%	2.6%	0.0%	13.6%	3.7%	0.0%
Terminal rate	0/35 (0%)	1/39 (3%)	0/24 (0%)	3/22 (14%)	0/4 (0%)	0/0
First incidence (days)	–	733 (T)	–	733 (T)	573	–
Life table test	P=0.337	P=0.522	–	P=0.053	P=0.407	–
Logistic regression test	P=0.630	P=0.522	–	P=0.053	P=0.580	–
Cochran-Armitage test	P=0.275N					
Fisher exact test		P=0.500	–	P=0.114	P=0.495	–
Liver: Hepatocellular Adenoma						
Overall rate	13/50 (26%)	13/50 (26%)	19/50 (38%)	16/48 (33%)	24/48 (50%)	5/72 (7%)
Adjusted rate	32.1%	31.3%	52.1%	57.0%	92.2%	100.0%
Terminal rate	9/35 (26%)	11/39 (28%)	8/24 (33%)	11/22 (50%)	3/4 (75%)	0/0
First incidence (days)	379	484	397	434	351	310
Life table test	P<0.001	P=0.480N	P=0.036	P=0.056	P<0.001	P<0.001
Logistic regression test	P=0.042	P=0.552	P=0.158	P=0.261	P=0.008	P=0.253
Cochran-Armitage test	P<0.001N					
Fisher exact test		P=0.590N	P=0.142	P=0.283	P=0.012	P=0.004N
Liver: Hepatocellular Carcinoma						
Overall rate	11/50 (22%)	16/50 (32%)	16/50 (32%)	17/48 (35%)	26/48 (54%)	1/72 (1%)
Adjusted rate	26.0%	36.6%	44.8%	58.3%	100.0%	50.0%
Terminal rate	5/35 (14%)	12/39 (31%)	7/24 (29%)	11/22 (50%)	4/4 (100%)	0/0
First incidence (days)	540	484	517	434	351	422
Life table test	P<0.001	P=0.289	P=0.071	P=0.020	P<0.001	P=0.009
Logistic regression test	P=0.036	P=0.142	P=0.389	P=0.088	P<0.001	P=0.347
Cochran-Armitage test	P<0.001N					
Fisher exact test		P=0.184	P=0.184	P=0.106	P<0.001	P<0.001N
Liver: Hepatocellular Adenoma or Carcinoma						
Overall rate	21/50 (42%)	23/50 (46%)	30/50 (60%)	25/48 (52%)	33/48 (69%)	5/72 (7%)
Adjusted rate	47.9%	53.0%	70.1%	79.2%	100.0%	100.0%
Terminal rate	13/35 (37%)	19/39 (49%)	12/24 (50%)	16/22 (73%)	4/4 (100%)	0/0
First incidence (days)	379	484	397	434	351	310
Life table test	P<0.001	P=0.562N	P=0.011	P=0.022	P<0.001	P<0.001
Logistic regression test	P=0.067	P=0.375	P=0.078	P=0.185	P=0.030	P=0.450
Cochran-Armitage test	P<0.001N					
Fisher exact test		P=0.420	P=0.055	P=0.213	P=0.007	P<0.001N
Lung: Alveolar/bronchiolar Adenoma						
Overall rate	18/50 (36%)	20/50 (40%)	10/50 (20%)	25/49 (51%)	21/50 (42%)	3/73 (4%)
Adjusted rate	46.9%	47.3%	28.2%	74.2%	100.0%	59.4%
Terminal rate	15/35 (43%)	17/39 (44%)	3/24 (13%)	14/22 (64%)	4/4 (100%)	0/0
First incidence (days)	572	587	517	434	351	251
Life table test	P<0.001	P=0.579N	P=0.269N	P=0.004	P<0.001	P<0.001
Logistic regression test	P=0.200	P=0.517	P=0.080N	P=0.036	P=0.061	P=0.492
Cochran-Armitage test	P<0.001N					
Fisher exact test		P=0.418	P=0.059N	P=0.096	P=0.341	P<0.001N

TABLE A3
Statistical Analysis of Primary Neoplasms in Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
Lung: Alveolar/bronchiolar Adenocarcinoma or Carcinoma						
Overall rate	5/50 (10%)	6/50 (12%)	11/50 (22%)	12/49 (24%)	22/50 (44%)	3/73 (4%)
Adjusted rate	14.3%	15.4%	38.3%	42.9%	94.6%	59.4%
Terminal rate	5/35 (14%)	6/39 (15%)	7/24 (29%)	8/22 (36%)	3/4 (75%)	0/0
First incidence (days)	733 (T)	733 (T)	568	525	474	251
Life table test	P<0.001	P=0.577	P=0.017	P=0.006	P<0.001	P<0.001
Logistic regression test	P<0.001	P=0.577	P=0.034	P=0.027	P<0.001	P=0.207
Cochran-Armitage test	P=0.020N					
Fisher exact test		P=0.500	P=0.086	P=0.049	P<0.001	P=0.176N
Lung: Alveolar/bronchiolar Adenoma, Adenocarcinoma, or Carcinoma						
Overall rate	21/50 (42%)	23/50 (46%)	19/50 (38%)	31/49 (63%)	35/50 (70%)	3/73 (4%)
Adjusted rate	54.9%	54.5%	53.6%	87.9%	100.0%	59.4%
Terminal rate	18/35 (51%)	20/39 (51%)	9/24 (38%)	18/22 (82%)	4/4 (100%)	0/0
First incidence (days)	572	587	517	434	351	251
Life table test	P<0.001	P=0.552N	P=0.276	P<0.001	P<0.001	P<0.001
Logistic regression test	P=0.005	P=0.548	P=0.556N	P=0.005	P<0.001	P=0.422
Cochran-Armitage test	P<0.001N					
Fisher exact test		P=0.420	P=0.419N	P=0.027	P=0.004	P<0.001N
Preputial Gland: Carcinoma						
Overall rate	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	5/50 (10%)	0/73 (0%)
Adjusted rate	0.0%	0.0%	0.0%	0.0%	45.7%	0.0%
Terminal rate	0/35 (0%)	0/39 (0%)	0/24 (0%)	0/22 (0%)	1/4 (25%)	0/0
First incidence (days)	–	–	–	–	596	–
Life table test	P<0.001	–	–	–	P<0.001	–
Logistic regression test	P=0.010	–	–	–	P=0.008	–
Cochran-Armitage test	P=0.603					
Fisher exact test		–	–	–	P=0.028	–
Skin (Subcutaneous Tissue): Hemangiosarcoma						
Overall rate	0/50 (0%)	1/50 (2%)	1/50 (2%)	0/50 (0%)	3/50 (6%)	0/73 (0%)
Adjusted rate	0.0%	2.6%	2.5%	0.0%	11.7%	0.0%
Terminal rate	0/35 (0%)	1/39 (3%)	0/24 (0%)	0/22 (0%)	0/4 (0%)	0/0
First incidence (days)	–	733 (T)	585	–	530	–
Life table test	P=0.060	P=0.522	P=0.486	–	P=0.051	–
Logistic regression test	P=0.735N	P=0.522	P=0.553	–	P=0.153	–
Cochran-Armitage test	P=0.434N					
Fisher exact test		P=0.500	P=0.500	–	P=0.121	–
Stomach (Forestomach): Squamous Cell Papilloma						
Overall rate	1/50 (2%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	7/50 (14%)	2/73 (3%)
Adjusted rate	2.5%	0.0%	0.0%	4.5%	51.7%	40.0%
Terminal rate	0/35 (0%)	0/39 (0%)	0/24 (0%)	1/22 (5%)	1/4 (25%)	0/0
First incidence (days)	652	–	–	733 (T)	530	395
Life table test	P<0.001	P=0.481N	P=0.545N	P=0.679	P<0.001	P<0.001
Logistic regression test	P<0.001	P=0.535N	P=0.486N	P=0.739	P=0.012	P=0.446
Cochran-Armitage test	P=0.286					
Fisher exact test		P=0.500N	P=0.500N	P=0.753N	P=0.030	P=0.640

TABLE A3
Statistical Analysis of Primary Neoplasms in Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
Stomach (Forestomach): Squamous Cell Papilloma or Squamous Cell Carcinoma						
Overall rate	1/50 (2%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	8/50 (16%)	4/73 (5%)
Adjusted rate	2.5%	0.0%	0.0%	4.5%	54.5%	51.8%
Terminal rate	0/35 (0%)	0/39 (0%)	0/24 (0%)	1/22 (5%)	1/4 (25%)	0/0
First incidence (days)	652	–	–	733 (T)	530	302
Life table test	P<0.001	P=0.481N	P=0.545N	P=0.679	P<0.001	P<0.001
Logistic regression test	P<0.001	P=0.535N	P=0.486N	P=0.739	P=0.006	P=0.199
Cochran-Armitage test	P=0.067					
Fisher exact test		P=0.500N	P=0.500N	P=0.753N	P=0.015	P=0.321
Thyroid Gland (Follicular Cell): Adenoma						
Overall rate	2/50 (4%)	4/50 (8%)	0/50 (0%)	4/48 (8%)	2/47 (4%)	0/70 (0%)
Adjusted rate	5.7%	9.8%	0.0%	17.4%	12.5%	0.0%
Terminal rate	2/35 (6%)	3/39 (8%)	0/24 (0%)	3/22 (14%)	0/4 (0%)	0/0
First incidence (days)	733 (T)	653	–	716	623	
Life table test	P=0.156	P=0.388	P=0.324N	P=0.155	P=0.163	–
Logistic regression test	P=0.562	P=0.372	P=0.324N	P=0.182	P=0.469	–
Cochran-Armitage test	P=0.059N					
Fisher exact test		P=0.339	P=0.247N	P=0.319	P=0.668	P=0.172N
All Organs: Hemangioma						
Overall rate	1/50 (2%)	1/50 (2%)	0/50 (0%)	4/50 (8%)	0/50 (0%)	0/73 (0%)
Adjusted rate	2.9%	2.6%	0.0%	17.0%	0.0%	0.0%
Terminal rate	1/35 (3%)	1/39 (3%)	0/24 (0%)	3/22 (14%)	0/4 (0%)	0/0
First incidence (days)	733 (T)	733 (T)	–	707	–	–
Life table test	P=0.849	P=0.738N	P=0.575N	P=0.075	P=0.905N	–
Logistic regression test	P=0.874	P=0.738N	P=0.575N	P=0.092	P=0.905N	–
Cochran-Armitage test	P=0.139N					
Fisher exact test		P=0.753N	P=0.500N	P=0.181	P=0.500N	P=0.407N
All Organs: Hemangiosarcoma						
Overall rate	1/50 (2%)	4/50 (8%)	3/50 (6%)	7/50 (14%)	24/50 (48%)	4/73 (5%)
Adjusted rate	2.9%	9.4%	9.8%	26.6%	94.3%	44.6%
Terminal rate	1/35 (3%)	2/39 (5%)	1/24 (4%)	4/22 (18%)	3/4 (75%)	0/0
First incidence (days)	733 (T)	587	585	649	519	289
Life table test	P<0.001	P=0.219	P=0.219	P=0.008	P<0.001	P<0.001
Logistic regression test	P<0.001	P=0.182	P=0.289	P=0.013	P<0.001	P=0.126
Cochran-Armitage test	P=0.510N					
Fisher exact test		P=0.181	P=0.309	P=0.030	P<0.001	P=0.321
All Organs: Hemangioma or Hemangiosarcoma						
Overall rate	2/50 (4%)	5/50 (10%)	3/50 (6%)	11/50 (22%)	24/50 (48%)	4/73 (5%)
Adjusted rate	5.7%	11.9%	9.8%	41.3%	94.3%	44.6%
Terminal rate	2/35 (6%)	3/39 (8%)	1/24 (4%)	7/22 (32%)	3/4 (75%)	0/0
First incidence (days)	733 (T)	587	585	649	519	289
Life table test	P<0.001	P=0.267	P=0.372	P<0.001	P<0.001	P<0.001
Logistic regression test	P<0.001	P=0.234	P=0.464	P=0.002	P<0.001	P=0.127
Cochran-Armitage test	p=0.303N					
Fisher exact test		P=0.218	P=0.500	P=0.007	P<0.001	P=0.531

TABLE A3
Statistical Analysis of Primary Neoplasms in Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
All Organs: Malignant Lymphoma (Histiocytic, Lymphocytic, Mixed, NOS, or Undifferentiated Cell Type)						
Overall rate	4/50 (8%)	2/50 (4%)	4/50 (8%)	6/50 (12%)	2/50 (4%)	51/73 (70%)
Adjusted rate	9.8%	5.1%	12.2%	17.7%	4.0%	95.4%
Terminal rate	1/35 (3%)	2/39 (5%)	2/24 (8%)	1/22 (5%)	0/4 (0%)	0/0
First incidence (days)	511	733 (T)	456	200	171	161
Life table test	P<0.001	P=0.302N	P=0.528	P=0.238	P=0.627	P<0.001
Logistic regression test	P=0.003	P=0.373N	P=0.567N	P=0.506	P=0.040N	P=0.329
Cochran-Armitage test	P<0.001					
Fisher exact test		P=0.339N	P=0.643N	P=0.370	P=0.339N	P<0.001
All Organs: Histiocytic Sarcoma						
Overall rate	0/50 (0%)	0/50 (0%)	4/50 (8%)	5/50 (10%)	7/50 (14%)	4/73 (5%)
Adjusted rate	0.0%	0.0%	10.6%	14.3%	31.9%	10.8%
Terminal rate	0/35 (0%)	0/39 (0%)	0/24 (0%)	1/22 (5%)	0/4 (0%)	0/0
First incidence (days)	–	–	531	398	288	120
Life table test	P<0.001	–	P=0.051	P=0.021	P<0.001	P=0.043
Logistic regression test	P=0.183N	–	P=0.084	P=0.049	P=0.031	–
Cochran-Armitage test	P=0.367					
Fisher exact test		–	P=0.059	P=0.028	P=0.006	P=0.120
All Organs: Malignant Lymphoma or Histiocytic Sarcoma						
Overall rate	4/50 (8%)	2/50 (4%)	8/50 (16%)	11/50 (22%)	9/50 (18%)	55/73 (75%)
Adjusted rate	9.8%	5.1%	21.5%	29.6%	34.7%	95.9%
Terminal rate	1/35 (3%)	2/39 (5%)	2/24 (8%)	2/22 (9%)	0/4 (0%)	0/0
First incidence (days)	511	733 (T)	456	200	171	120
Life table test	P<0.001	P=0.302N	P=0.118	P=0.022	P=0.005	P<0.001
Logistic regression test	P=0.025	P=0.373N	P=0.254	P=0.098	P=0.574	P=0.507
Cochran-Armitage test	P<0.001					
Fisher exact test		P=0.339N	P=0.178	P=0.045	P=0.117	P<0.001
All Organs: Benign Neoplasms						
Overall rate	36/50 (72%)	35/50 (70%)	34/50 (68%)	39/50 (78%)	43/50 (86%)	12/73 (16%)
Adjusted rate	79.8%	81.2%	77.0%	100.0%	100.0%	100.0%
Terminal rate	26/35 (74%)	31/39 (79%)	14/24 (58%)	22/22 (100%)	4/4 (100%)	0/0
First incidence (days)	379	484	397	434	351	251
Life table test	P<0.001	P=0.244N	P=0.145	P=0.003	P<0.001	P<0.001
Logistic regression test	P=0.003	P=0.417N	P=0.467N	P=0.080	P=0.002	P=0.122
Cochran-Armitage test	P<0.001N					
Fisher exact test		P=0.500N	P=0.414N	P=0.322	P=0.070	P<0.001N
All Organs: Malignant Neoplasms						
Overall rate	19/50 (38%)	26/50 (52%)	34/50 (68%)	42/50 (84%)	46/50 (92%)	58/73 (79%)
Adjusted rate	42.5%	57.4%	78.5%	91.1%	100.0%	96.9%
Terminal rate	10/35 (29%)	20/39 (51%)	15/24 (63%)	18/22 (82%)	4/4 (100%)	0/0
First incidence (days)	511	484	456	200	171	120
Life table test	P<0.001	P=0.256	P=0.001	P<0.001	P<0.001	P<0.001
Logistic regression test	P=0.006	P=0.083	P=0.009	P<0.001	P<0.001	P=0.698N
Cochran-Armitage test	P<0.001					
Fisher exact test		P=0.114	P=0.002	P<0.001	P<0.001	P<0.001

TABLE A3
Statistical Analysis of Primary Neoplasms in Male Mice in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
All Organs: Benign or Malignant Neoplasms						
Overall rate	44/50 (88%)	40/50 (80%)	45/50 (90%)	48/50 (96%)	49/50 (98%)	62/73 (85%)
Adjusted rate	89.8%	86.9%	91.8%	100.0%	100.0%	100.0%
Terminal rate	30/35 (86%)	33/39 (85%)	20/24 (83%)	22/22 (100%)	4/4 (100%)	0/0
First incidence (days)	379	484	397	200	171	120
Life table test	P<0.001	P=0.095N	P=0.037	P=0.003	P<0.001	P<0.001
Logistic regression test	P=0.137	P=0.184N	P=0.566	P=0.058	P=0.037	P=0.785
Cochran-Armitage test	P=0.320N					
Fisher exact test		P=0.207N	P=0.500	P=0.134	P=0.056	P=0.419N

(T)Terminal sacrifice

[a] Number of neoplasm-bearing animals/number of animals examined. Denominator is number of animals examined microscopically for adrenal gland, bone marrow, brain, epididymis, gallbladder, heart, kidney, larynx, liver, lung, nose, pancreas, parathyroid gland, pituitary gland, preputial gland, prostate gland, salivary gland, spleen, testes, thyroid gland, and urinary bladder; for other tissues, denominator is number of animals necropsied.

[b] Kaplan-Meier estimated neoplasm incidence at the end of the study after adjustment for intercurrent mortality

[c] Observed incidence at terminal kill

[d] Beneath the control incidence are the P values associated with the trend test. Beneath the dosed group incidence are the P values corresponding to pairwise comparisons between the controls and that dosed group. The life table analysis regards neoplasms in animals dying prior to terminal kill as being (directly or indirectly) the cause of death. The logistic regression test regards these lesions as nonfatal. The Cochran-Armitage and Fisher exact tests compare directly the overall incidence rates. For all tests, a negative trend or a lower incidence in a dose group is indicated by N.

[e] Not applicable; no neoplasms in animal group

TABLE A4a
Historical Incidence of Malignant Lymphomas and Histiocytic Sarcomas in Untreated Male B6C3F$_1$ Mice[a]

Study	Incidence in Controls	
	Malignant Lymphoma	Histiocytic Sarcoma
Historical Incidence at Battelle Northwest Laboratories		
Allyl glycidyl ether	3/50	0/50
α-Chloroacetophenone	6/50	0/50
Epinephrine hydrochloride	8/50	1/50
Ethyl chloride	1/50	0/50
o-Chlorobenzalmalononitrile (CS2)	3/50	1/50
Overall Historical Incidence		
Total	46/575 (8.0%)	5/575 (0.9%)
Standard deviation	4.5%	1.4%
Range	2%-16%	0%-4%

[a] Data as of 3 April 1991. Data for malignant lymphoma includes data for histiocytic, lymphocytic, mixed, NOS, or undifferentiated cell type lymphomas.

TABLE A4b
Historical Incidence of Cardiac Hemangiosarcomas in Untreated Male B6C3F$_1$ Mice[a]

Study	Incidence in Controls
Historical Incidence at Battelle Northwest Laboratories	
Allyl glycidyl ether	0/50
α-Chloroacetophenone	0/50
Epinephrine hydrochloride	0/50
Ethyl chloride	0/50
o-Chlorobenzalmalononitrile (CS2)	0/50
Overall Historical Incidence	
Total	0/573 (0.0%)
Upper 95% confidence limit	0.5%

[a] Data as of 3 April 1991

TABLE A4c
Historical Incidence of Lung Neoplasms in Untreated Male B6C3F$_1$ Mice[a]

Study	Incidence in Controls		
	Alveolar/bronchiolar Adenoma	Alveolar/bronchiolar Carcinoma	Alveolar/bronchiolar Adenoma or Carcinoma
Historical Incidence at Battelle Northwest Laboratories			
Allyl glycidyl ether	7/50	0/50	7/50
α-Chloroacetophenone	7/50	6/50	11/50
Epinephrine hydrochloride	11/50	5/50	15/50
Ethyl chloride	3/50	2/50	5/50
o-Chlorobenzalmalononitrile (CS2)	7/49	7/49	14/49
Overall Historical Incidence			
Total	84/573 (14.7%)	40/573 (7.0%)	118/573 (20.6%)
Standard deviation	5.1%	5.7%	7.6%
Range	6%-24%	0%-16%	10%-30%

[a] Data as of 3 April 1991

TABLE A4d
Historical Incidence of Forestomach Neoplasms in Untreated Male B6C3F$_1$ Mice[a]

Study	Incidence in Controls		
	Squamous Cell Papilloma	Squamous Cell Carcinoma	Squamous Cell Papilloma or Squamous Cell Carcinoma
Historical Incidence at Battelle Northwest Laboratories			
Allyl glycidyl ether	1/50	0/50	1/50
α-Chloroacetophenone	2/50	0/50	2/50
Epinephrine hydrochloride	0/50	0/50	0/50
Ethyl chloride	0/50	0/50	0/50
o-Chlorobenzalmalononitrile (CS2)	0/50	0/50	0/50
Overall Historical Incidence			
Total	4/575 (0.7%)	0/575 (0.0%)	4/575 (0.7%)
Standard deviation	1.4%		1.4%
Range	0%-4%		0%-4%

[a] Data as of 3 April 1991

TABLE A4e
Historical Incidence of Hepatocellular Neoplasms in Untreated Male B6C3F$_1$ Mice[a]

Study	Incidence in Controls		
	Hepatocellular Adenoma	Hepatocellular Carcinoma	Hepatocellular Adenoma or Carcinoma
Historical Incidence at Battelle Northwest Laboratories			
Allyl glycidyl ether	15/49	10/49	23/49
α-Chloroacetophenone	5/50	11/50	16/50
Epinephrine hydrochloride	10/50	12/50	20/50
Ethyl chloride	6/50	9/50	15/50
o-Chlorobenzalmalononitrile (CS2)	4/49	14/49	18/49
Overall Historical Incidence			
Total	88/572 (15.4%)	118/572 (20.6%)	196/572 (34.3%)
Standard deviation	9.7%	6.1%	12.4%
Range	4%-34%	9%-29%	12%-56%

[a] Data as of 3 April 1991

TABLE A4f
Historical Incidence of Harderian Gland Neoplasms in Untreated Male B6C3F$_1$ Mice[a]

Study	Incidence in Controls		
	Adenoma	Carcinoma	Adenoma or Carcinoma
Historical Incidence at Battelle Northwest Laboratories			
Allyl glycidyl ether	4/50	0/50	4/50
α-Chloroacetophenone	3/50	0/50	3/50
Epinephrine hydrochloride	2/50	0/50	2/50
Ethyl chloride	2/50	2/50	4/50
o-Chlorobenzalmalononitrile (CS2)	6/50	0/50	6/50
Overall Historical Incidence			
Total	23/575 (4.0%)	2/575 (0.3%)	25/575 (4.3%)
Standard deviation	3.6%	1.2%	3.8%
Range	0%-12%	0%-4%	0%-12%

[a] Data as of 3 April 1991

TABLE A4g
Historical Incidence of Renal Tubule Adenomas in Untreated Male B6C3F$_1$ Mice[a]

Study	Incidence in Controls
Historical Incidence at Battelle Northwest Laboratories	
Allyl glycidyl ether	0/49
α-Chloroacetophenone	0/50
Epinephrine hydrochloride	0/50
Ethyl chloride	0/50
o-Chlorobenzalmalononitrile (CS2)	0/49
Overall Historical Incidence	
Total	1/571 (0.2%)
Standard deviation	0.3%
Range	0%-1%

[a] Data as of 3 April 1991

TABLE A4h
Historical Incidence of Subcutaneous Skin Hemangiosarcomas in Untreated Male B6C3F$_1$ Mice[a]

Study	Incidence in Controls
Historical Incidence at Battelle Northwest Laboratories	
Allyl glycidyl ether	0/50
α-Chloroacetophenone	0/50
Epinephrine hydrochloride	0/50
Ethyl chloride	0/50
o-Chlorobenzalmalononitrile (CS2)	0/50
Overall Historical Incidence	
Total	0/575 (0.0%)

[a] Data as of 3 April 1991

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene[a]

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
Disposition Summary						
Animals initially in study	70	70	70	70	70	90
9-Month interim evaluation	10	10	10	10	10	10
15-Month interim evaluation	10	10	10	10	10	7
Early deaths						
Accidental deaths						1
Moribund	9	6	15	15	23	33
Natural deaths	6	5	11	12	23	39
Survivors						
Died last week of study					1	
Terminal sacrifice	35	39	24	22	3	
Missing				1		
Animals examined microscopically	70	70	70	69	70	90
9-Month Interim Evaluation						
Alimentary System						
Liver	(10)	(1)	(2)	(2)	(10)	(10)
Mixed cell focus		1 (100%)				
Centrilobular, degeneration, fatty	2 (20%)		1 (50%)	1 (50%)	3 (30%)	1 (10%)
Stomach, forestomach	(10)			(2)	(10)	(10)
Epithelium, hyperplasia						7 (70%)
Stomach, glandular	(10)			(2)	(10)	(10)
Ulcer				1 (50%)		1 (10%)
Cardiovascular System						
Heart	(10)				(10)	(10)
Mineralization						1 (10%)
Endothelium, hyperplasia						1 (10%)
Endocrine System						
Adrenal gland, cortex	(10)				(10)	(10)
Hypertrophy						2 (20%)
Islets, pancreatic	(10)				(9)	(10)
Hyperplasia					2 (22%)	
Parathyroid gland	(10)				(10)	(9)
Cyst					1 (10%)	
Pituitary gland	(9)				(10)	(10)
Pars distalis, cyst	1 (11%)					
Thyroid gland	(10)				(10)	(9)
Cyst					1 (10%)	
General Body System						
None						

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
9-Month Interim Evaluation (continued)						
Genital System						
Testes	(10)				(10)	(10)
Atrophy						6 (60%)
Hematopoietic System						
Bone marrow	(10)				(10)	(10)
Atrophy						5 (50%)
Hyperplasia					1 (10%)	
Hyperplasia, histiocytic						1 (10%)
Spleen	(10)				(10)	(10)
Hematopoietic cell proliferation						1 (10%)
Thymus	(10)			(1)	(10)	(8)
Necrosis				1 (100%)		2 (25%)
Integumentary System						
Skin	(10)			(1)	(10)	(10)
Inflammation, chronic				1 (100%)		
Musculoskeletal System						
None						
Nervous System						
Brain	(10)				(10)	(10)
Mineralization	1 (10%)				2 (20%)	3 (30%)
Respiratory System						
Lung	(10)	(1)	(2)	(10)	(10)	(10)
Hemorrhage			1 (50%)		2 (20%)	2 (20%)
Alveolar epithelium, hyperplasia					3 (30%)	4 (40%)
Nose	(10)				(10)	(10)
Inflammation, suppurative	1 (10%)					
Special Senses System						
None						
Urinary System						
Kidney	(10)				(10)	(10)
Nephropathy					1 (10%)	
Urinary bladder	(10)			(1)	(10)	(10)
Calculus micro observation only				1 (100%)		

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
15-Month Interim Evaluation						
Alimentary System						
Liver	(10)	(10)	(9)	(10)	(10)	(7)
Basophilic focus			2 (22%)			1 (14%)
Degeneration, fatty		1 (10%)				2 (29%)
Eosinophilic focus						1 (14%)
Focal cellular change				1 (10%)		
Hematopoietic cell proliferation						2 (29%)
Mineralization					1 (10%)	
Mixed cell focus	1 (10%)		1 (11%)			
Centrilobular, degeneration, fatty	9 (90%)	5 (50%)	7 (78%)	8 (80%)	9 (90%)	2 (29%)
Centrilobular, necrosis						1 (14%)
Mesentery					(1)	(2)
Fat, inflammation, chronic						2 (100%)
Fat, necrosis					1 (100%)	
Pancreas	(10)			(10)	(10)	(7)
Acinus, atrophy	1 (10%)					
Acinus, focal cellular change					3 (30%)	2 (29%)
Stomach, forestomach	(10)		(10)	(10)	(10)	(7)
Ulcer				1 (10%)		4 (57%)
Epithelium, hyperplasia				2 (20%)	2 (20%)	3 (43%)
Stomach, glandular	(10)		(10)	(10)	(10)	(7)
Pigmentation, hemosiderin					1 (10%)	
Ulcer					1 (10%)	
Cardiovascular System						
Heart	(10)	(1)	(10)	(10)	(10)	(7)
Inflammation, suppurative	1 (10%)	1 (100%)		1 (10%)	1 (10%)	
Mineralization	2 (20%)					
Necrosis				2 (20%)		
Endothelium, hyperplasia					1 (10%)	2 (29%)
Endocrine System						
Adrenal gland, cortex	(10)					(7)
Hypertrophy	3 (30%)					1 (14%)
Pituitary gland	(10)					(6)
Pars distalis, cyst						1 (17%)
General Body System						
None						
Genital System						
Preputial gland	(1)					
Inflammation, suppurative	1 (100%)					
Testes	(10)		(1)		(10)	(7)
Atrophy						4 (57%)

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9-Month and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
15-Month Interim Evaluation (continued)						
Hematopoietic System						
Bone marrow	(10)			(10)	(10)	(7)
Hyperplasia	1 (10%)				1 (10%)	5 (71%)
Lymph node	(10)			(9)	(10)	(7)
Hyperplasia					1 (10%)	
Lymph node, bronchial	(10)			(3)	(6)	
Hyperplasia					1 (17%)	
Lymph node, mandibular	(9)			(4)	(7)	(4)
Hyperplasia					1 (14%)	
Lymph node, mediastinal	(6)			(7)	(4)	(6)
Hematopoietic cell proliferation						1 (17%)
Lymph node, mesenteric	(9)			(9)	(9)	(7)
Congestion				2 (22%)		
Hyperplasia				1 (11%)	3 (33%)	
Spleen	(10)		(1)	(10)	(10)	(7)
Hematopoietic cell proliferation				1 (10%)	1 (10%)	1 (14%)
Pigmentation, melanin			1 (100%)			
Thymus	(9)			(10)	(10)	(6)
Necrosis						3 (50%)
Integumentary System						
None						
Musculoskeletal System						
None						
Nervous System						
Brain	(10)					(7)
Mineralization	3 (30%)					1 (14%)
Respiratory System						
Lung	(10)	(1)	(10)	(10)	(10)	(7)
Thrombosis				1 (10%)		
Alveolar epithelium, hyperplasia		1 (100%)		1 (10%)	3 (30%)	6 (86%)
Alveolus, infiltration cellular, histiocyte				1 (10%)		1 (14%)
Pleura, inflammation, chronic			1 (10%)			1 (14%)
Nose	(10)					(7)
Inflammation, suppurative	1 (10%)					
Trachea	(10)					(7)
Inflammation, suppurative	1 (10%)					
Special Senses System						
Harderian gland	(10)	(10)	(10)	(10)	(10)	(7)
Hyperplasia					6 (60%)	

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
15-Month Interim Evaluation (continued)						
Urinary System						
Kidney	(10)	(3)	(4)	(2)	(10)	(7)
Nephropathy	4 (40%)	3 (100%)	4 (100%)	1 (50%)	1 (10%)	2 (29%)
2-Year Study						
Alimentary System						
Gallbladder	(44)	(47)	(39)	(36)	(32)	(42)
Hyperplasia		2 (4%)			1 (3%)	
Inflammation		1 (2%)				
Intestine large	(50)	(47)	(47)	(48)	(46)	(65)
Anus, inflammation, suppurative						1 (2%)
Intestine large, cecum	(50)	(46)	(42)	(44)	(40)	(55)
Angiectasis					1 (3%)	
Inflammation	1 (2%)					
Intestine large, colon	(50)	(47)	(45)	(46)	(45)	(61)
Necrosis						1 (2%)
Intestine large, rectum	(50)	(47)	(46)	(48)	(45)	(61)
Hemorrhage				1 (2%)		
Intestine small	(49)	(48)	(44)	(47)	(39)	(58)
Epithelium, hyperplasia			1 (2%)			
Intestine small, duodenum	(47)	(46)	(42)	(44)	(37)	(51)
Angiectasis		1 (2%)				
Hemorrhage		1 (2%)				1 (2%)
Inflammation, chronic			1 (2%)			
Pigmentation, hemosiderin			1 (2%)			
Ulcer	1 (2%)					
Peyer's patch, hyperplasia	1 (2%)			1 (2%)		
Intestine small, ileum	(48)	(48)	(43)	(46)	(37)	(51)
Peyer's patch, hyperplasia		2 (4%)		2 (4%)		
Intestine small, jejunum	(48)	(46)	(43)	(44)	(33)	(48)
Cyst			1 (2%)			
Inflammation, chronic			1 (2%)			
Pigmentation, hemosiderin			1 (2%)			
Peyer's patch, hyperplasia		2 (4%)		3 (7%)	1 (3%)	
Peyer's patch, inflammation, granulomatous	1 (2%)					
Liver	(50)	(50)	(50)	(48)	(48)	(72)
Angiectasis		4 (8%)		3 (6%)		
Basophilic focus	3 (6%)	3 (6%)	1 (2%)	5 (10%)	1 (2%)	1 (1%)
Clear cell focus	2 (4%)	1 (2%)	1 (2%)			
Degeneration, fatty		3 (6%)	3 (6%)		1 (2%)	
Developmental malformation				1 (2%)	1 (2%)	
Eosinophilic focus	3 (6%)	6 (12%)	4 (8%)	3 (6%)	4 (8%)	
Hematopoietic cell proliferation			1 (2%)	3 (6%)	4 (8%)	5 (7%)
Hyperplasia, focal						1 (1%)
Infarct	1 (2%)		5 (10%)	3 (6%)		
Inflammation, chronic	1 (2%)	1 (2%)				
Inflammation, granulomatous, focal			1 (2%)		1 (2%)	
Mineralization						2 (3%)
Mixed cell focus	1 (2%)	1 (2%)		4 (8%)	1 (2%)	

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9-Month and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Alimentary System (continued)						
Liver (continued)	(50)	(50)	(50)	(48)	(48)	(72)
Necrosis	4 (8%)	5 (10%)	8 (16%)	13 (27%)	14 (29%)	19 (26%)
Biliary tract, cyst			1 (2%)			
Biliary tract, hyperplasia					1 (2%)	
Centrilobular, degeneration, fatty	4 (8%)	1 (2%)	2 (4%)			5 (7%)
Centrilobular, necrosis				2 (4%)		6 (8%)
Mesentery	(6)	(5)	(9)	(14)	(9)	(4)
Fat, angiectasis	1 (17%)	2 (40%)	4 (44%)	6 (43%)	3 (33%)	
Fat, hemorrhage			1 (11%)	3 (21%)	1 (11%)	1 (25%)
Fat, inflammation, chronic		1 (20%)	5 (56%)	2 (14%)	5 (56%)	
Fat, inflammation, granulomatous	1 (17%)					
Fat, necrosis	2 (33%)	2 (40%)	4 (44%)	2 (14%)		1 (25%)
Pancreas	(50)	(49)	(49)	(48)	(46)	(72)
Acinus, angiectasis		1 (2%)				
Acinus, atrophy			2 (4%)		1 (2%)	
Acinus, focal cellular change		1 (2%)	5 (10%)	4 (8%)	1 (2%)	1 (1%)
Acinus, hyperplasia	1 (2%)					
Acinus, inflammation, chronic				1 (2%)		1 (1%)
Acinus, necrosis		2 (4%)				
Pharynx				(1)	(1)	(1)
Epithelium, hyperplasia				1 (100%)	1 (100%)	
Palate, inflammation, chronic					1 (100%)	1 (100%)
Salivary glands	(50)	(50)	(50)	(48)	(48)	(69)
Hemorrhage						1 (1%)
Inflammation	1 (2%)					
Inflammation, chronic					1 (2%)	
Stomach, forestomach	(50)	(50)	(50)	(48)	(48)	(72)
Cyst epithelial inclusion			1 (2%)			
Hemorrhage						1 (1%)
Ulcer	3 (6%)		2 (4%)	4 (8%)	4 (8%)	9 (13%)
Epithelium, hyperplasia	4 (8%)	3 (6%)	3 (6%)	6 (12%)	4 (8%)	40 (56%)
Hyperplasia, mast cell	1 (2%)					
Stomach, glandular	(50)	(48)	(50)	(48)	(45)	(66)
Inflammation, suppurative		1 (2%)	2 (4%)			
Mineralization			1 (2%)			1 (2%)
Pigmentation, hemosiderin	2 (4%)	2 (4%)	3 (6%)	5 (10%)	9 (20%)	7 (11%)
Ulcer	3 (6%)		1 (2%)	5 (10%)	8 (18%)	5 (8%)
Tooth	(9)	(4)	(6)	(3)	(1)	
Developmental malformation				1 (33%)		
Inflammation	9 (100%)	4 (100%)	6 (100%)	2 (67%)	1 (100%)	
Cardiovascular System						
Blood vessel		(1)				(1)
Inflammation		1 (100%)				
Mineralization						1 (100%)

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Cardiovascular System (continued)						
Heart	(50)	(49)	(50)	(48)	(48)	(73)
Cardiomyopathy	4 (8%)	1 (2%)	6 (12%)	3 (6%)	2 (4%)	2 (3%)
Hemorrhage						2 (3%)
Inflammation, suppurative		1 (2%)	1 (2%)			
Mineralization				1 (2%)	3 (6%)	20 (27%)
Necrosis		1 (2%)				1 (1%)
Atrium, thrombosis	1 (2%)					3 (4%)
Endothelium, hyperplasia		1 (2%)		2 (4%)	4 (8%)	5 (7%)
Endocrine System						
Adrenal gland, cortex	(50)	(49)	(50)	(47)	(48)	(73)
Cyst		2 (4%)	1 (2%)			
Focal cellular change	6 (12%)	13 (27%)	8 (16%)	12 (26%)		
Hyperplasia	6 (12%)	8 (16%)	1 (2%)	3 (6%)	4 (8%)	
Hypertrophy	16 (32%)	16 (33%)	14 (28%)	11 (23%)	6 (13%)	2 (3%)
Adrenal gland, medulla	(50)	(48)	(47)	(44)	(44)	(69)
Hyperplasia			1 (2%)	1 (2%)	1 (2%)	
Islets, pancreatic	(50)	(49)	(49)	(48)	(46)	(70)
Hyperplasia	2 (4%)	8 (16%)	4 (8%)	3 (6%)	4 (9%)	1 (1%)
Parathyroid gland	(39)	(36)	(42)	(40)	(38)	(55)
Cyst						2 (4%)
Pituitary gland	(50)	(47)	(47)	(48)	(46)	(62)
Pars distalis, cyst		1 (2%)	4 (9%)	2 (4%)	1 (2%)	
Pars distalis, hyperplasia		1 (2%)		2 (4%)		
Pars intermedia, hyperplasia		1 (2%)				
Thyroid gland	(50)	(50)	(50)	(48)	(47)	(70)
Cyst		3 (6%)	1 (2%)	4 (8%)	2 (4%)	
Hyperplasia	1 (2%)					
Inflammation	2 (4%)					
C-cell, hyperplasia				1 (2%)		
Follicular cell, hyperplasia	1 (2%)	11 (22%)	4 (8%)	5 (10%)		
General Body System						
None						
Genital System						
Coagulating gland						(2)
Inflammation, suppurative						2 (100%)
Epididymis	(50)	(50)	(50)	(48)	(49)	(71)
Angiectasis		1 (2%)				1 (1%)
Degeneration				2 (4%)		
Hypospermia			1 (2%)			
Inflammation, chronic	1 (2%)	2 (4%)	3 (6%)	2 (4%)	1 (2%)	
Muscularis, hyperplasia	1 (2%)					
Penis	(4)	(1)	(4)	(7)	(1)	(1)
Hyperplasia			1 (25%)			
Inflammation, suppurative	1 (25%)	1 (100%)	3 (75%)	2 (29%)	1 (100%)	

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9-Month and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Genital System (continued)						
Preputial gland	(7)	(2)	(4)	(9)	(6)	(2)
Degeneration, cystic	1 (14%)		1 (25%)	3 (33%)	1 (17%)	
Hyperplasia	2 (29%)					
Inflammation, suppurative	6 (86%)	2 (100%)	1 (25%)	2 (22%)		2 (100%)
Duct, dilatation			2 (50%)	1 (11%)		
Prostate	(47)	(50)	(48)	(45)	(46)	(66)
Hyperplasia			2 (4%)	1 (2%)	1 (2%)	1 (2%)
Inflammation		1 (2%)				1 (2%)
Inflammation, suppurative	3 (6%)	2 (4%)	5 (10%)	2 (4%)	1 (2%)	1 (2%)
Mineralization						1 (2%)
Seminal vesicle	(50)	(48)	(47)	(46)	(44)	(67)
Inflammation, suppurative	3 (6%)	1 (2%)			1 (2%)	
Testes	(50)	(50)	(50)	(48)	(49)	(72)
Angiectasis					1 (2%)	
Atrophy	1 (2%)	3 (6%)	4 (8%)	2 (4%)	6 (12%)	53 (74%)
Degeneration	1 (2%)			3 (6%)	1 (2%)	
Hemorrhage					1 (2%)	
Mineralization		1 (2%)	2 (4%)			
Spermatocele		1 (2%)	1 (2%)			
Hematopoietic System						
Bone marrow	(50)	(50)	(50)	(48)	(49)	(73)
Angiectasis				1 (2%)		
Atrophy						23 (32%)
Hyperplasia	13 (26%)	5 (10%)	7 (14%)	17 (35%)	12 (24%)	
Infiltration cellular, mast cell	1 (2%)					
Infiltration cellular, megakaryocyte						1 (1%)
Necrosis						1 (1%)
Lymph node	(50)	(50)	(50)	(48)	(48)	(73)
Hyperplasia				1 (2%)		
Necrosis						1 (1%)
Iliac, hyperplasia			1 (2%)	1 (2%)		
Renal, mineralization						1 (1%)
Lymph node, bronchial	(45)	(42)	(42)	(37)	(37)	(49)
Hematopoietic cell proliferation		1 (2%)	1 (2%)			
Hyperplasia		2 (5%)	4 (10%)	1 (3%)	2 (5%)	
Lymph node, mandibular	(39)	(39)	(38)	(33)	(39)	(61)
Hematopoietic cell proliferation						1 (2%)
Hyperplasia	5 (13%)	5 (13%)	1 (3%)	4 (12%)	8 (21%)	
Hyperplasia, histiocytic						2 (3%)
Hyperplasia, plasma cell						4 (7%)
Mineralization						2 (3%)
Necrosis						6 (10%)
Lymph node, mediastinal	(28)	(27)	(33)	(32)	(40)	(58)
Congestion				2 (6%)		1 (2%)
Hematopoietic cell proliferation		1 (4%)	1 (3%)	1 (3%)		1 (2%)
Hyperplasia	3 (11%)	2 (7%)	4 (12%)		3 (8%)	

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Hematopoietic System (continued)						
Lymph node, mesenteric	(49)	(47)	(47)	(46)	(46)	(68)
Angiectasis	2 (4%)	9 (19%)	5 (11%)	8 (17%)	7 (15%)	
Congestion	4 (8%)	7 (15%)	4 (9%)	10 (22%)	6 (13%)	
Hematopoietic cell proliferation	1 (2%)	7 (15%)	1 (2%)	4 (9%)	5 (11%)	
Hemorrhage	1 (2%)	1 (2%)	1 (2%)			1 (1%)
Hyperplasia	11 (22%)	17 (36%)	12 (26%)	7 (15%)	2 (4%)	
Hyperplasia, histiocytic						3 (4%)
Inflammation			1 (2%)			1 (1%)
Inflammation, granulomatous				1 (2%)		
Necrosis						1 (1%)
Spleen	(50)	(50)	(50)	(48)	(46)	(70)
Depletion lymphoid					1 (2%)	2 (3%)
Hematopoietic cell proliferation	10 (20%)	15 (30%)	9 (18%)	22 (46%)	20 (43%)	14 (20%)
Hyperplasia, histiocytic			1 (2%)			2 (3%)
Hyperplasia, lymphoid		3 (6%)		2 (4%)		
Mineralization						1 (1%)
Necrosis			1 (2%)	1 (2%)		2 (3%)
Thymus	(47)	(43)	(42)	(40)	(35)	(64)
Hyperplasia, lymphoid		1 (2%)	1 (2%)	2 (5%)		
Hyperplasia, neutrophil						1 (2%)
Infiltration cellular, mixed cell			1 (2%)			
Necrosis	13 (28%)	7 (16%)	18 (43%)	17 (43%)	19 (54%)	12 (19%)
Epithelial cell, hyperplasia	1 (2%)					
Integumentary System						
Skin	(50)	(50)	(50)	(48)	(50)	(73)
Acanthosis					1 (2%)	1 (1%)
Cyst epithelial inclusion				1 (2%)		
Inflammation, chronic		1 (2%)		3 (6%)	3 (6%)	
Necrosis						1 (1%)
Foot, developmental malformation		1 (2%)				
Hair follicle, atrophy				1 (2%)	1 (2%)	
Hair follicle, inflammation, suppurative						1 (1%)
Prepuce, inflammation, suppurative	2 (4%)	3 (6%)	7 (14%)	7 (15%)	2 (4%)	1 (1%)
Sebaceous gland, hyperplasia					1 (2%)	
Subcutaneous tissue, angiectasis		1 (2%)	2 (4%)	1 (2%)	2 (4%)	
Subcutaneous tissue, edema		1 (2%)	1 (2%)	1 (2%)		
Subcutaneous tissue, hemorrhage			1 (2%)			1 (1%)
Subcutaneous tissue, inflammation, chronic				1 (2%)		
Subcutaneous tissue, inflammation, granulomatous	1 (2%)			1 (2%)		2 (3%)
Subcutaneous tissue, inflammation, pyogranulomatous	1 (2%)		1 (2%)		1 (2%)	
Musculoskeletal System						
Bone	(50)	(50)	(50)	(48)	(50)	(73)
Fibrous osteodystrophy	1 (2%)					
Fracture			1 (2%)			

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9-Month and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Musculoskeletal System (continued)						
Bone (continued)	(50)	(50)	(50)	(48)	(50)	(73)
Osteopetrosis			1 (2%)		1 (2%)	
Cranium, hemorrhage					1 (2%)	
Nervous System						
Brain	(50)	(50)	(50)	(48)	(50)	(73)
Developmental malformation	1 (2%)					
Hemorrhage				1 (2%)	2 (4%)	12 (16%)
Mineralization	29 (58%)	27 (54%)	16 (32%)	15 (31%)	9 (18%)	5 (7%)
Spinal cord						(12)
Hemorrhage						2 (17%)
Respiratory System						
Larynx	(50)	(48)	(49)	(46)	(43)	(71)
Hyperplasia						1 (1%)
Inflammation						1 (1%)
Inflammation, suppurative	3 (6%)	5 (10%)	2 (4%)	4 (9%)	1 (2%)	
Lung	(50)	(50)	(50)	(49)	(50)	(73)
Hemorrhage	1 (2%)	6 (12%)	6 (12%)	3 (6%)	4 (8%)	12 (16%)
Inflammation, chronic, diffuse	2 (4%)		1 (2%)			
Inflammation, chronic, focal		1 (2%)		1 (2%)		
Inflammation, suppurative					1 (2%)	
Thrombosis	1 (2%)					1 (1%)
Alveolar epithelium, hyperplasia	2 (4%)	9 (18%)	6 (12%)	13 (27%)	17 (34%)	12 (16%)
Alveolus, infiltration cellular, histiocyte	10 (20%)	4 (8%)	7 (14%)	5 (10%)	12 (24%)	1 (1%)
Alveolus, pigmentation, hemosiderin						1 (1%)
Perivascular, inflammation, chronic		1 (2%)				
Nose	(50)	(50)	(50)	(47)	(49)	(71)
Inflammation, suppurative	19 (38%)	15 (30%)	21 (42%)	15 (32%)	8 (16%)	2 (3%)
Inflammation, pyogranulomatous					1 (2%)	
Nasolacrimal duct, inflammation, suppurative	2 (4%)	2 (4%)	1 (2%)	9 (19%)	9 (18%)	
Olfactory epithelium, atrophy			1 (2%)	1 (2%)	1 (2%)	4 (6%)
Olfactory epithelium, metaplasia, squamous						2 (3%)
Respiratory epithelium, metaplasia, squamous	1 (2%)					
Trachea	(50)	(49)	(50)	(46)	(45)	(67)
Inflammation, suppurative	24 (48%)	24 (49%)	19 (38%)	19 (41%)	12 (27%)	
Metaplasia, squamous	1 (2%)					
Special Senses System						
Eye	(1)		(1)	(2)	(8)	(5)
Degeneration					1 (13%)	1 (20%)
Cornea, hyperplasia					3 (38%)	
Cornea, inflammation, chronic	1 (100%)				6 (75%)	
Lens, degeneration	1 (100%)			1 (50%)	1 (13%)	
Harderian gland	(50)	(49)	(50)	(47)	(47)	(40)
Hyperplasia	1 (2%)	3 (6%)	4 (8%)	6 (13%)	8 (17%)	5 (13%)
Inflammation, suppurative			1 (2%)			

TABLE A5
Summary of the Incidence of Nonneoplastic Lesions in Male Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Special Senses System (continued)						
Zymbal's gland	(2)					
Cyst	1 (50%)					
Urinary System						
Kidney	(50)	(50)	(50)	(48)	(49)	(73)
Cyst	4 (8%)	8 (16%)	1 (2%)	2 (4%)	1 (2%)	
Hemorrhage						2 (3%)
Hydronephrosis		2 (4%)	1 (2%)	1 (2%)		1 (1%)
Hyperplasia, mast cell	1 (2%)					
Infarct		1 (2%)	1 (2%)		1 (2%)	
Inflammation, suppurative	1 (2%)	1 (2%)	4 (8%)	1 (2%)	3 (6%)	1 (1%)
Metaplasia, osseous	1 (2%)	1 (2%)				
Nephropathy	31 (62%)	35 (70%)	22 (44%)	19 (40%)	11 (22%)	3 (4%)
Capsule, inflammation, chronic				1 (2%)		
Papilla, necrosis	1 (2%)	2 (4%)				1 (1%)
Pelvis, hyperplasia						2 (3%)
Pelvis, mineralization						3 (4%)
Renal tubule, hyperplasia	2 (4%)			3 (6%)	1 (2%)	1 (1%)
Renal tubule, mineralization			2 (4%)			4 (5%)
Urethra	(2)	(2)	(1)	(6)	(2)	
Inflammation, suppurative		1 (50%)	1 (100%)		1 (50%)	
Necrosis		1 (50%)				
Urinary bladder	(50)	(48)	(50)	(48)	(47)	(66)
Dilatation	9 (18%)	3 (6%)	8 (16%)	8 (17%)	5 (11%)	1 (2%)
Hemorrhage						1 (2%)
Inflammation	1 (2%)	1 (2%)	3 (6%)	1 (2%)		3 (5%)
Necrosis		1 (2%)				
Transitional epithelium, hyperplasia			1 (2%)			2 (3%)

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

APPENDIX B
SUMMARY OF LESIONS IN FEMALE MICE IN THE 2-YEAR INHALATION STUDY OF 1,3-BUTADIENE

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TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene[a]

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
Disposition Summary						
Animals initially in study	70	70	70	70	70	90
9-Month interim evaluation	10	10	10	10	10	8
15-Month interim evaluation	10	10	10	10	10	2
Early deaths						
Accidental deaths			1		1	1
Moribund	10	10	14	31	37	46
Natural deaths	3	7	11	8	12	33
Survivors						
Terminal sacrifice	37	33	24	11		
Animals examined microscopically	70	70	70	70	70	90
9-Month Interim Evaluation						
Alimentary System						
None						
Cardiovascular System						
None						
Endocrine System						
None						
General Body System						
None						
Genital System						
Ovary	(10)			(10)	(10)	(8)
Granulosa cell tumor benign					1 (10%)	
Uterus	(10)			(10)	(10)	(8)
Polyp stromal	2 (20%)					
Hematopoietic System						
Bone marrow	(10)				(10)	(8)
Lymphoma malignant lymphocytic						1 (13%)
Lymph node, bronchial	(9)				(7)	(6)
Lymphoma malignant lymphocytic						1 (17%)
Lymph node, mandibular	(6)				(10)	(5)
Lymphoma malignant lymphocytic						1 (20%)
Lymph node, mesenteric	(10)				(10)	(8)
Lymphoma malignant lymphocytic						1 (13%)
Spleen	(10)				(10)	(8)
Lymphoma malignant lymphocytic						1 (13%)

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
9-Month Interim Evaluation (continued)						
Integumentary System						
None						
Musculoskeletal System						
None						
Nervous System						
None						
Respiratory System						
Lung	(10)			(10)	(10)	(8)
Alveolar/bronchiolar adenoma					2 (20%)	1 (13%)
Special Senses System						
Harderian gland	(5)				(1)	(5)
Adenoma						1 (20%)
Urinary System						
None						
Systemic Lesions						
Multiple organs[b]	(10)	(10)	(10)	(10)	(10)	(8)
Lymphoma malignant lymphocytic						1 (13%)
15-Month Interim Evaluation						
Alimentary System						
Liver	(10)	(3)	(1)	(10)	(10)	(2)
Adenocarcinoma, metastatic, mammary gland						1 (50%)
Hemangiosarcoma, metastatic, heart					1 (10%)	2 (100%)
Hepatocellular carcinoma					1 (10%)	
Hepatocellular adenoma	1 (10%)	1 (33%)		1 (10%)	1 (10%)	1 (50%)
Hepatocellular adenoma, multiple					2 (20%)	
Stomach, forestomach	(10)	(1)	(10)	(10)	(10)	(2)
Squamous cell carcinoma						1 (50%)
Squamous cell papilloma				1 (10%)	2 (20%)	
Cardiovascular System						
Heart	(10)			(10)	(10)	(2)
Hemangiosarcoma					1 (10%)	2 (100%)

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
15-Month Interim Evaluation (continued)						
Endocrine System						
Adrenal gland, cortex	(10)				(10)	(2)
Adenocarcinoma, metastatic, mammary gland						1 (50%)
Adrenal gland, medulla	(10)				(10)	(2)
Adenocarcinoma, metastatic, mammary gland						1 (50%)
General Body System						
None						
Genital System						
Ovary	(10)	(10)	(10)	(10)	(10)	(2)
Adenoma				1 (10%)		
Granulosa cell tumor malignant					1 (10%)	
Granulosa cell tumor benign				1 (10%)	3 (30%)	1 (50%)
Mixed tumor benign					1 (10%)	
Uterus	(10)	(1)	(10)	(10)	(10)	(2)
Polyp stromal				2 (20%)		2 (100%)
Hematopoietic System						
Lymph node, mediastinal	(5)			(8)	(8)	(1)
Lymphoma malignant lymphocytic					1 (13%)	
Spleen	(10)			(10)	(10)	(2)
Lymphoma malignant lymphocytic	1 (10%)					
Integumentary System						
Mammary gland	(10)			(10)	(10)	(2)
Adenocarcinoma					2 (20%)	1 (50%)
Skin	(10)			(3)	(10)	(2)
Subcutaneous tissue, neurofibrosarcoma						1 (50%)
Musculoskeletal System						
None						
Nervous System						
None						
Respiratory System						
Lung	(10)	(10)	(10)	(10)	(10)	(2)
Adenocarcinoma, metastatic, mammary gland						1 (50%)
Alveolar/bronchiolar adenoma				2 (20%)	1 (10%)	
Alveolar/bronchiolar adenoma, multiple				1 (10%)	1 (10%)	1 (50%)
Alveolar/bronchiolar carcinoma					1 (10%)	
Hemangiosarcoma, metastatic, heart					1 (10%)	1 (50%)

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
15-Month Interim Evaluation (continued)						
Special Senses System						
Harderian gland	(9)	(1)	(1)	(10)	(10)	(2)
Adenoma	2 (22%)	1 (100%)	1 (100%)	1 (10%)	3 (30%)	
Urinary System						
Kidney	(10)				(10)	(2)
Hemangiosarcoma, metastatic, heart						1 (50%)
Systemic Lesions						
Multiple organs	(10)	(10)	(10)	(10)	(10)	(2)
Lymphoma malignant lymphocytic	1 (10%)				1 (10%)	
2-Year Study						
Alimentary System						
Gallbladder	(46)	(44)	(41)	(43)	(39)	(55)
Lymphoma malignant lymphocytic			1 (2%)			1 (2%)
Intestine large, cecum	(48)	(46)	(46)	(47)	(47)	(68)
Histiocytic sarcoma						1 (1%)
Lymphoma malignant mixed				1 (2%)		
Intestine small, duodenum	(46)	(45)	(44)	(46)	(43)	(62)
Adenoma		1 (2%)				
Carcinoma, multiple				1 (2%)		
Histiocytic sarcoma					1 (2%)	
Leiomyosarcoma				1 (2%)		
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic						2 (3%)
Lymphoma malignant mixed				1 (2%)		
Intestine small, ileum	(48)	(46)	(43)	(47)	(45)	(66)
Carcinoma		1 (2%)				
Leiomyosarcoma, metastatic, stomach					1 (2%)	
Lymphoma malignant lymphocytic					2 (4%)	1 (2%)
Lymphoma malignant mixed		1 (2%)				
Intestine small, jejunum	(47)	(45)	(44)	(46)	(44)	(60)
Carcinoma		1 (2%)				
Histiocytic sarcoma					1 (2%)	
Leiomyosarcoma, metastatic, stomach					1 (2%)	
Lymphoma malignant lymphocytic			1 (2%)			2 (3%)
Lymphoma malignant mixed	1 (2%)					
Liver	(49)	(49)	(50)	(50)	(50)	(80)
Carcinoma, metastatic, parathyroid gland			1 (2%)			
Hemangiosarcoma	1 (2%)			1 (2%)		
Hemangiosarcoma, multiple					1 (2%)	1 (1%)
Hemangiosarcoma, metastatic, heart					9 (18%)	18 (23%)
Hemangiosarcoma, metastatic, skin				1 (2%)		1 (1%)
Hepatocellular carcinoma	4 (8%)	5 (10%)	7 (14%)	9 (18%)	7 (14%)	1 (1%)
Hepatocellular carcinoma, multiple		1 (2%)	1 (2%)		1 (2%)	

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Alimentary System (continued)						
Liver (continued)	(49)	(49)	(50)	(50)	(50)	(80)
Hepatocellular adenoma	10 (20%)	9 (18%)	8 (16%)	9 (18%)	9 (18%)	1 (1%)
Hepatocellular adenoma, multiple	1 (2%)	1 (2%)	1 (2%)	5 (10%)	3 (6%)	
Histiocytic sarcoma	3 (6%)	2 (4%)	6 (12%)	3 (6%)	7 (14%)	4 (5%)
Leiomyosarcoma, metastatic, intestine small				1 (2%)		
Leiomyosarcoma, metastatic, stomach					1 (2%)	
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	1 (2%)	4 (8%)	3 (6%)	6 (12%)	23 (29%)
Lymphoma malignant				1 (2%)		1 (1%)
Lymphoma malignant mixed	2 (4%)	5 (10%)	1 (2%)			
Lymphoma malignant undifferentiated cell type			1 (2%)	1 (2%)		
Sarcoma, metastatic, mammary gland						1 (1%)
Squamous cell carcinoma, metastatic, stomach						2 (3%)
Mesentery	(12)	(13)	(14)	(9)	(12)	(6)
Histiocytic sarcoma				1 (11%)		
Sarcoma, metastatic, mammary gland						1 (17%)
Fat, hemangiosarcoma, metastatic, heart					2 (17%)	1 (17%)
Fat, hemangiosarcoma, metastatic, spleen						1 (17%)
Fat, histiocytic sarcoma			2 (14%)		2 (17%)	
Fat, leiomyosarcoma, metastatic, intestine small				1 (11%)		
Fat, leiomyosarcoma, metastatic, stomach					1 (8%)	
Fat, lymphoma malignant lymphocytic	1 (8%)	3 (23%)	2 (14%)			
Fat, lymphoma malignant mixed	1 (8%)					
Fat, sarcoma, metastatic, skin	1 (8%)			1 (11%)		
Fat, sarcoma, metastatic, stomach						1 (17%)
Fat, sarcoma, metastatic, uterus		1 (8%)				
Fat, squamous cell carcinoma, metastatic, stomach						1 (17%)
Pancreas	(49)	(49)	(47)	(48)	(49)	(78)
Sarcoma, metastatic, mammary gland						1 (1%)
Sarcoma, metastatic, skin	1 (2%)					
Acinus, carcinoma, metastatic, ovary				1 (2%)		
Acinus, hemangioma				1 (2%)		
Acinus, histiocytic sarcoma	2 (4%)			2 (4%)		
Acinus, leiomyosarcoma, metastatic, intestine small				1 (2%)		
Acinus, leiomyosarcoma, metastatic, stomach					1 (2%)	
Acinus, leukemia granulocytic					1 (2%)	
Acinus, lymphoma malignant lymphocytic	1 (2%)	1 (2%)	3 (6%)		4 (8%)	7 (9%)
Acinus, lymphoma malignant mixed	2 (4%)	3 (6%)				
Acinus, sarcoma, metastatic, skin				1 (2%)		
Acinus, squamous cell carcinoma, metastatic, stomach						2 (3%)
Salivary glands	(50)	(49)	(50)	(49)	(50)	(79)
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic		1 (2%)			3 (6%)	5 (6%)
Lymphoma malignant mixed		1 (2%)				

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Alimentary System (continued)						
Stomach, forestomach	(50)	(49)	(47)	(48)	(50)	(79)
Histiocytic sarcoma				1 (2%)		
Leiomyoma	1 (2%)					
Leiomyosarcoma					1 (2%)	
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	1 (2%)		2 (4%)	2 (4%)	7 (9%)
Sarcoma						1 (1%)
Sarcoma, metastatic, mammary gland						1 (1%)
Squamous cell carcinoma			1 (2%)	1 (2%)	1 (2%)	6 (8%)
Squamous cell papilloma			2 (4%)	1 (2%)	2 (4%)	15 (19%)
Squamous cell papilloma, multiple					1 (2%)	1 (1%)
Stomach, glandular	(49)	(48)	(48)	(48)	(48)	(76)
Histiocytic sarcoma	1 (2%)					1 (1%)
Lymphoma malignant lymphocytic	1 (2%)	1 (2%)	1 (2%)	1 (2%)	4 (8%)	7 (9%)
Sarcoma, metastatic, mammary gland						1 (1%)
Squamous cell carcinoma, metastatic, stomach						3 (4%)
Tongue				(1)		
Squamous cell carcinoma				1 (100%)		
Cardiovascular System						
Heart	(50)	(50)	(50)	(49)	(50)	(80)
Adenocarcinoma, metastatic, lung		1 (2%)				
Hemangiosarcoma				1 (2%)	21 (42%)	23 (29%)
Histiocytic sarcoma	1 (2%)		2 (4%)	1 (2%)		1 (1%)
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	1 (2%)	2 (4%)	2 (4%)	2 (4%)	19 (24%)
Sarcoma, metastatic, mammary gland						1 (1%)
Pericardium, leiomyosarcoma, metastatic, uterus			1 (2%)			
Endocrine System						
Adrenal gland, cortex	(50)	(49)	(48)	(49)	(50)	(78)
Adenoma					3 (6%)	
Hepatocellular carcinoma, metastatic, liver		1 (2%)				
Histiocytic sarcoma	2 (4%)	1 (2%)	1 (2%)		3 (6%)	2 (3%)
Leiomyosarcoma, metastatic, stomach					1 (2%)	
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic			1 (2%)	1 (2%)	2 (4%)	9 (12%)
Lymphoma malignant mixed		1 (2%)				
Sarcoma, metastatic, skin					1 (2%)	
Sarcoma, metastatic, stomach						1 (1%)
Capsule, adenoma	1 (2%)					
Adrenal gland, medulla	(50)	(48)	(47)	(45)	(50)	(76)
Histiocytic sarcoma	1 (2%)				1 (2%)	
Leiomyosarcoma, metastatic, stomach					1 (2%)	
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic						2 (3%)

Table B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Endocrine System (continued)						
Adrenal gland, medulla (continued)	(50)	(48)	(47)	(45)	(50)	(76)
Pheochromocytoma malignant			1 (2%)			
Pheochromocytoma benign			1 (2%)		2 (4%)	
Sarcoma, metastatic, skin					1 (2%)	
Islets, pancreatic	(49)	(49)	(46)	(47)	(49)	(78)
Adenoma				1 (2%)	2 (4%)	
Parathyroid gland	(40)	(40)	(33)	(39)	(38)	(69)
Carcinoma			1 (3%)			
Lymphoma malignant lymphocytic						1 (1%)
Pituitary gland	(50)	(49)	(48)	(47)	(48)	(71)
Histiocytic sarcoma	1 (2%)					
Lymphoma malignant lymphocytic				1 (2%)	2 (4%)	8 (11%)
Pars distalis, adenoma	7 (14%)	12 (24%)	5 (10%)	4 (9%)		
Thyroid gland	(50)	(49)	(49)	(49)	(49)	(78)
Carcinoma, metastatic, parathyroid gland			1 (2%)			
Lymphoma malignant lymphocytic		1 (2%)				2 (3%)
Follicular cell, adenoma	1 (2%)	1 (2%)	1 (2%)	2 (4%)	2 (4%)	1 (1%)
Follicular cell, carcinoma		1 (2%)				
General Body System						
Tissue NOS				(1)		
Lymphoma malignant				1 (100%)		
Genital System						
Ovary	(49)	(49)	(48)	(50)	(50)	(79)
Adenoma	2 (4%)	4 (8%)	1 (2%)	2 (4%)	1 (2%)	1 (1%)
Carcinoma				1 (2%)		
Granular cell tumor benign		1 (2%)				
Granulosa cell tumor malignant				3 (6%)	2 (4%)	
Granulosa cell tumor benign	1 (2%)		1 (2%)	6 (12%)	5 (10%)	6 (8%)
Hemangioma	1 (2%)			2 (4%)		
Histiocytic sarcoma	2 (4%)		2 (4%)	2 (4%)	3 (6%)	1 (1%)
Leiomyosarcoma, metastatic, intestine small				1 (2%)		
Leiomyosarcoma, metastatic, stomach					1 (2%)	
Leukemia granulocytic					1 (2%)	
Luteoma				1 (2%)		
Lymphoma malignant lymphocytic	1 (2%)	1 (2%)	3 (6%)	1 (2%)	4 (8%)	19 (24%)
Lymphoma malignant				1 (2%)		
Lymphoma malignant mixed	1 (2%)	2 (4%)				
Mixed tumor benign				2 (4%)	5 (10%)	1 (1%)
Thecoma benign	1 (2%)					
Bilateral, granulosa cell tumor benign					1 (2%)	
Uterus	(50)	(49)	(50)	(49)	(50)	(78)
Adenocarcinoma		1 (2%)		2 (4%)	1 (2%)	
Hemangioma	1 (2%)	1 (2%)			1 (2%)	
Histiocytic sarcoma			2 (4%)	1 (2%)	1 (2%)	1 (1%)

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Genital System (continued)						
Uterus (continued)	(50)	(49)	(50)	(49)	(50)	(78)
Leiomyoma				1 (2%)		
Leiomyosarcoma		1 (2%)	1 (2%)			
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic		1 (2%)	2 (4%)		1 (2%)	9 (12%)
Polyp stromal	2 (4%)	2 (4%)		1 (2%)	1 (2%)	2 (3%)
Sarcoma		1 (2%)				
Sarcoma stromal				1 (2%)		
Cervix, hemangiosarcoma				1 (2%)		
Vagina				(3)		
Hemangiosarcoma				1 (33%)		
Leiomyosarcoma				1 (33%)		
Squamous cell carcinoma				1 (33%)		
Hematopoietic System						
Bone marrow	(50)	(49)	(48)	(49)	(50)	(79)
Hemangioma		1 (2%)				
Hemangiosarcoma, metastatic, skin				1 (2%)		
Hemangiosarcoma, metastatic, spleen	1 (2%)					
Histiocytic sarcoma	1 (2%)		1 (2%)	1 (2%)	4 (8%)	2 (3%)
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic		1 (2%)	3 (6%)	1 (2%)	5 (10%)	30 (38%)
Lymph node	(50)	(50)	(50)	(50)	(49)	(79)
Histiocytic sarcoma						1 (1%)
Lymphoma malignant lymphocytic	1 (2%)					
Lymphoma malignant mixed	1 (2%)					
Axillary, lymphoma malignant lymphocytic			1 (2%)		2 (4%)	6 (8%)
Axillary, sarcoma, metastatic, skin					1 (2%)	
Deep cervical, lymphoma malignant lymphocytic						2 (3%)
Iliac, histiocytic sarcoma			1 (2%)			
Iliac, lymphoma malignant lymphocytic	1 (2%)	1 (2%)	1 (2%)			
Iliac, lymphoma malignant mixed	1 (2%)	2 (4%)				
Inguinal, lymphoma malignant lymphocytic					2 (4%)	4 (5%)
Pancreatic, histiocytic sarcoma					1 (2%)	
Pancreatic, leiomyosarcoma, metastatic, stomach					1 (2%)	
Pancreatic, lymphoma malignant mixed	1 (2%)	1 (2%)				
Renal, histiocytic sarcoma		1 (2%)	2 (4%)			
Renal, lymphoma malignant lymphocytic		1 (2%)	1 (2%)	1 (2%)		2 (3%)
Renal, lymphoma malignant mixed	1 (2%)	2 (4%)	1 (2%)			
Lymph node, bronchial	(43)	(42)	(42)	(38)	(34)	(54)
Adenocarcinoma, metastatic, lung		1 (2%)			1 (3%)	
Alveolar/bronchiolar carcinoma, metastatic, lung					1 (3%)	1 (2%)
Carcinoma, metastatic, ovary				1 (3%)		
Hemangiosarcoma, metastatic, heart				1 (3%)		
Histiocytic sarcoma	2 (5%)		3 (7%)	1 (3%)	3 (9%)	1 (2%)

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Hematopoietic System (continued)						
Lymph node, bronchial (continued)	(43)	(42)	(42)	(38)	(34)	(54)
Lymphoma malignant lymphocytic	1 (2%)	2 (5%)	3 (7%)	1 (3%)	4 (12%)	28 (52%)
Lymphoma malignant				1 (3%)		1 (2%)
Lymphoma malignant mixed	1 (2%)	2 (5%)				
Sarcoma, metastatic, skin				1 (3%)		
Lymph node, mandibular	(39)	(42)	(46)	(43)	(39)	(58)
Adenocarcinoma, metastatic, mammary gland						1 (2%)
Histiocytic sarcoma	2 (5%)	1 (2%)	3 (7%)		2 (5%)	
Leukemia granulocytic					1 (3%)	
Lymphoma malignant lymphocytic		3 (7%)	2 (4%)	3 (7%)	5 (13%)	22 (38%)
Lymphoma malignant						1 (2%)
Lymphoma malignant mixed	2 (5%)	3 (7%)				
Sarcoma, metastatic, skin			1 (2%)			
Lymph node, mediastinal	(30)	(29)	(33)	(36)	(40)	(67)
Alveolar/bronchiolar carcinoma, metastatic, lung				1 (3%)	2 (5%)	2 (3%)
Carcinoma, metastatic, ovary				1 (3%)		
Hepatocellular carcinoma, metastatic, liver			1 (3%)			
Histiocytic sarcoma	2 (7%)	1 (3%)	1 (3%)	1 (3%)	3 (8%)	1 (1%)
Leukemia granulocytic					1 (3%)	
Lymphoma malignant lymphocytic		1 (3%)	3 (9%)	2 (6%)	6 (15%)	29 (43%)
Lymphoma malignant						1 (1%)
Lymphoma malignant mixed	1 (3%)	4 (14%)	1 (3%)			
Sarcoma, metastatic, mammary gland						1 (1%)
Squamous cell carcinoma, metastatic, stomach						2 (3%)
Lymph node, mesenteric	(49)	(46)	(48)	(48)	(47)	(71)
Carcinoma, metastatic, ovary				1 (2%)		
Histiocytic sarcoma	2 (4%)	2 (4%)	5 (10%)	3 (6%)	6 (13%)	4 (6%)
Leiomyosarcoma, metastatic, intestine small				1 (2%)		
Leiomyosarcoma, metastatic, stomach					1 (2%)	
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	1 (2%)	4 (8%)	2 (4%)	6 (13%)	23 (32%)
Lymphoma malignant				1 (2%)		
Lymphoma malignant mixed	4 (8%)	6 (13%)	3 (6%)	1 (2%)	1 (2%)	
Squamous cell carcinoma, metastatic, stomach						1 (1%)
Spleen	(49)	(49)	(48)	(48)	(50)	(78)
Hemangioma		1 (2%)				
Hemangiosarcoma	2 (4%)	1 (2%)				1 (1%)
Histiocytic sarcoma	2 (4%)	2 (4%)	4 (8%)	3 (6%)	4 (8%)	4 (5%)
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	3 (6%)	5 (10%)	2 (4%)	6 (12%)	26 (33%)
Lymphoma malignant mixed	4 (8%)	7 (14%)	3 (6%)	1 (2%)		
Lymphoma malignant undifferentiated cell type			1 (2%)	1 (2%)		
Thymus	(46)	(46)	(45)	(41)	(40)	(71)
Alveolar/bronchiolar carcinoma, metastatic, lung						1 (1%)
Histiocytic sarcoma	2 (4%)					3 (4%)

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Hematopoietic System (continued)						
Thymus (continued)	(46)	(46)	(45)	(41)	(40)	(71)
Leukemia granulocytic					1 (3%)	
Lymphoma malignant lymphocytic		2 (4%)	6 (13%)	2 (5%)	6 (15%)	31 (44%)
Lymphoma malignant						1 (1%)
Lymphoma malignant mixed	1 (2%)	4 (9%)	1 (2%)			
Integumentary System						
Mammary gland	(49)	(46)	(49)	(50)	(47)	(77)
Adenoacanthoma		1 (2%)	2 (4%)	6 (12%)	4 (9%)	
Adenocarcinoma		2 (4%)	2 (4%)	6 (12%)	10 (21%)	12 (16%)
Adenocarcinoma, multiple					1 (2%)	
Histiocytic sarcoma						1 (1%)
Lymphoma malignant lymphocytic				1 (2%)	2 (4%)	5 (6%)
Mixed tumor malignant						4 (5%)
Sarcoma						1 (1%)
Skin	(50)	(50)	(50)	(50)	(50)	(79)
Keratoacanthoma						1 (1%)
Leiomyosarcoma, metastatic, stomach					1 (2%)	
Lymphoma malignant lymphocytic						1 (1%)
Sebaceous gland, adenoma					1 (2%)	
Subcutaneous tissue, hemangioma			1 (2%)	1 (2%)		
Subcutaneous tissue, hemangiosarcoma	1 (2%)	2 (4%)	2 (4%)	2 (4%)	2 (4%)	2 (3%)
Subcutaneous tissue, hemangiosarcoma, metastatic, heart						2 (3%)
Subcutaneous tissue, neurofibrosarcoma			1 (2%)			
Subcutaneous tissue, sarcoma	1 (2%)	2 (4%)	2 (4%)	5 (10%)	3 (6%)	2 (3%)
Subcutaneous tissue, sarcoma, multiple						1 (1%)
Subcutaneous tissue, squamous cell carcinoma, metastatic, stomach						1 (1%)
Musculoskeletal System						
Bone	(50)	(50)	(50)	(50)	(50)	(80)
Adenocarcinoma, metastatic, harderian gland		1 (2%)				
Hemangiosarcoma, metastatic, skin				1 (2%)		
Vertebra, lymphoma malignant lymphocytic						1 (1%)
Skeletal muscle	(1)		(1)	(1)	(1)	(2)
Adenocarcinoma, metastatic, lung			1 (100%)			
Hemangiosarcoma, metastatic, spleen	1 (100%)					
Hepatocellular carcinoma, metastatic, liver			1 (100%)			
Diaphragm, leiomyosarcoma, metastatic, intestine small				1 (100%)		
Diaphragm, sarcoma, metastatic, skin					1 (100%)	
Diaphragm, sarcoma, metastatic, stomach						1 (50%)

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Nervous System						
Brain	(50)	(50)	(50)	(50)	(50)	(80)
Hemangiosarcoma, metastatic, heart					2 (4%)	1 (1%)
Histiocytic sarcoma		1 (2%)	2 (4%)	2 (4%)	4 (8%)	1 (1%)
Lymphoma malignant lymphocytic	1 (2%)			2 (4%)	3 (6%)	10 (13%)
Lymphoma malignant				1 (2%)		
Spinal cord					(1)	(9)
Lymphoma malignant lymphocytic					1 (100%)	8 (89%)
Respiratory System						
Lung	(50)	(50)	(50)	(50)	(50)	(78)
Adenocarcinoma		1 (2%)	2 (4%)	2 (4%)		
Adenocarcinoma, multiple		1 (2%)			1 (2%)	
Adenocarcinoma, metastatic, harderian gland		1 (2%)	1 (2%)		1 (2%)	
Adenocarcinoma, metastatic, mammary gland		1 (2%)		1 (2%)	3 (6%)	4 (5%)
Adenocarcinoma, metastatic, uterus		1 (2%)				
Alveolar/bronchiolar adenoma	4 (8%)	11 (22%)	9 (18%)	14 (28%)	10 (20%)	14 (18%)
Alveolar/bronchiolar adenoma, multiple			3 (6%)	3 (6%)	4 (8%)	3 (4%)
Alveolar/bronchiolar carcinoma		3 (6%)	10 (20%)	5 (10%)	8 (16%)	5 (6%)
Alveolar/bronchiolar carcinoma, multiple				2 (4%)	10 (20%)	3 (4%)
Carcinoma, metastatic, ovary				1 (2%)		
Carcinoma, metastatic, parathyroid gland			1 (2%)			
Granulosa cell tumor malignant, metastatic, ovary				1 (2%)	1 (2%)	
Hemangiosarcoma, metastatic, heart					5 (10%)	14 (18%)
Hemangiosarcoma, metastatic, skin						1 (1%)
Hepatocellular carcinoma, metastatic, liver		1 (2%)	5 (10%)	2 (4%)	3 (6%)	1 (1%)
Histiocytic sarcoma	2 (4%)	2 (4%)	5 (10%)	3 (6%)	7 (14%)	4 (5%)
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	3 (6%)	3 (6%)	3 (6%)	5 (10%)	22 (28%)
Lymphoma malignant				1 (2%)		
Lymphoma malignant mixed		2 (4%)				
Mixed tumor malignant, metastatic, mammary gland						3 (4%)
Pheochromocytoma malignant, metastatic, adrenal gland			1 (2%)			
Sarcoma, metastatic, skin				1 (2%)	1 (2%)	1 (1%)
Squamous cell carcinoma, metastatic, stomach						1 (1%)
Fat, mediastinum, hemangioma			1 (2%)			
Mediastinum, adenocarcinoma, metastatic, lung		1 (2%)	2 (4%)	1 (2%)		
Mediastinum, alveolar/bronchiolar carcinoma, metastatic, lung				1 (2%)	2 (4%)	3 (4%)
Mediastinum, hemangiosarcoma, metastatic, heart				1 (2%)	2 (4%)	1 (1%)
Mediastinum, hemangiosarcoma, metastatic, skin			1 (2%)			

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Respiratory System (continued)						
Lung (continued)	(50)	(50)	(50)	(50)	(50)	(78)
Mediastinum, hepatocellular carcinoma, metastatic, liver			1 (2%)			
Mediastinum, leiomyosarcoma, metastatic, uterus			1 (2%)			
Mediastinum, mixed tumor malignant, metastatic, mammary gland						1 (1%)
Mediastinum, sarcoma, metastatic, skin	1 (2%)					1 (1%)
Mediastinum, squamous cell carcinoma, metastatic, stomach						1 (1%)
Nose	(50)	(49)	(48)	(50)	(50)	(79)
Lymphoma malignant lymphocytic				1 (2%)	1 (2%)	5 (6%)
Lymphoma malignant				1 (2%)		
Special Senses System						
Harderian gland	(50)	(49)	(48)	(49)	(49)	(66)
Adenocarcinoma		1 (2%)	1 (2%)		1 (2%)	
Adenoma	8 (16%)	9 (18%)	6 (13%)	13 (27%)	18 (37%)	9 (14%)
Bilateral, adenoma		1 (2%)		2 (4%)	2 (4%)	
Zymbal's gland						(2)
Adenoma						1 (50%)
Carcinoma						1 (50%)
Urinary System						
Kidney	(49)	(49)	(48)	(50)	(50)	(80)
Adenocarcinoma, metastatic, lung		1 (2%)	1 (2%)			
Alveolar/bronchiolar carcinoma, metastatic, lung			1 (2%)			1 (1%)
Carcinoma, metastatic, parathyroid gland			1 (2%)			
Hemangiosarcoma, metastatic, heart					1 (2%)	
Histiocytic sarcoma	2 (4%)	2 (4%)	5 (10%)	2 (4%)	5 (10%)	4 (5%)
Leiomyosarcoma, metastatic, stomach					1 (2%)	
Leukemia granulocytic					1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	2 (4%)	3 (6%)	1 (2%)	5 (10%)	21 (26%)
Lymphoma malignant				1 (2%)		1 (1%)
Lymphoma malignant mixed	1 (2%)	4 (8%)	1 (2%)			
Squamous cell carcinoma, metastatic, stomach						1 (1%)
Renal tubule, adenoma					2 (4%)	
Urinary bladder	(47)	(46)	(48)	(46)	(49)	(75)
Histiocytic sarcoma		1 (2%)			1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	2 (4%)	3 (6%)	1 (2%)	4 (8%)	9 (12%)
Squamous cell carcinoma, metastatic, stomach						1 (1%)
Systemic Lesions						
Multiple organs	(50)	(50)	(50)	(50)	(50)	(80)
Histiocytic sarcoma	3 (6%)	2 (4%)	7 (14%)	4 (8%)	7 (14%)	4 (5%)
Leukemia granulocytic					1 (2%)	

TABLE B1
Summary of the Incidence of Neoplasms in Female Mice at the 9- and 15-Month Interim Evaluations and in the 2-Year Inhalation Study of 1,3-Butadiene (continued)

	0 ppm	6.25 ppm	20 ppm	62.5 ppm	200 ppm	625 ppm
2-Year Study (continued)						
Systemic Lesions (continued)						
Multiple organs (continued)	(50)	(50)	(50)	(50)	(50)	(80)
Lymphoma malignant				1 (2%)		1 (1%)
Lymphoma malignant lymphocytic	1 (2%)	3 (6%)	6 (12%)	3 (6%)	8 (16%)	31 (39%)
Lymphoma malignant mixed	5 (10%)	9 (18%)	4 (8%)	2 (4%)	1 (2%)	
Lymphoma malignant undifferentiated cell			1 (2%)	1 (2%)		
Neoplasm Summary						
Total animals with primary neoplasms[c]						
9-Month interim evaluation	2				2	3
15-Month interim evaluation	3	2	1	6	10	2
2-Year study	35	47	43	48	49	72
Total primary neoplasms						
9-Month interim evaluation	2				3	3
15-Month interim evaluation	4	2	1	10	21	10
2-Year study	59	95	92	136	167	156
Total animals with benign neoplasms						
9-Month interim evaluation	2				2	2
15-Month interim evaluation	3	2	1	6	9	2
2-Year study	28	36	24	38	36	37
Total benign neoplasms						
9-Month interim evaluation	2				3	2
15-Month interim evaluation	3	2	1	10	14	5
2-Year study	41	55	40	71	75	56
Total animals with malignant neoplasms						
9-Month interim evaluation						1
15-Month interim evaluation	1				7	2
2-Year study	15	32	40	42	49	71
Total malignant neoplasms						
9-Month interim evaluation						1
15-Month interim evaluation	1				7	5
2-Year study	18	40	52	65	92	100
Total animals with metastatic neoplasms						
15-Month interim evaluation					1	2
2-Year study	2	5	12	12	21	31
Total metastatic neoplasms						
15-Month interim evaluation					2	8
2-Year study	5	11	23	27	52	86

[a] Number of animals examined microscopically at site and number of animals with lesion
[b] Number of animals with any tissue examined microscopically
[c] Primary neoplasms: all neoplasms except metastatic neoplasms

TABLE B2
Individual Animal Tumor Pathology of Female Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm

Number of Days on Study	401	485	551	560	623	625	644	658	667	700	708	708	714	737	737	737	737	737	737	737	737	737	737	737	737
Carcass ID Number	027	028	020	021	025	018	027	028	020	024	016	028	020	015	015	015	015	016	016	065	071	074	081	082	083
Alimentary System																									
Esophagus	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+
Gallbladder	+	+	+	A	A	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large	+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, cecum	+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, colon	+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, rectum	+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small	+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, duodenum	+	+	+	A	A	+	+	+	+	+	+	M	A	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, ileum	+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, jejunum	+	+	+	A	A	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma																X									
Hepatocellular carcinoma									X																
Hepatocellular adenoma														X				X	X		X				
Hepatocellular adenoma, multiple																									
Histiocytic sarcoma		X								X			X												
Mesentery			+		+				+		+	+			+										
Fat, sarcoma, metastatic, skin									X																
Pancreas	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sarcoma, metastatic, skin									X																
Acinus, histiocytic sarcoma		X								X															
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Leiomyoma																									
Stomach, glandular	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma										X															
Tooth	+															+									
Cardiovascular System																									
Blood vessel								+																	
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma		X																							
Endocrine System																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma		X								X															
Capsule, adenoma																									
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma										X															
Islets, pancreatic	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Parathyroid gland	M	+	M	+	+	M	M	+	M	+	+	+	M	+	+	+	+	+	+	+	M	+	+	+	+

+: Tissue examined microscopically
A: Autolysis precludes examination
M: Missing tissue
I: Insufficient tissue
X: Lesion present
Blank: Not examined

TABLE B2
Individual Animal Tumor Pathology of Female Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm
(continued)

Number of Days on Study	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	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
Carcass ID Number	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	Total
	8	9	9	9	0	0	1	1	1	2	2	2	2	3	3	4	4	5	5	5	6	6	6	7	8	Tissues/
	4	2	3	5	2	3	1	2	4	1	2	4	5	3	4	2	3	1	3	4	1	2	5	3	2	Tumors
Alimentary System																										
Esophagus	+	+	+	+	+	M	M	M	M	+	+	+	+	M	+	M	+	+	+	M	+	+	+	+	+	41
Gallbladder	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Intestine large	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine large, cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine large, colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine large, rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine small	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine small, duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Intestine small, ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine small, jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Hemangiosarcoma																										1
Hepatocellular carcinoma					X																	X			X	4
Hepatocellular adenoma			X	X						X						X	X	X								10
Hepatocellular adenoma, multiple													X													1
Histiocytic sarcoma																										3
Mesentery	+		+								+			+	+	+										12
Fat, sarcoma, metastatic, skin																										1
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Sarcoma, metastatic, skin																										1
Acinus, histiocytic sarcoma																										2
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Leiomyoma					X																					1
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Histiocytic sarcoma																										1
Tooth																+								+		4
Cardiovascular System																										
Blood vessel																										1
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Histiocytic sarcoma																										1
Endocrine System																										
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Histiocytic sarcoma																										2
Capsule, adenoma																						X				1
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Histiocytic sarcoma																										1
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Parathyroid gland	+	+	M	+	+	+	+	+	+	+	+	I	M	+	+	+	+	+	+	+	+	+	+	+	+	40

TABLE B2
Individual Animal Tumor Pathology of Female Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm
(continued)

Number of Days on Study	401	485	551	560	623	625	644	658	677	700	708	708	714	737	737	737	737	737	737	737	737	737	737	737	737
Carcass ID Number	0274	0284	0205	0213	0225	0185	0227	0228	0201	0225	0163	0283	0204	0152	0173	0174	0175	0161	0162	0165	0171	0174	0181	0182	0183
Endocrine System (continued)																									
Pituitary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma										X															
Pars distalis, adenoma						X			X													X	X		
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Follicular cell, adenoma									X																
General Body System																									
None																									
Genital System																									
Clitoral gland						M																			
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	+
Adenoma																				X					
Granulosa cell tumor benign																									
Hemangioma																									
Histiocytic sarcoma		X								X															
Thecoma benign																	X								
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangioma											X														
Polyp stromal						X																			
Hematopoietic System																									
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma, metastatic, spleen																					X				
Histiocytic sarcoma		X																							
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph node, bronchial	M	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	M
Histiocytic sarcoma		X								X															
Lymph node, mandibular	M	+	+	+	+	M	M	+	+	+	+	+	+	+	+	M	+	+	M	+	+	+	+	+	M
Histiocytic sarcoma		X								X															
Lymph node, mediastinal	+	+	+	+	+	+	+	+	+	+	+	+	M	M	+	+	M	M	I	M	M	+	M	+	+
Histiocytic sarcoma		X								X															
Lymph node, mesenteric	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma		X								X															
Spleen	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangiosarcoma																					X			X	
Histiocytic sarcoma		X								X															
Thymus	+	+	+	+	A	M	M	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma		X								X															
Integumentary System																									
Mammary gland	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Subcutaneous tissue, hemangiosarcoma																								X	
Subcutaneous tissue, sarcoma									X																

TABLE B2
Individual Animal Tumor Pathology of Female Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm
(continued)

Number of Days on Study	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737	
Carcass ID Number	018	019	019	019	020	020	021	021	021	021	022	022	022	023	023	024	024	025	025	025	026	026	026	027	028	Total Tissues/ Tumors
Endocrine System (continued)																										
Pituitary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Histiocytic sarcoma																										1
Pars distalis, adenoma									X											X		X				7
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Follicular cell, adenoma																										1
General Body System																										
None																										
Genital System																										
Clitoral gland																										
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Adenoma																					X					2
Granulosa cell tumor benign				X																						1
Hemangioma														X												1
Histiocytic sarcoma																										2
Thecoma benign																										1
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangioma																										1
Polyp stromal						X																				2
Hematopoietic System																										
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemangiosarcoma, metastatic, spleen																										1
Histiocytic sarcoma																										1
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymph node, bronchial	+	+	+	+	M	+	+	+	+	+	+	+	M	+	+	+	+	+	M	+	+	+	+	+	+	43
Histiocytic sarcoma																										2
Lymph node, mandibular	M	+	+	+	M	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	M	+	I	+	+	39
Histiocytic sarcoma																										2
Lymph node, mediastinal	+	M	+	+	+	M	+	+	M	+	M	+	+	+	M	M	+	M	M	M	M	+	M	+	M	30
Histiocytic sarcoma																										2
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Histiocytic sarcoma																										2
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Hemangiosarcoma																										2
Histiocytic sarcoma																										2
Thymus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Histiocytic sarcoma																										2
Integumentary System																										
Mammary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Subcutaneous tissue, hemangiosarcoma																										1
Subcutaneous tissue, sarcoma																										1

TABLE B2
Individual Animal Tumor Pathology of Female Mice in the 2-Year Inhalation Study of 1,3-Butadiene: 0 ppm
(continued)

Number of Days on Study	401	485	551	560	623	625	644	658	677	700	708	708	714	737	737	737	737	737	737	737	737	737	737	737	737
Carcass ID Number	0274	0284	0205	0213	0225	0185	0272	0285	0201	0245	0163	0283	0204	0152	0153	0154	0155	0161	0162	0165	0171	0174	0181	0182	0183
Musculoskeletal System																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Skeletal muscle																					+				
Hemangiosarcoma, metastatic, spleen																					X				
Nervous System																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Respiratory System																									
Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma													X												
Histiocytic sarcoma		X								X															
Mediastinum, sarcoma, metastatic, skin									X																
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Special Senses System																									
Eye								+			+														
Harderian gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenoma								X								X	X		X						
Urinary System																									
Kidney	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma		X								X															
Urinary bladder	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Systemic Lesions																									
Multiple organs	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma		X								X			X												
Lymphoma malignant lymphocytic					X																				
Lymphoma malignant mixed											X	X									X				