

FINAL REPORT

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

VOLUME III

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16. Abstract (Limit: 200 words) Data tabulations for a carcinogenesis bioassay of condensed effluents obtained from iron foundry casting operations that used hamsters as the test species are presented. Gross pathological observations in the abdominal cavity, adrenals, brain, diaphragm, gallbladder, heart, intestinal tract, kidneys, liver, lungs and bronchi, lymph nodes, pancreas, prostate, seminal vesicles, skin and subcutis, salivary gland, spleen, stomach, trachea, testes, thoracic cavity, thymus, thyroid, urinary bladder, parathyroids, pituitary, uterus, or ovaries in males and females are summarized. Lesions observed in respiratory tract tissue masses in males and females are tabulated. Histopathological observations in the skin, thigh muscle, salivary gland, mandibular lymph node, sciatic nerve, brain, pituitary, adrenals, thymus, stomach, duodenum, jejunum, cecum, colon, rectum, mesenteric lymph node, ileum, larynx, trachea, thyroid, lung, bronchial lymph nodes, main stem bronchi, liver, gallbladder, spleen, pancreas, prostate, seminal vesicles, sternum and rib junction, femur and bone marrow, nasal cavity, esophagus, parathyroid, heart, kidneys, urinary bladder, ovaries, or uterus in males and females are presented. The results of Fisher's analysis for significance of tumor bearing animals are summarized.			13. Type of Report & Period Covered 14.
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TABLE 20
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS
KEY TO GROUP IDENTIFICATION

<u>GROUP NUMBER</u>	<u>TREATMENT</u>	<u>DOSE LEVEL (mg/0.2 ml distilled water)</u>
1	Vehicle Control	--
2	Ferric Oxide Control (Fe_2O_3 + Vehicle)	3.0
3	Positive Control (BaP + Fe_2O_3)	3.0 + 3.0
4	Shell Sand	5.0
5	Shell Sand	10.0
6	Green Sand	5.0
7	Green Sand	10.0
8	Furan	5.0
9	Furan	10.0
10	Urethane	2.5
11	Urethane	5.0

TABLE 20A
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	DEATHS AND UNSCHEDULED SACRIFICES									
	1	2	3	4	5	6	7	8	9	10
NUMBER EXAMINED	45	44	48	44	43	44	44	42	48	46
NUMBER WITH NO GROSS LESIONS	3	3	6	3	2	5	2	3	2	4
MALES										
GROUP:										
ABDOMINAL CAVITY										
Clear or serous fluid contents	2	3		2	1	2	2	1	1	1
Blood-like fluid or material; hemoperitoneum		2		1	1		1	1	1	
Multiple masses associated with viscera and mesentery		1								
ADRENALS										
Enlarged	1	2		4	2	2		3	3	1
Tan	1			1	3				1	1
Mass	1		1	2			1			1
White										
White foci								1	1	
Tan foci										1
BRAIN										
Soft										
Small amount of blood around brain		1		1	1	1	4	2	3	1
DIAPHRAGM										
Roughened		1								
GALLBLADDER										
Distended									2	
HEART										
Enlarged atria	1	2	1	3	3	1	2	1	2	3
Thrombus or thrombus-like mass	1	2		3	2		2	1	2	4
Enlarged	1									1
Mass					1					

TABLE 20A (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	DEATHS AND UNSCHEDULED SACRIFICES										
	1	2	3	4	5	6	7	8	9	10	11
MALES											
GROUP:											
INTESTINAL TRACT											
Red raised area							1			1	1
Filled with blood								1			
Colon distended								1	3	2	2
Mucosa congested											1
Nodule(s)	2	2	4	3	1						
Mucosa thickened	1	1	1	3							
Cecum enlarged	3	1	1	1	2	2		2	1	3	
Filled with clear substance	1	2	2		1		1	1	1	3	
Gas contents	1	2	5	1	2	1		1	2		
Mucosa reddened or hemorrhagic	1	1	1	1	2	2	2	2	3	1	1
Black focus	1							1	1		
Intussusception				1				2	1		1
Mass(es)				1		1	1			3	
Mucosa rough					1	1	1	1			
Mucosa gray or gray-black						1	1				
Filled with jelly-like material							1				
KIDNEYS											
Irregular in size									1		1
Cyst											
Soft							1				
Dark patches									1		
Nodules							1				
Pitted, granular or rough surface	27	19	7	18	15	22	18	13	22	20	21
Firm or hard	8	7		5	7	7	2	2	4	6	2
Reduced or small	5	2			4					1	2
Mottled		1		1							1
Pale, pale pink or tan	9	7	2	8	6	11	6	2	8	12	6
Cratered surface	2	2	2	1			1		1	1	
Dark or dark red		2	2					2	2	1	
Mass		1	1					1	2		
Enlarged				1	2	1	2	1	1	1	1
Depressed area					1						
Black at ends				1							1
Lobate											
Hollow and fluid filled											
Black with spots				1				1			

TABLE 20A (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	GROUP:	DEATHS AND UNSCHEDULED SACRIFICES										
		1	2	3	4	5	6	7	8	9	10	11
MALES												
LIVER												
Cyst(s)	4	7		7	7	4	6	5	7	8	9	
Reduced	1			1	1	1	1				1	
Black or brown foci or spots	1	2	3	1	2	1		2				
Tip of lobe soft and filled with red fluid	1											
Blue gray coloration												
Mottled		1	1	1	1	2	2		1	1	3	
Adhesions between lobes		1		1					1			
Pale		1										
Enlarged		3	1	1	4	2	3	1	2	4	2	
Raised tan or brown focus		1					1					
Friable		2		3		1		2	2	1	1	
Red foci									1			
Lobe ruptured		2										
Firm		1		1	2	1	4	1	1	3	2	
Granular surface		1		1	1	3	2	2	3	2	2	
Dark, black or dark red												
Pale patches			2	1	2		1		3		2	
Accentuated lobulation			1					1				
Raised area			1					1		1		
Dark patches			1			1						
Soft												
White foci					1							
Firm red area					1		1	1				
Nodule(s)												
Cratered area												
LUNGS AND BRONCHI												
Black or gray foci	1	3	1	19	23			7	19	1	1	
Dark spots	4	3	1	3	6			1	8	3	2	
Pale, tan or light in color	3		3	1	2	1						
Spongy	1											
Red	2	4	3	2	1	5	5	4	4	5	4	
Areas or patches of black discoloration	2			1				1				
Mottled	2	4	6	3	2	3	1	8	6	1	2	
Failed to collapse properly									1			
Dark discoloration	1	1			2		1		1			
Pneumonia												
Firm		1						1				
Mass(es)	2		6	3				3	2	1	4	
Congested	2	2	22				1			1		
Nodule(s)	1		1	4	2	3	2	5	2	2	2	
Alveolar emphysema or emphysematous rupture of alveoli			10						1			
Punctured by broken rib			11		1				1		2	
Adhesions			1									
Raised areas			7									
Lobe enlarged and cystic			1									
White or tan focus or foci												
Red patches				2	1	1			1	1	1	
Lobe black, hard, filled with green material												
Red foci												

TABLE 20A (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	DEATHS AND UNSCHEDULED SACRIFICES									
	1	2	3	4	5	6	7	8	9	10
MALES										
GROUP:										
LYMPH NODES										
Mandibular -										
Enlarged	1		1	1			2		2	
Reddened			1	1			2		2	2
Mediastinal -										
Enlarged							1		1	
Mesenteric -										
Reddened or congested	1	1		1	2		2	1	2	
Enlarged				1			6	2	2	
Replaced by mass		1								1
Firm									1	
Filled with pus								1		
Renal -										
Reddened									1	
Enlarged	1				1				1	
Bronchial -										
Enlarged			7	1						
Pancreatic -										
Enlarged							1			
Reddened							1			
PANCREAS										
Nodule										1
PROSTATE										
Mass										1
SEMINAL VESICLES										
Reduced	1					3				1
Enlarged							1			1
Jelly-like										1
SKIN AND SUBCUTIS										
Subcutaneous edema	2	3		3	4	2	4	4	3	3
Jelly-like material between skin and body wall	1						1	1	1	1
Alopecia				1		1	1			
Sores						1				
Mass						2	1		1	
Skin flaky							1			
Green with green foci, interior ventral skin							1			
Fluid between skin and muscle layer								1		
Falls apart when touched									1	
SALIVARY GLAND										
Nodules										1
Enlarged or swollen										1
Congested										

TABLE 20A (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	DEATHS AND UNSCHEDULED SACRIFICES											
	GROUP: 1 2 3 4 5 6 7 8 9 10 11											
MALES												
SPLEEN												
Reduced or small		9	7	6	13	5	6	8	3	7	10	3
Light gray or pale		1			1				1			
Red							1					
Cyst												
Mass								1				
Enlarged								2	1			
Nodule(s)								1			2	
White foci								1				
STOMACH												
Black or gray focus or foci		3	1		2	1	3	4	1	4	1	2
Jelly-like substance												
Mass(es)			1									
Thick red contents				1								
Congested area				1								
Intussusception									1			
Gas contents					2	1						
Nodule											1	
Mucosa thickened								1				
TRACHEA												
Nodule					2							
Mass, tracheobronchial tree					2							
TESTES												
Reduced or small		9	8	2	9	8	8	7	8	5	6	6
Enlarged		1	1									
Black			1									
Soft			2						1			
Mass			1									
Epididymis enlarged				1				1		1		
Yellow pus-like contents								1		1		
THORACIC CAVITY												
Hydrothorax		3	6		6	4	4	4	2	2	5	9
Hemothorax			1					1		3		
Mass										1		
THYMUS												
Black			1									
Enlarged; adhered to mediastinal lymph nodes								1				
THYROID												
Enlarged					1			1	1	1	1	
Mass								1				
URINARY BLADDER												
Mass		1										
Blood or red fluid contents				1							1	1
Distended with urine					2							
Filled with white fat-like substance								1				
Filled with dark substance										1		

TABLE 20A (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	DEATHS AND UNSCHEDULED SACRIFICES										
	GROUP:										
MALES	1	2	3	4	5	6	7	8	9	10	11
OTHER											
Tissues autolyzed											
Right eye missing; left eye retractedd into skull											
Animal bloated											
Ribs broken											
Blood around nose and mouth											
Discharge from penis											
Tissues dark and/or soft											
Sternebrae concave											
Body filled with jelly-like material and/or fluid											
Severe diarrhea											

TABLE 20A (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	TERMINAL SACRIFICES										
	1	2	3	4	5	6	7	8	9	10	11
NUMBER EXAMINED	3	6	0	2 ^a	7	6	4	8	1	4	5
NUMBER WITH NO GROSS LESIONS	0	0	-	0	0	0	0	0	0	0	0
MALES											
GROUP:											
ABDOMINAL CAVITY											
Reddish fluid contents											
Torsion of red cyst and lymph node along great curvature				1							
ADRENAL											
Mass						1					
Enlarged							1			2	
HEART											
Atrial thrombus											
Atria firm and/or distended					1	1		1			1
Ventricles dilated											1
KIDNEYS											
Tan or pale											
Firm	1	3	2	2	3	1	2	3	1	1	
Pitted surface	1				1						
Raised tan focus	3	6	2	6	5	4	5	1	1	2	3
Mottled											
Irregular capsular surface								1			
Speckled										1	1
LIVER											
Cyst(s)	2	3	2	2	4	5	1	2		1	2
Green foci		1									
Mottled								1	1	1	
Black spots		1									
Nodule		1									
Pale accessory tissue attached to median lobe							1				
LUNGS AND BRONCHI											
Nodule		1									
Discolored pinpoint foci		1									
Black areas					1			6	1		
Black foci			2	6				1			
Mottled											
Red											
Firm, uncollapsed											
White foci			1								1
Red foci					1						
LYMPH NODES											
Mandibular -											
Enlarged		2	1	1							
Mesenteric -											
Reddened		2									
Mediastinal -											
Enlarged										1	

^aSix males from this group were sacrificed at study termination; however, necropsy records for four of these animals

TABLE 20A (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	TERMINAL SACRIFICES										
	1	2	3	4	5	6	7	8	9	10	11
GROUP: MALES											
PANCREAS											
Small	1										
SPLEEN											
Enlarged											1
SKIN AND SUBCUTIS											
Subcutaneous edema		1									
TESTES											
Small or reduced		1			1	1	1	1		1	
Hemorrhage											
THORACIC CAVITY											
Hydrothorax		1									
Mass, rib cage								1			

TABLE 20B
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

NUMBER EXAMINED	NUMBER WITH NO GROSS LESIONS	TISSUE/LESION	FEMALES		DEATHS AND UNSCHEDULED SACRIFICES										
			GROUP:	1	2	3	4	5	6	7	8	9	10	11	
				46	46	50	40	46	45	46	46	46	46	44	
				5	6	0	1	1	4	6	2	3	4	4	
ABDOMINAL CAVITY															
		Red or blood-like fluid contents		4	3		3	2	2	8	1	2	5	3	
		Clear or serous fluid contents			1	1	3	2		2	2	2	1		
		Multiple nodules throughout abdominal cavity							1						
		Jelly-like contents								1					
ADRENALS															
		Left adrenal, one-half size of left kidney												1	
		Enlarged		2	4	3	2	1				1	1	1	
		Pale or tan			1						1	1		1	
		Embedded into surface of kidneys					1								
		Mottled								1				1	
BRAIN															
		Soft		1	2		2	3	1	1	3		1		
		Damaged					1								
GALLBLADDER															
		Enlarged or distended				1				1					
		Stone-like structures			1										
HEART															
		Enlarged		1							1	1		1	
		Enlarged atria		2	4	3	3	2	3	4	2	2	2	2	
		Thrombus or thrombus-like mass		2	3	4	2	1	1	2	2	2	1		
		White foci			1						1				
		Mass(es)				1				1	1				
INTESTINAL TRACT															
		Congested		2		6	3	2			4	1	1	3	
		Mucosa thickened		2	2		4		2		1	1	1		
		Cecum enlarged		1	1		1				1				
		Intussusception		1			2				2	1	1	1	
		Mass or raised area			1		1				2	1	1		
		Nodule(s)			1	1		1							
		Black foci			1			2				1	2		
		Filled with clear substance or fluid			1	2	1	1	3	2		3	1	2	
		Filled with green or yellow liquid			1	1	1								
		Filled with red fluid or blood			1	1	1			2	1		1		
		Adhered to abnormal tissue growth			1										
		Gas contents				7	1	2	1	1	1		2	1	
		Reddened or hemorrhagic				3	3	1	2				1	1	
		Adhered with mesenteric lymph nodes					1								
		Mucosa rough													
		Depressed black focus													
		Filled with jelly-like material								1				1	

TABLE 20B (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	DEATHS AND UNSCHEDULED SACRIFICES										
	1	2	3	4	5	6	7	8	9	10	11
FEMALES											
GROUP:											
KIDNEYS											
Pitted, granular or rough surface	27	17	13	21	25	23	14	17	17	25	24
Pale, pink or tan	17	10	8	13	9	15	10	15	15	15	10
Firm	7	5	3	4	7	5	7	3	6	9	7
Enlarged	4	4	2	5	1	2	4	7	3	3	3
Cratered surface	3	2	2	1	6	3	2	2	5	5	3
Mottled	1	1	1	1			3	1	1	1	1
White spots or foci	1							1			
Reduced	1				2		1		1	1	1
Irregular in shape; bumpy architecture	1	1	2	5	1	2	1	1	1	1	3
Yellow focus							1				
Icteric		1	1	1				1			
Dark patches or streaks		1									
Linear depressed areas			1					3		2	
Mass					2	1					
Congested			1					2			
Soft					1						
Surface reddened					1						
Cyst(s)					1						
White and nodular throughout									1		
Tan foci			1								
Gray				1				1			
LIVER											
Cyst(s)	13	14	6	13	5	7	8	13	7	9	5
Pale or tan	2		1	1	1	1	1	1	2	1	1
White spots or foci	2		1	1	1	1	1	1		1	1
Mottled	2	1	2	2	1	1	3	3		5	1
Mass	1	1	1	1	1					1	
Friable	1	1	5	1	1	3	1	5	2	2	2
Soft	1		1	2	2				5	2	
Enlarged	3	3	3	6	3	4	5	4	3	5	2
Granular or pitted surface	1	3	1	1	5	2	6	1	4	4	4
Adhesions between lobes	1				1	1	1	1	1	1	1
Firm	1	1	1	2	1	2	1	1	1	1	1
Nodule	1			1			1	1			
Red or brown											
Lesion(s)		1					1	1	1	1	2
Accentuated lobulation		1									
Red streaks		1									
Hole in lobe		1									
Tan or yellow foci (focus)		1	2	2	3	1	1	1			
Cratered area				1	2						
Dark or black spots or patches			3	1	2			3	1		2
Yellow or gray-white patches			1	2							
Lobe(s) filled with fluid			2					1		1	
Dark coloration			1			1	1	2	1	1	
Discoloration								1			1
Congested						1					
Lobe ruptured						1					

TABLE 20B (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	DEATHS AND UNSCHEDULED SACRIFICES										
	1	2	3	4	5	6	7	8	9	10	11
FEMALES											
GROUP:											
LUNGS AND BRONCHI											
Congestion	2	3	6	1	2	3		2	2	1	
Red	4	2	7	3	3	4	3	5	1	5	
Pale	4	5	5	1	1	1	5	1		2	4
Spongy	1	1	1				1				
Dark or black coloration	1	1	2		2			4	1		
Mass(es)	1		15								
Firm		3	5			3	1	3	1		3
Red areas		1									
White foci		1							1		
Filled with fluid		1	1								
Lobe lobulated		1						1			
Mottled		1	4	3	8	2		6	4	3	3
Enlarged			3								
Hemorrhagic			1								
Alveolar emphysema or emphysematous rupture of alveoli			4		3						
Nodule(s)			4				1				
Green discoloration			1								
Dark spots; gray-black areas or patches			1	8	10	1		4	6	1	
Adhesions			2								
Lobe ruptured			1								
Black or gray foci				19	18		1	11	13		
Pneumonia								1			
LYMPH NODES											
Mandibular -											
Enlarged	1		1	1	1	1	1	2		1	
Firm					1						
Mass				1							
Reddened			1		1	1	1				
Mesenteric -											
Enlarged	1	1	1	2		1	2	2	1	1	
Filled with pus	1										
Congested	2	1	1	1					1	1	
Reddened	1	1	1	2					2	2	
Firm		1									
Yellow		1									
Mass		1									
Cervical -											
Enlarged	1										
Sublumbar -											
Enlarged			1								
Axillary -											
Mass											1
Bronchial -											
Enlarged											
Renal -		2	4	2	2			1			
Enlarged		1	1								

TABLE 20B (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	FEMALES										
	GROUP:		DEATHS AND UNSCHEDULED SACRIFICES								
	1	2	3	4	5	6	7	8	9	10	11
THYROID											
Enlarged	1								1		
THYMUS											
Enlarged			1	1							1
Red							1				
Black											
TRACHEA											
Nodule			3								
Mass surrounding trachea			1					1			
Jelly-like fluid around trachea											
URINARY BLADDER											
Distended with red fluid	1										
Mucosa thickened			1								
Cystic calculi			1								
Filled with thick yellow fluid					1						
Distended								1			
UTERUS											
Mass	2										
Enlarged	1		1	1					1		
Inflammation											
Hydrometra									1		
OTHER											
Carcass dehydrated	1		1								
Tissues autolyzed	6	9	3	5	10	8	4	5	5	5	9
Blood around nose and mouth		1				1					
Blood around rectum or anal area		1					1				
Soiled anal area; diarrhea		1	1			1				1	1
Crust around mouth			1								
Hindpaw missing											
Intestines protruding through hole in abdominal wall											
Femur and cranium brittle											
All tissues congested											
Clear nasal discharge											
White fluid coming from eye					1						
Severe loss of hair											1

TABLE 20B (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	DEATHS AND UNSCHEDULED SACRIFICES										
	1	2	3	4	5	6	7	8	9	10	11
FEMALES											
GROUP:											
OVARIES											
Reduced	1									1	
Cyst(s)	1		1	1		1	1	1	1		2
Enlarged		1				1					
Mass				1				2	1		
Congested or dark red						1					
Hemorrhagic spots								1			
PARATHYROID											
Enlarged	1								1		
PITUITARY											
Enlarged							1	1			1
SKIN AND SUBCUTIS											
Subcutaneous edema	2	2		3	1	2	5	1	3	4	1
Jelly-like material between skin and body wall	1	1	1	1			1		3	1	1
Fluid in muscle		1									
Ulceration, subcutis		1		1							
Mass				1							
Multiple nodules, subcutis						1			1		
Green in color								1			
SALIVARY GLAND											
Enlarged											1
SPLEEN											
White spot								1			
Enlarged	3	1	5	6	3	1	2	2	2	2	1
Nodule	1	3			1						
Mottled; irregular coloration		1	1								
Mass					1						
Red		1									
Pale or pink		1			1	1		1			
Small or reduced	2	6	1	3	5	2	6	4	6	4	
STOMACH											
Black foci	3	1	4	1	5				2	2	
Hemorrhagic		1									
Filled with brown liquid											
Raised white focus			1								
Ulcerated area				1							
Depressed black focus							1				
							1				
THORACIC CAVITY											
Hydrothorax	3	4	3	4		3	9	5	3	7	1
Hemothorax	2	2	1	2	2	1	3	2			5
Mass, involving thymus, trachea and bronchial lymph nodes			1								
Mass, sternum and rib cage											1

TABLE 20B (Continued)
SUMMARY OF GROSS PATHOLOGY OBSERVATIONS -- CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS

TISSUE/LESION	FEMALES		TERMINAL SACRIFICES										
	GROUP:		1	2	3	4	5	6	7	8	9	10	11
NUMBER EXAMINED	2	4	0	9	4	3	4	2	1	1	1	2	2
NUMBER WITH NO GROSS LESIONS	0	1	-	0	0	0	1	0	0	0	0	0	1
ABDOMINAL CAVITY Red fluid contents	1												
ADRENALS Mass	1												
HEART Mass, atrium	1								1				
KIDNEYS Tan or pale Nodular Granular surface Pale lump near center Pale area(s) Lobular	1 1 1 1 1 1	3 2 1 1 1 1	2 1 4 1 1 1	2 1 4 1 1 1	2 1 3 3 1 1	2 1 3 1 1 1	1 1 2 2 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1
LIVER Cyst(s) White foci	2 1 1	2 1 1	3 1 1	3 1 1	3 1 1	2 1 1	2 1 1	1 1 1	2 1 1	1 1 1	1 1 1	1 1 1	1 1 1
LUNGS Firm Failed to collapse Black foci	1 1 1 1	1 1 1 1			9	4	4		2	1			
LYMPH NODES Mediastinal - Enlarged Dark							1 1						
OVARIES Cyst(s)	1		3	2	1	1	1	1	1	1			
PANCREAS Nodule									1				
SPLEEN Nodules Cyst	1				2 1								
STOMACH Nodule	1 1												
THYROID Enlarged												1	
UTERUS Enlarged													2

TABLE 21A
GROSSLY OBSERVED RESPIRATORY TRACT TISSUE MASSES - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

MALES

GROUP NUMBER	TREATMENT	ANIMAL NUMBER	WEEK OF DEATH	DESCRIPTION OF LESION
2	Fe ₂ O ₃ + Vehicle	18713	117	Lung - firm, white nodule (0.5 x 0.5 cm), left apical lobe.
2	Fe ₂ O ₃ + Vehicle	18735	87	Lung - 0.5 cm mass adhered to right diaphragmatic lobe.
2	Fe ₂ O ₃ + Vehicle	18743	24	Lung - tan, ovoid mass (0.4 x 0.4 x 0.2 cm), right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18803	65	Lung - white, ovoid, firm mass (0.6 x 0.6 cm), right apical lobe; white, firm, ovoid nodules, (0.3 x 0.4 cm), right diaphragmatic and azygous lobes. Tracheobronchial tree - hard, white, spheroidal mass (1.5 x 1.0 x 1.0 cm), involving all right lobes of lung.
3	BaP + Fe ₂ O ₃	18805	30	Trachea - hard, white, spherical nodule (0.4 x 0.4 cm).
3	BaP + Fe ₂ O ₃	18806	46	Lung - firm, tan, ovoid mass (1.3 x 1.1 x 0.9 cm), right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18809	40	Lung - white, ovoid, firm nodule (0.3 x 0.3 cm), right diaphragmatic lobe.

TABLE 21A (Continued)
GROSSLY OBSERVED RESPIRATORY TRACT TISSUE MASSES - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

MALES				
GROUP NUMBER	TREATMENT	ANIMAL NUMBER	WEEK OF DEATH	DESCRIPTION OF LESION
3	BaP + Fe ₂ O ₃	18811	54	Lung - soft, yellow, spheroidal mass (3.0 x 2.0 x 2.0 cm) with yellow pus-like contents, replacing left lung.
3	BaP + Fe ₂ O ₃	18812	49	Lung - firm, white, ovoid nodule (0.4 x 0.3 cm), right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18815	44	Lung - ovoid, tan and white, soft, ulcerated mass (1.5 x 1.5 x 1.2 cm) with friable contents, left lobe.
3	BaP + Fe ₂ O ₃	18816	34	Lung - firm, irregularly shaped, yellow mass (0.8 x 0.5 cm), right apical lobe.
3	BaP + Fe ₂ O ₃	18817	48	Lung - firm, white, ovoid mass (1.5 x 1.0 x 0.8 cm), left lung; red, firm, irregularly shaped mass (1.8 x 1.2 cm), right diaphragmatic lobe; white, firm, ovoid mass (1.2 x 1.0 x 1.0 cm), azygous lobe.
3	BaP + Fe ₂ O ₃	18818	65	Lung - dark red, irregularly shaped firm tissue mass (2.5 x 2.3 x 1.7 cm) with blood-like contents, replacing right diaphragmatic lobe and adhered to rib cage.
3	BaP + Fe ₂ O ₃	18819	45	Lung - firm, tan, ovoid mass (0.9 x 0.7 x 0.3 cm), right diaphragmatic lobe; firm, tan ovoid mass (0.3 x 0.3 cm), right cardiac lobe; ovoid, white, firm nodule (0.5 x 0.4 cm), left lung; white, firm, ovoid nodule (0.4 x 0.3 cm), right apical lobe. Tracheobronchial tree - white, firm, ovoid mass (1.0 x 1.0 x 0.7 cm).

TABLE 21A (Continued)
GROSSLY OBSERVED RESPIRATORY TRACT TISSUE MASSES - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

MALES

GROUP NUMBER	TREATMENT	ANIMAL NUMBER	WEEK OF DEATH	DESCRIPTION OF LESION
3	BaP + Fe ₂ O ₃	18820	28	Trachea - spherical, firm, white nodule (0.3 x 0.3 cm).
3	BaP + Fe ₂ O ₃	18822	76	Lung - mass on upper left lung.
3	BaP + Fe ₂ O ₃	18824	54	Lung - irregularly shaped multicolored firm mass (3.0 x 1.5 x 1.5 cm), replacing right diaphragmatic lobe with adhesions to all other lobes.
3	BaP + Fe ₂ O ₃	18825	54	Lung - firm, white, ovoid mass (0.5 x 0.5 cm), left lung; firm ovoid nodule (0.4 x 0.3 cm) on bronchi, cardiac lobe.
3	BaP + Fe ₂ O ₃	18826	42	Lung - irregularly shaped, firm, white mass (0.5 x 0.5 cm), involving mainstem bronchi, right diaphragmatic lobe; slightly raised, irregularly shaped, white, firm nodule involving bronchi, right cardiac lobe; white, firm, irregular nodule (0.3 x 0.3 cm), left lung.
3	BaP + Fe ₂ O ₃	18827	42	Lung - hard, grey, ovoid mass (6 x 8 mm), left lung; white, firm nodule (0.4 x 0.4 cm), right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18829	37	Lung - white, ovoid, firm nodule (0.4 x 0.4 cm), involving mainstem bronchi of cardiac and diaphragmatic lobes.
3	BaP + Fe ₂ O ₃	18830	70	Lung - irregular shaped, white and brown, soft mass (1.0 x 0.6 cm), with brownish-gold cheesy contents, apical lobe.
3	BaP + Fe ₂ O ₃	18834	59	Lung - ovoid white tissue mass, left lobe; tissue mass, involving entire azygous lobe.

TABLE 21A (Continued)
GROSSLY OBSERVED RESPIRATORY TRACT TISSUE MASSES - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

MALES

GROUP NUMBER	TREATMENT	ANIMAL NUMBER	WEEK OF DEATH	DESCRIPTION OF LESION
3	BaP + Fe ₂ O ₃	18835	64	Lung - tissue mass (2.0 x 2.0 cm), involving all lobes and mainstem bronchi. Spheroidal hard white nodule (0.5 x 0.5 cm), right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18838	59	Lung - white ovoid tissue masses, right cardiac, right diaphragmatic, and azygous lobes.
3	BaP + Fe ₂ O ₃	18840	42	Lung - white, firm, irregularly shaped mass (0.5 x 0.4 cm), involving bronchi of right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18844	55	Lung - soft ovoid mass (1.5 x 1.5 x 0.7 cm), left lobe.
3	BaP + Fe ₂ O ₃	18847	48	Lung - large, soft, white, ovoid mass (8 x 5 mm), replacing left lung with attachment to rib cage.
3	BaP + Fe ₂ O ₃	18848	71	Lung - white, firm, irregular mass (1.0 x 1.0 cm), apical lobe.
3	BaP + Fe ₂ O ₃	18849	61	Lung - many white, firm, irregularly shaped nodules (0.1 to 0.7 cm), right diaphragmatic and azygous lobes; pale, white, soft, irregularly shaped mass (1.5 x 1.5 x 1.5 cm), left lung.

TABLE 21A (Continued)
GROSSLY OBSERVED RESPIRATORY TRACT TISSUE MASSES - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

MALES

GROUP NUMBER	TREATMENT	ANIMAL NUMBER	WEEK OF DEATH	DESCRIPTION OF LESION
7	Green Sand (10.0 mg)	19226	60	Lung-irregularly shaped, firm, yellow and pink mass (1.0 x 0.7 cm), left lung.
9	Furan (10.0 mg)	19419	73	Lungs - many white nodules (0.1 to 0.5 cm) with white pus-like contents, all lobes.
10	Urethane (2.5 mg)	19502	27	Lung - soft, ovoid, white and red mass (0.5 x 0.5 cm) with thick blood-like contents, azygous lobe.

TABLE 21B

GROSSLY OBSERVED RESPIRATORY TRACT TISSUE MASSES - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

FEMALES

<u>GROUP NUMBER</u>	<u>TREATMENT</u>	<u>ANIMAL NUMBER</u>	<u>WEEK OF DEATH</u>	<u>DESCRIPTION OF LESION</u>
1	Vehicle	18699	75	Lung - firm, yellowish and translucent-colored, irregularly shaped mass, azygous lobe.
3	BaP + Fe ₂ O ₃	18850	71	Lung - small, oval tissue mass (1.2 x 1.0 mm), azygous lobe; small, oval tissue mass (2.0 x 1.3 mm), right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18851	45	Lung - firm, pinkish-red, ovoid mass (1.7 x 1.0 x 0.8 cm), right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18854	52	Tracheal tree - firm, white, irregularly shaped nodule (0.4 x 0.4 cm).
3	BaP + Fe ₂ O ₃	18856	86	Lung - mass, right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18863	34	Lung - several firm yellow nodules (0.3 to 0.5 cm), right diaphragmatic lobe. Trachea - firm, white, irregularly shaped nodule (0.5 x 0.5 cm).
3	BaP + Fe ₂ O ₃	18865	39	Lung - firm to hard, white, irregularly shaped mass (2.2 x 1.7 cm), left lobe. Mediastinal region - firm, white, irregularly shaped mass (2.0 x 1.5 cm), involving thymus, bronchial lymph node and trachea.
3	BaP + Fe ₂ O ₃	18873	30	Trachea - surrounded by a white mass (0.7 x 0.5 cm).

TABLE 21B (Continued)
GROSSLY OBSERVED RESPIRATORY TRACT TISSUE MASSES - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

FEMALES

GROUP NUMBER	TREATMENT	ANIMAL NUMBER	WEEK OF DEATH	DESCRIPTION OF LESION
3	BaP + Fe ₂ O ₃	18875	50	Lung - firm, white, ovoid mass (1.3 x 1.3 x 1.0 cm), right diaphragmatic lobe and involving trachea, bronchi, right cardiac, apical, and azygous lobes.
3	BaP + Fe ₂ O ₃	18876	67	Lung - tumor (1.0 x 1.5 cm), left lobe.
3	BaP + Fe ₂ O ₃	18877	66	Lung - white, firm, irregularly shaped mass (1.0 x 1.0 x 1.0 cm), left lung with adhesions to diaphragm.
3	BaP + Fe ₂ O ₃	18879	23	Trachea - firm, white, spherical nodule (0.4 cm).
3	BaP + Fe ₂ O ₃	18880	40	Lung - firm, white, ovoid, slightly raised nodule (0.4 x 0.4 cm), right apical lobe.
3	BaP + Fe ₂ O ₃	18882	65	Lung - white, irregularly shaped, firm mass (1.3 x 0.7 x 0.7 cm), left lung.
3	BaP + Fe ₂ O ₃	18884	61	Lung - irregularly shaped, white, firm mass (2.0 x 1.2 x 0.8 cm), area of bronchi and also involving mediastinal region, left lung.
3	BaP + Fe ₂ O ₃	18885	33	Lung - firm, red and white, irregularly shaped mass (0.8 x 0.6 cm), right diaphragmatic lobe.
3	BaP + Fe ₂ O ₃	18887	29	Lung - hard, white, spherical mass (0.8 x 0.8 x 0.6 cm), involving right apical, cardiac and diaphragmatic lobes, mainstem bronchi and trachea.

TABLE 21B (Continued)
GROSSLY OBSERVED RESPIRATORY TRACT TISSUE MASSES - CHRONIC STUDY
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS
FEMALES

GROUP NUMBER	TREATMENT	ANIMAL NUMBER	WEEK OF DEATH	DESCRIPTION OF LESION
3	BaP + Fe ₂ O ₃	18888	70	Lung - white, irregularly shaped, soft to firm cystic mass (1.7 x 1.2 cm), involving right diaphragmatic and apical lobe.
3	BaP + Fe ₂ O ₃	18890	56	Lung - firm to hard, red and white, irregularly shaped mass (1.3 x 1.0 cm), azygous lobe with adhesions to diaphragm.
3	BaP + Fe ₂ O ₃	18892	55	Lung - firm, white, ovoid nodule (0.4 x 0.4 cm) on bronchi, apical lobe; firm, white, irregularly shaped, slightly raised nodules (0.5 to 0.8 cm), right diaphragmatic and azygous lobes.
3	BaP + Fe ₂ O ₃	18893	70	Lung - irregularly shaped, white and brown, firm to soft tissue mass (1.3 x 1.0 cm), right diaphragmatic lobe; firm, white ovoid nodule (0.4 x 0.4 cm), left lung. Mainstem bronchi - enlarged nodule (0.1 x 0.1 cm), in between stem.
3	BaP + Fe ₂ O ₃	18896	39	Lung - firm, white cylindrical mass (0.8 x 0.5 cm) on tracheobronchial tree and right diaphragmatic lobe.

TABLE 21B (Continued)
 GROSSLY OBSERVED RESPIRATORY TRACT TISSUE MASSES - CHRONIC STUDY
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
 FROM IRON FOUNDRY CASTING OPERATIONS
 FEMALES

GROUP NUMBER	TREATMENT	ANIMAL NUMBER	WEEK OF DEATH	DESCRIPTION OF LESION
7	Green Sand (10.0 mg)	19255	103	Lung - ovoid, grey, firm nodule (0.3 x 0.3 cm), visceral surface of right diaphragmatic lobe.
9	Furan (10.0 mg)	19496	74	Trachea - large multilobed mass around trachea.

TABLE 22
SUMMARY OF HISTOPATHOLOGY FINDINGS*

*Expressed as the number of animals with the lesion, followed by the range of severity (1=minimal, 2=slight, 3=moderate, 4=severe). The number of animals examined (#) equals the number of animals in that group.

KEY TO GROUP IDENTIFICATION

<u>GROUP NUMBER</u>	<u>TREATMENT</u>	<u>DOSE LEVEL (mg/0.2 ml distilled water)</u>
1	Vehicle Control	--
2	Ferric Oxide Control (Fe_2O_3 + Vehicle)	3.0
3	Positive Control (BaP + Fe_2O_3)	3.0 + 3.0
4	Shell Sand	5.0
5	Shell Sand	10.0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
SKIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	35	40	38	38	40
NO SIGNIFICANT LESION RECOGNIZED.	11	10	8	10	10
INFLAMMATION.	2 3+ - 4+	0	0	1 4+	0
AUTOLYZED.	0	0	1	0	0
ACARIASIS.	0	0	1	1	0
SKIN/MAMMARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	35	40	38	40	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
NOT PRESENT IN SECTION.	3	0	0	0	0
THIGH MUSCLE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	37	40	38	40	40
NO SIGNIFICANT LESION RECOGNIZED.	11	10	10	10	10
SALIVARY GLAND					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	36	39	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10
AUTOLYZED.	1	0	1	0	0
NOT PRESENT IN SECTION.	0	1	0	0	0
ADENOMA.	0	0	0	0	1
LEUKEMIA/LYMPHOMA.	0	0	0	0	1
HANDIBULAR LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	36	39	37	39	39
NO SIGNIFICANT LESION RECOGNIZED.	4	5	5	9	9
MISSING.	4	3	3	0	1
HYPERPLASIA.	2 3+ - 4+	1 3+	1 4+	1	0
AMYLOID.	0	1 2+	0	0	0
INFLAMMATION.	0	1 4+	0	0	0
AUTOLYZED.	0	0	1	0	1
SARCOMA.	0	0	1	0	0
CONGESTION.	0	0	0	1 3+	0
SCIATIC NERVE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	37	40	38	40	40
NO SIGNIFICANT LESION RECOGNIZED.	11	10	10	10	10
BRAIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	36	40	38	39	40
NO SIGNIFICANT LESION RECOGNIZED.	11	9	8	9	9
AUTOLYZED.	1	0	2	1	1
MINERALIZATION.	0	1 3+	0	1 2+	0
PITUITARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	30	25	35	26	25
NO SIGNIFICANT LESION RECOGNIZED.	3	2	4	3	4

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
PITUITARY (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
MISSING.	6	5	1	8	4
INSUFFICIENT TISSUE PRESENT IN SECTION.	9	18	7	12	17
NOT PRESENT IN SECTION.	0	0	1	1	0
ADRENALS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	9	9	26	9	8
AUTOLYZED.	7	3	7	3	3
INFLAMMATION.	1 4+	0	0	0	0
AMYLOID.	14 2+ - 4+	20 2+ - 4+	2 2+ - 4+	18 2+ - 4+	17 1+ - 4+
INSUFFICIENT TISSUE PRESENT IN SECTION.	8	6	2	3	8
HYPERPLASIA.	12 1+ - 4+	19	5 1+	15 1+ - 3+	18
CORTICAL CELL HYPERPLASIA.	3 1+ - 2+	1	3 1+	3	0
MEDULLARY CELL HYPERPLASIA.	4 2+ - 3+	1 1+	0	3	4
CYST(S).	1	0	0	0	1
ADENOMA.	9	7	1	6	8
MISSING.	0	1	0	1	0
PHEOCHROMOCYTOMA.	0	2	0	0	0
CORTICAL ADENOMA.	0	1	1	2	0
CARCINOMA.	0	0	1	1	0
NOT PRESENT IN SECTION.	0	0	0	1	0
HEMORRHAGE.	0	0	0	1	0
ADENOMA, (MEDULLARY).	0	0	0	1	0
THYMUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	18	18	29	16	24
AUTOLYZED.	4	3	5	3	3
NOT PRESENT IN SECTION.	15	18	6	18	9
MISSING.	5	8	5	6	6
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	1	1	2	1
CYST(S).	2	1	2	3	4
INVOLUTED.	2	1	0	0	0
AMYLOID.	0	0	0	1	1 2+
PIGMENT.	0	0	0	1 3+	0
HYPERPLASIA.	0	0	0	0	2 3+
STOMACH					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	32	38	37	39	39
NO SIGNIFICANT LESION RECOGNIZED.	9	10	3	10	7
AUTOLYZED.	4	1	3	0	3
INFLAMMATION.	2 2+ - 3+	0	0	0	0
PIGMENT.	1 2+	1	0	1	0
MINERALIZATION.	1 3+	0	0	0	0
CYST(S).	0	0	1	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
STOMACH (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
PAPILLOMA.	0	0	3	0	0
MUCOSAL ATYPIA.	0	0	1	0	0
NECROSIS.	0	0	1	0	0
HYPERPLASIA.	0	0	0	0	1 2+
DUODENUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	35	37	38	40	36
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	9	8
AUTOLYZED.	4	3	3	0	6
MISSING.	0	0	0	1	0
JEJUNUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	35	39	38	40	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
AUTOLYZED.	3	1	0	0	0
CECUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	33	36	38	38	34
NO SIGNIFICANT LESION RECOGNIZED.	8	10	7	10	6
AUTOLYZED.	3	3	3	0	6
INFLAMMATION.	4 3+	1	0	2 4+	1 2+
AMYLOID.	0	0	0	0	3 2+ - 4+
HEMORRHAGE.	0	0	0	0	1
COLON					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	34	36	37	36	36
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	11	8
AUTOLYZED.	4	3	3	1	6
INFLAMMATION.	1 4+	0	1 4+	2 4+	0
MISSING.	0	1	0	0	0
RECTUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	35	36	38	40	36
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	10	8
AUTOLYZED.	4	3	3	0	6
MISSING.	0	1	0	0	0
MESENTERIC LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	34	37	38	38	38
NO SIGNIFICANT LESION RECOGNIZED.	4	4	2	4	7
AUTOLYZED.	4	1	1	0	1
AMYLOID.	1 4+	0	0	0	0
MISSING.	3	4	5	3	3
HYPERPLASIA.	3 3+ - 4+	0	1 4+	2	0
INFLAMMATION.	0	1 4+	0	2 4+	0
MUCOSAL ECTOPIA.	0	1	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
MESENTERIC LYMPH NODE (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
LEUKEMIA/LYMPHOMA.	0	2	0	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	1	0	0
RETICULUM CELL HYPERPLASIA.	0	0	0	1 3+	0
CONGESTION.	0	0	0	0	1 2+
ILEUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	35	36	38	39	36
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	10	3
AUTOLYZED.	4	3	3	0	6
MISSING.	0	1	0	0	0
INFLAMMATION.	0	0	0	1 4+	0
LARYNX					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	42	44	15	43	45
AUTOLYZED.	3	3	3	5	5
INFLAMMATION.	1 1+	1	1	0	0
PAPILLOMA.	1	1	0	1	0
MYOPATHY.	1 3+	0	0	0	0
CARCINOMA.	0	1	12	0	0
MISSING.	0	0	1	1	0
HYPERPLASIA.	0	0	11 2+ - 4+	0	0
ADENOMA.	0	0	1	0	0
METAPLASIA.	0	0	4 1+ - 3+	0	0
MUCOSAL ATYPIA.	0	0	5 2+ - 3+	0	0
TRACHEA					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	45	45	20	44	44
AUTOLYZED.	3	3	3	5	5
INFLAMMATION.	0	1	3 2+	0	1 1+
CARCINOMA.	0	1	10	0	0
MISSING.	0	0	1	1	0
HYPERPLASIA.	0	0	8 2+ - 4+	0	0
METAPLASIA.	0	0	3 2+ - 3+	0	0
DYSKERATOSIS.	0	0	1	0	0
EOSINOPHILIC MASS(ES).	0	0	1	0	0
THYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	15	29	29	27	14
AUTOLYZED.	5	5	6	5	6
AMYLOID.	16 2+ - 4+	10 2+ - 3+	0	7 1+ - 3+	11 2+ - 4+
NOT PRESENT IN SECTION.	2	0	3	0	0
MISSING.	1	1	3	1	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	3	0	1	0	1
CYST(S).	10	8	5	11	18

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
THYROID (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
FOLLICULAR HYPERPLASIA.	0	1 2+	0	0	0
HYPERPLASIA.	0	0	1 1+	0	0
ADENOMA.	0	0	0	1	1
FOLLICULAR CELL ADENOMA.	0	0	0	1	0
PAPILLARY ADENOMA.	0	0	0	0	1
ADENOMA, NOS.	0	0	0	0	1
PARATHYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	31	35	21	35	40
AUTOLYZED.	4	5	4	4	5
NOT PRESENT IN SECTION.	8	4	18	2	0
MISSING.	1	1	2	2	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	0	0	1	0
HYPERPLASIA.	1	2 1+	3 2+ - 3+	4 4+	3 1+ - 2+
ADENOMA.	1	0	0	1	2
CYST(S).	0	1	0	0	0
AMYLOID.	0	0	0	1 1+	0
ESOPHAGUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	45	47	39	44	45
AUTOLYZED.	3	2	3	5	3
HYPERPLASIA.	0	1 3+	1 3+	0	0
MISSING.	0	0	2	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	1	1	0
INFLAMMATION.	0	0	1	0	0
METAPLASIA.	0	0	1 2+	0	0
HYPERKERATOSIS.	0	0	1	0	0
LUNG					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	11	1	0	1	0
AUTOLYZED.	1	1	3	3	1
INFLAMMATION.	2 2+ - 4+	2 2+ - 4+	1 4+	0	0
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	16 1+ - 3+	37 1+ - 3+	22 1+ - 4+	44 1+ - 3+	47 1+ - 3+
PIGMENT.	4 2+ - 3+	47 1+ - 3+	45 1+ - 4+	47 1+ - 4+	39 1+ - 4+
PNEUMOLITHIASIS.	5 1+ - 2+	0	0	0	1 1+
CONGESTION.	8 1+ - 4+	2 3+	2 4+	0	2 3+
HEMORRHAGE.	6 1+ - 3+	1 2+	1 4+	1 3+	2 3+
HISTIOCYTOSIS.	5 2+ - 3+	5 3+ - 4+	0	7 3+ - 4+	3 2+ - 4+
FIBROSIS.	8 1+ - 2+	3 1+ - 2+	1 1+	1 1+	5 1+
ALVEOLAR/BRONCHIOLAR CELL ADENOMA.	1	0	1	0	0
ATELECTASIS.	1 3+	1 3+	3 3+	5 3+ - 4+	6 2+ - 3+
EOSINOPHILIC MASS(ES).	2	1	1	2 1+	1
ADENOMA.	0	2	2	0	0
CARCINOMA, METASTATIC.	0	1	0	0	0



CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
LUNG (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
CARCINOMA.	0	1	23	0	0
BRONCHOPNEUMONIA.	0	0	7 3+ - 4+	0	0
PNEUMONITIS.	0	0	6 1+ - 4+	2 1+ - 4+	0
METAPLASIA.	0	0	1 4+	1 2+	0
ADENOMATOSIS.	0	0	1 2+	1 2+	1
ALVEOLAR/BRONCHIOLAR CELL CARCINOMA.	0	0	5	0	0
NECROSIS.	0	0	3 4+	0	0
HEMOSIDEROSIS.	0	0	3 4+	0	0
BRONCHITIS.	0	0	1 4+	0	0
EMPHYSEMA.	0	0	1 4+	1 3+	0
AMYLOID.	0	0	0	2 2+ - 3+	0
LYMPHOCYTOSIS.	0	0	0	1 2+	0
BRONCHIAL LYMPH NODES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	16	4	2	5	6
AUTOLYZED.	2	1	2	3	1
AMYLOID.	1 3+	0	0	1 2+	0
NOT PRESENT IN SECTION.	9	8	1	7	5
PIGMENT.	6 2+ - 3+	25 1+ - 4+	32 1+ - 4+	29 1+ - 4+	30 1+ - 4+
MISSING.	10	9	11	2	7
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	2	3	1	1	0
HYPERPLASIA.	2 4+	0	2 4+	0	2 3+
LYMPHOID HYPERPLASIA.	1	0	0	0	1 3+
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	0	1 1+	0	0	0
CARCINOMA.	0	0	2	0	0
INFLAMMATION.	0	0	1 3+	0	0
SARCOMA.	0	0	1	0	0
HEMOSIDEROSIS.	0	0	0	0	1
MAINSTEM BRONCHI					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	22	44	44
AUTOLYZED.	2	3	3	5	5
MISSING.	2	0	4	1	0
INFLAMMATION.	0	1	1	0	0
CARCINOMA.	0	1	5	0	0
HYPERPLASIA.	0	0	9 3+ - 4+	0	1 2+
NOT PRESENT IN SECTION.	0	0	2	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	1	0	0
METAPLASIA.	0	0	2	0	0
DYSKERATOSIS.	0	0	1	0	0
CARCINOMA, SQUAMOUS.	0	0	1	0	0
LIVER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	19	18	23	14	17

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
LIVER (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
AUTOLYZED.	7	5	11	5	4
INFLAMMATION.	3 3+	2 3+	0	1 3+	6 1+ - 3+
AMYLOID.	16 2+ - 4+	17 1+ - 4+	1 3+	16 2+ - 4+	19 2+ - 4+
PIGMENT.	1 4+	0	0	0	1 2+
BILE DUCT HYPERPLASIA.	1 1+	0	0	0	0
CONGESTION.	2 3+ - 4+	5 3+ - 4+	8 3+ - 4+	11 1+ - 4+	3 4+
KARYOMEGALY.	1 3+	0	0	0	0
HYPERTROPHY.	1 3+	0	0	0	0
EXTRAMEDULLARY HEMATOPOIESIS.	1 2+	0	0	0	0
CYST(S).	2	11	0	10	6
CLEAR CELL FOCUS/FOCI.	1	1	1	0	0
HEMANGIOMA.	1	0	0	0	0
HEPATOCELLULAR CYSTIC DEGENERATION.	1 3+	1 1+	0	1	1 3+
HEMOSIDEROSIS.	1 2+	0	0	1 2+	0
HEMORRHAGE.	0	1 4+	0	0	0
NECROSIS.	0	4 1+ - 4+	2 1+ - 4+	0	3 3+ - 4+
HYPERPLASIA.	0	0	1	0	0
HEPATITIS.	0	0	1 4+	0	0
SARCOMA.	0	0	1	0	0
LYMPHOCYTOSIS.	0	0	0	1 1+	0
CHOLANGIOMA.	0	0	0	1	0
LEUKEMIA/LYMPHOMA.	0	0	0	1	0
THROMBOSIS.	0	0	0	0	1 4+
FIBROSIS.	0	0	0	0	1 4+
HEPATOCELLULAR VACUOLATION.	0	0	0	0	1 3+
GALLBLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	33	37	38	40	40
NO SIGNIFICANT LESION RECOGNIZED.	6	11	1	7	6
AUTOLYZED.	7	2	9	3	2
MISSING.	1	0	0	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	0	1
PAPILLARY HYPERPLASIA.	0	0	1 4+	0	1
SPLEEN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	28	29	26	24	24
AUTOLYZED.	4	7	10	6	6
AMYLOID.	11 2+ - 4+	10 2+ - 4+	0	12 1+ - 4+	10 1+ - 4+
MISSING.	3	0	3	1	3
CONGESTION.	1 4+	1 3+	1 3+	4 2+ - 4+	6 2+ - 4+
EXTRAMEDULLARY HEMATOPOIESIS.	1 3+	2 3+ - 4+	2 4+	3 3+ - 4+	1 4+
HEMOSIDEROSIS.	0	1 3+	0	0	1 3+
HYPERPLASIA.	0	0	6 3+ - 4+	0	0
PANCREAS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
PANCREAS (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	31	34	34	34	32
NO SIGNIFICANT LESION RECOGNIZED.	10	11	12	9	12
AUTOLYZED.	4	2	1	0	2
MISSING.					
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	0	0
DUCTAL ECTASIA.	2	3	0	3	2
CYST(S).	0	0	1	0	0
AMYLOID.	0	0	0	1	0
HYPERPLASIA.	0	0	0	3	0
ATROPHY.	0	0	0	1+ - 3+	0
HEPATOCELLULAR REGENERATION.	0	0	0	2	0
ADENOMA.	0	0	0	3+	0
HEPATOCELLULAR DIFFERENTIATION.	0	0	0	0	1
HEART					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	32	28	0	34	38
NO SIGNIFICANT LESION RECOGNIZED.	8	13	31	2	7
AUTOLYZED.	4	3	10	5	0
THROMBOSIS.	3	2	1	6	4
MYOCARDIOPATHY.	2	4	2	3	1
MURAL THROMBOSIS.	0	1	0	0	0
INFLAMMATION.	0	0	1	0	1
MINERALIZATION.	0	0	2	0	0
TUMOR EMBOLUS.	0	0	1	0	0
KIDNEYS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	5	10	28	7	12
NO SIGNIFICANT LESION RECOGNIZED.	4	4	10	6	4
AUTOLYZED.	20	21	0	30	18
AMYLOID.	29	21	10	24	24
GLOMERULAR NEPHROSIS.	1	0	0	0	1
HYPERPLASIA.	1	0	0	1	0
PYELONEPHRITIS.	2	0	0	4+	0
MINERALIZATION.	0	1	0	0	3+
CARCINOMA.	0	0	0	0	0
THROMBOSIS.	0	0	1	0	0
CYST(S).	0	0	0	0	1
INFLAMMATION.	0	0	0	0	4+
ATROPHY.	0	0	0	0	1
URINARY BLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	34	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	9	10	6	8	9
AUTOLYZED.	4	0	3	2	4
HEMORRHAGE.	1	0	0	0	0
MISSING.	0	0	1	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
PROSTATE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	34	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	10	5
AUTOLYZED.	3	0	1	0	0
INFLAMMATION.	1 3+	0	0	0	0
MISSING.	4	3	5	0	5
MINERALIZATION.	1 4+	0	0	0	0
OLIGOSPERMIA.	0	0	0	0	1
TESTES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	28	30	37	32	32
NO SIGNIFICANT LESION RECOGNIZED.	8	8	5	8	5
AUTOLYZED.	3	1	1	1	3
HYPOSPERMIA.	2	0	0	0	0
OLIGOSPERMIA.	7	9 3+	5 3+	8 3+	5 3+
AMYLOID.	0	1 3+	0	1 3+	0
NECROSIS.	0	1	0	0	0
ATROPHY.	0	1	0	0	0
DEGENERATION.	0	1	1 3+	0	0
GIANT CELL.	0	0	0	1	0
MISSING.	0	0	0	0	1
HEMORRHAGE.	0	0	0	0	1 3+
SEMINAL VESICLES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	34	40	37	40	40
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	9	10
AUTOLYZED.	3	0	1	0	0
(EPIDIDYMIS), INFLAMMATION.	0	0	1 4+	0	0
MISSING.	0	0	0	1	0
STERNUM & RIB JUNCTION					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	35	40	38	40	40
NO SIGNIFICANT LESION RECOGNIZED.	11	10	6	10	8
AUTOLYZED.	2	0	1	0	1
MISSING.	0	0	1	0	0
SARCOMA.	0	0	1	0	0
HYPOPLASIA.	0	0	1 4+	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	0	0	1
FEMUR & BONE MARROW					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	35	40	38	40	40
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10
AUTOLYZED.	2	0	1	0	0
NASAL CAVITY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	35	40	38	40	40
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
NASAL CAVITY (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
AUTOLYZED.	2	0	1	0	0
OTHER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[50]
NOT REQUIRED.	45	50	47	49	49
(LARGE INTESTINE), NO SIGNIFICANT					
LESION RECOGNIZED.	1	0	0	1	0
(SMALL INTESTINE), NO SIGNIFICANT					
LESION RECOGNIZED.	1	0	0	1	0
(LARGE INTESTINE), MISSING.	1	0	0	0	0
(RENAL LYMPH NODE),					
NOT PRESENT IN SECTION.	1	0	0	0	0
(VISCERAL PLEURA), HYPERPLASIA.	0	0	1 2+	0	0
NO SIGNIFICANT LESION RECOGNIZED.	0	0	0	1	0
(RENAL LYMPH NODE), MISSING.	0	0	0	0	1



CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
SKIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	37	40	38	39	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
INFLAMMATION.	1	0	1	0	0
THROMBOSIS.	0	0	1	0	0
SKIN/MAMMARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	37	40	40	39	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
MISSING.	1	0	0	0	0
THIGH MUSCLE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	40	40	39	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
SALIVARY GLAND					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	40	40	39	40
NO SIGNIFICANT LESION RECOGNIZED.	8	10	9	9	10
AUTOLYZED.	2	0	1	1	0
MANDIBULAR LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	37	39	39	38	39
NO SIGNIFICANT LESION RECOGNIZED.	5	5	7	6	7
AUTOLYZED.	4	3	2	1	0
HYPERPLASIA.	1	1	0	2	0
RETICULUM CELL HYPERPLASIA.	1	0	0	0	0
LYMPHOID HYPERPLASIA.	1	0	0	0	1
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	1	0	1	0
NECROSIS.	0	1	0	0	0
PLASMOCYTOMA.	0	0	1	0	1
MALIGNANT LYMPHOMA.	0	0	1	0	0
CONGESTION.	0	0	0	1	0
CYST(S).	0	0	0	0	1
FOLLICULAR HYPERPLASIA.	0	0	0	0	1
SCIATIC NERVE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	40	40	39	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
BRAIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	39	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	8	6	8	10	9
AUTOLYZED.	1	2	2	1	0
NEURONAL VACUOLATION.	1	0	0	0	0
AMYLOID.	0	1	0	0	0
MINERALIZATION.	0	3	0	0	1

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
PITUITARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	21	28	33	32	24
AMYLOID.	2 2+	0	0	0	0
MISSING.	6	1	0	3	1
AUTOLYZED.	2	4	2	0	4
INSUFFICIENT TISSUE PRESENT IN SECTION.	18	15	13	11	19
CORTICAL ADENOMA.	1	0	0	0	0
NOT REQUIRED.	0	1	0	0	0
NOT PRESENT IN SECTION.	0	1	1	0	2
CYST(S).	0	0	1	0	0
ADRENALS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	4	9	23	7	10
AMYLOID.	39 1+ - 4+	35 2+ - 4+	16 2+ - 3+	36 1+ - 3+	28 2+ - 4+
MISSING.	1	0	0	0	0
AUTOLYZED.	2	5	2	0	7
HYPERPLASIA.	7	5	2	7	7 2+
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	0	4	2	7
CYST(S).	4	0	3	3	1
CORTICAL ADENOMA.	2	5	2	6	6
EXTRAMEDULLARY HEMATOPOIESIS.	1 2+	0	0	0	0
CORTICAL CELL HYPERPLASIA.	1 2+	1	4 1+	2	1
ADENOMA.	0	3	0	1	0
HEMORRHAGE.	0	0	0	1 4+	0
PIGMENT.	0	0	0	0	1 2+
THYMUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	18	18	27	24	22
MISSING.	20	23	11	17	14
NOT PRESENT IN SECTION.	3	2	6	3	4
AUTOLYZED.	2	4	1	0	5
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	2	3	2	2
INVOLUTED.	2	0	0	2	2
HEMOSIDEROSIS.	1 1+	0	0	0	0
PLASMACYTOMA.	0	1	0	0	0
LEUKEMIA/LYMPHOMA.	0	0	1	0	0
MEDULLARY CELL HYPERPLASIA.	0	0	1 3+	0	0
HYPERPLASIA.	0	0	0	1 4+	0
ERYTHROPHAGOCYTOSIS.	0	0	0	0	1 3+
STOMACH					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	34	37	36	35	34
NO SIGNIFICANT LESION RECOGNIZED.	6	7	5	9	10
AUTOLYZED.	5	5	6	4	4
PAPILLOMA.	1	0	2	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
STOMACH (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
PIGMENT.	2	1	1	1	1
NECROSIS.	0	0	0	0	2
DUODENUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	38	38	36	39
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	9	3
AUTOLYZED.	5	5	7	2	3
NECROSIS.	0	0	1	0	0
HEMORRHAGE.	0	0	1	0	0
INFLAMMATION.	0	0	0	1	0
INTUSSUSCEPTION.	0	0	0	1	0
JEJUNUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	39	40	39	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
AUTOLYZED.	0	1	0	0	0
CECUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	35	36	39	33	39
NO SIGNIFICANT LESION RECOGNIZED.	4	5	4	8	8
AUTOLYZED.	6	4	6	5	2
INFLAMMATION.	2	4	1	4	1
LYMPHOID HYPERPLASIA.	1	0	0	0	0
AMYLOID.	0	1	0	0	0
NECROSIS.	0	1	0	0	0
COLON					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	37	37	40	37	40
NO SIGNIFICANT LESION RECOGNIZED.	4	5	4	9	3
AUTOLYZED.	5	5	6	2	2
INTUSSUSCEPTION.	1	0	0	1	0
CARCINOMA.	1	0	0	0	0
AMYLOID.	0	1	0	0	0
INFLAMMATION.	0	2	0	0	0
RECTUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	39	40	39	40
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	9	8
AUTOLYZED.	5	4	6	2	2
MESENTERIC LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	34	33	38	35	40
NO SIGNIFICANT LESION RECOGNIZED.	5	6	5	6	6
CONGESTION.	1	0	0	0	0
MISSING.	1	1	2	0	0
NOT PRESENT IN SECTION.	1	0	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
MESENTERIC LYMPH NODE (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
AUTOLYZED.	3	5	2	3	1
INFLAMMATION.	1 3+	2 4+	0	1 2+	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	0	0	0	0
HEMORRHAGE.	1 3+	0	0	0	0
LYMPHOID HYPERPLASIA.	1	0	0	1 3+	0
HISTIOCYTOSIS.	0	1 1+	0	0	0
RETICULUM CELL HYPERPLASIA.	0	1	0	2 3+	0
PLASMACYTOMA.	0	1	0	0	0
FOLLICULAR HYPERPLASIA.	0	0	1 3+	0	1 3+
HEMOSIDEROSIS.	0	0	1 3+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
ATYPICAL EPITHELIAL HYPERPLASIA.	0	0	0	1	0
HYPERPLASIA.	0	0	0	0	1
MINERALIZATION.	0	0	0	0	1 1+
PLASMACYTOSIS.	0	0	0	0	1 4+
 ILEUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	39	40	36	40
NO SIGNIFICANT LESION RECOGNIZED.	5	8	4	9	8
AUTOLYZED.	5	3	6	2	2
INFLAMMATION.	0	0	0	1	0
INTUSSUSCEPTION.	0	0	0	1	0
 LARYNX					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	34	48	38
MISSING.	1	0	0	0	0
AUTOLYZED.	2	5	1	1	8
INFLAMMATION.	1 2+	0	0	0	0
HYPERPLASIA.	0	0	9 2+ - 3+	0	1 2+
CARCINOMA.	0	0	4	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	1	0	1
ATYPICAL EPITHELIAL HYPERPLASIA.	0	0	1 3+	0	0
PIGMENT.	0	0	0	0	1 2+
HEMORRHAGE.	0	0	0	0	1 4+
 TRACHEA					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	30	48	41
MISSING.	1	0	0	0	0
AUTOLYZED.	2	5	1	1	8
INFLAMMATION.	1 2+	0	0	0	0
HYPERPLASIA.	0	0	5 2+ - 3+	0	0
CARCINOMA.	0	0	13	0	0
FIBROSIS.	0	0	1	0	0
HEMORRHAGE.	0	0	0	0	1 4+



CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
THYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	13	9	26	9	11
AMYLOID.	30 1+ - 4+	33 1+ - 4+	10 2+ - 3+	27 1+ - 4+	28 1+ - 4+
MISSING.	1	0	1	1	0
AUTOLYZED.	2	4	4	1	3
CYST(S).	7	10	7	10	12
ATROPHY.	1 1+	0	0	0	0
FOLLICULAR CELL ADENOMA.	1	0	0	1	1
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	1	0	0	0
NOT PRESENT IN SECTION.	0	0	2	1	1
CARCINOMA, METASTATIC.	0	0	2	0	0
FOLLICULAR HYPERPLASIA.	0	0	0	0	1 2+
PARATHYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	25	31	32	31	28
MISSING.	1	1	2	1	0
NOT PRESENT IN SECTION.	9	6	7	9	8
AUTOLYZED.	2	5	3	4	4
HYPERPLASIA.	1	3 2+	5 2+	2 1+	4 2+
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	2	1	1	0
CYST(S).	3	1	0	0	1
ADENOMA.	7	1	0	1	5
ESOPHAGUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	45	46	46	46	42
MISSING.	1	0	0	0	0
AUTOLYZED.	2	3	1	3	7
INFLAMMATION.	0	1 4+	0	0	0
AMYLOID.	0	0	1 2+	0	0
HYPERPLASIA.	0	0	1 3+	0	0
CARCINOMA.	0	0	1	0	0
HEMORRHAGE.	0	0	0	0	1 4+
LUNG					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	17	1	0	1	0
CONGESTION.	5 2+ - 4+	0	0	0	0
AUTOLYZED.	2	2	1	2	2
HISTIOCYTOSIS.	10 2+ - 4+	12 2+ - 4+	6 3+ - 4+	7 3+ - 4+	7 2+ - 4+
INFLAMMATION.	4 3+ - 4+	2 4+	1 3+	1 3+	8 2+ - 4+
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	9 1+ - 2+	32 1+ - 3+	27 1+ - 4+	37 1+ - 3+	38 1+ - 3+
ADENOMA.	1	0	1	0	0
ATELECTASIS.	3 2+ - 4+	5 2+ - 3+	1 2+	1 3+	3 2+
FIBROSIS.	4 1+ - 2+	2 1+	0	1 2+	2 1+ - 3+
HEMOSIDEROSIS.	1 1+	0	0	0	0
LEUKOSTASIS.	1	0	0	0	0
PNEUMOLITHIASIS.	1 1+	0	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
LUNG (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
EOSINOPHILIC MASS(ES).	1	0	0	0	1
AMYLOID.	0	2 2+ - 4+	1 2+	3 2+	0
PIGMENT.	0	45 1+ - 3+	45 1+ - 4+	45 1+ - 4+	47 1+ - 4+
CARCINOMA.	0	1	25	0	0
ADENOMATOSIS.	0	1 3+	3 2+	2 2+ - 3+	1 1+
HEMORRHAGE.	0	1 3+	0	4 2+ - 3+	2 2+ - 4+
PLASMACYTOMA.	0	1	0	0	0
ALVEOLAR/BRONCHIOLAR CELL CARCINOMA.	0	0	9	0	0
PNEUMONITIS.	0	0	2 3+	0	0
BRONCHIAL PNEUMONIA.	0	0	1 4+	0	0
ALVEOLAR/BRONCHIOLAR CELL ADENOMA.	0	0	3	0	0
PNEUMONIA.	0	0	1 4+	0	0
BRONCHIOL EPITHELIAL HYPERPLASIA.	0	0	1 2+	0	0
BRONCHOPNEUMONIA.	0	0	3 3+ - 4+	0	0
NECROSIS.	0	0	1 4+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
BRONCHIAL LYMPH NODES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	11	6	1	8	4
AMYLOID.	1 2+	0	2 2+ - 3+	0	0
CONGESTION.	1 4+	0	0	0	0
MISSING.	23	12	7	12	10
NOT PRESENT IN SECTION.	2	1	2	4	3
AUTOLYZED.	2	3	2	1	3
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	1	3
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	1 2+	0	1 2+	2 2+	0
ERYTHROPHAGOCYTOSIS.	3 3+	1 3+	1 3+	0	0
ATELECTASIS.	1 3+	0	0	0	0
HEMOSIDEROSIS.	2 1+ - 3+	0	0	0	0
HEMORRHAGE.	1 3+	0	0	0	0
PIGMENT.	0	28 1+ - 4+	37 1+ - 4+	23 1+ - 4+	27 1+ - 4+
HYPERPLASIA.	0	1 3+	2	2 4+	1 3+
PLASMACYTOSIS.	0	1 4+	0	0	0
PLASMACYTOMA.	0	1	0	0	0
CARCINOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	1	0	0
LYMPHOID HYPERPLASIA.	0	0	1 3+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
MAINSTEM BRONCHI					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	45	45	34	47	41
MISSING.	1	0	3	1	0
AUTOLYZED.	2	5	1	1	8
AMYLOID.	0	0	1 3+	0	0
HYPERPLASIA.	0	0	4 3+	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
MAINSTEM BRONCHI (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
CARCINOMA.	0	0	4	0	0
NOT PRESENT IN SECTION.	0	0	1	0	0
HEMORRHAGE.	0	0	0	0	1 4+
LIVER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	2	7	12	6	5
AMYLOID.	42 1+ - 4+	33 1+ - 4+	22 1+ - 3+	33 1+ - 4+	27 2+ - 4+
CONGESTION.	2 2+ - 3+	5 3+ - 4+	4 3+ - 4+	5 3+ - 4+	5 3+ - 4+
AUTOLYZED.	2	9	6	3	7
HYPERPLASIA.	1 3+	0	0	0	0
THROMBOSIS.	1	0	1	0	0
CYST(S).	15	19	11	15	9
EXTRAMEDULLARY HEMATOPOIESIS.	3 1+ - 3+	1 2+	1 3+	1 1+	0
CLEAR CELL FOCUS/FOCI.	1 2+	2 1+	2 1+	5 1+ - 3+	6 3+
NECROSIS.	0	2 4+	0	3 3+ - 4+	1
HEPATOCELLULAR VACUOLATION.	0	1 3+	1 3+	0	2 2+
CHOLANGIOMA.	0	1	0	1	0
BILE DUCT HYPERPLASIA.	0	0	1 2+	0	2 2+ - 3+
HEPATOCELLULAR CYSTIC DEGENERATION.	0	0	1 3+	1 3+	0
PLASMOCYTOMA.	0	0	1	0	1
KARYOMEGLY.	0	0	1 2+	1 1+	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
LEUKOSTASIS.	0	0	0	1 2+	0
BILE DUCT ADENOMA.	0	0	0	1 2+	0
LYMPHOCYTOSIS.	0	0	0	1	0
PIGMENT.	0	0	0	0	1 1+
INFLAMMATION.	0	0	0	0	2 2+
HEMOSIDEROSIS.	0	0	0	0	1 3+
GALLBLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	38	38	39	40
NO SIGNIFICANT LESION RECOGNIZED.	3	5	1	9	5
AUTOLYZED.	7	5	8	1	5
MISSING.	0	2	1	0	0
HYPERPLASIA.	0	0	1 2+	0	0
INFLAMMATION.	0	0	1 4+	0	0
SPLEEN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	8	9	26	10	12
AMYLOID.	30 1+ - 4+	32 1+ - 4+	17 1+ - 4+	30 1+ - 4+	28 2+ - 4+
AUTOLYZED.	2	6	3	4	9
THROMBOSIS.	1	0	0	0	1 4+
FOLLICULAR HYPERPLASIA.	1 3+	0	0	0	0
RETICULUM CELL HYPERPLASIA.	1 3+	0	0	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	0	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
SPLEEN (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
CYST(S).	1	0	0	0	0
EXTRAMEDULLARY HEMATOPOIESIS.	8 1+ - 4+	1 3+	1 3+	5 3+ - 4+	4 2+ - 3+
HEMOSIDEROSIS.	1 1+	0	0	0	1 3+
HEMORRHAGE.	1	0	0	0	0
MISSING.	0	2	1	0	0
HYPERPLASIA.	0	1 3+	3 3+	2 2+ - 4+	0
HEMANGIOECTASIS.	0	0	1 3+	0	0
PLASMACYTOMA.	0	0	1	0	1
MALIGNANT LYMPHOMA.	0	0	1	0	0
CONGESTION.	0	0	0	1 4+	0
PANCREAS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	33	32	40	33	35
AUTOLYZED.	13	14	9	13	13
CYST(S).	1	1	0	0	0
ATROPHY.	1 2+	0	0	0	0
NOT PRESENT IN SECTION.	0	1	0	0	0
PAPILLARY HYPERPLASIA.	0	1 2+	0	0	0
DUCTAL ECTASIA.	0	1 1+	0	1	1 2+
MISSING.	0	0	1	0	0
ADENOMA.	0	0	0	2	0
CARCINOMA.	0	0	0	0	1
HEART					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	23	30	34	30	28
NO SIGNIFICANT LESION RECOGNIZED.	5	3	8	8	6
MISSING.	2	0	0	0	0
AUTOLYZED.	1	4	1	0	4
THROMBOSIS.	12	9	5	9 4+	10
MURAL THROMBOSIS.	2	5	0	1	0
MINERALIZATION.	1 3+	0	0	0	0
MYOCARDIOPATHY.	3 2+ - 4+	3 2+ - 3+	0	1	1 3+
INFLAMMATION.	0	1 3+	0	0	0
CARCINOMA.	0	0	1	0	0
NEOPLASM, (N.O.S.).	0	0	1	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	0	0	1
ENDOCARDITIS.	0	0	0	0	1
KIDNEYS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	1	5	18	3	7
AMYLOID.	40 1+ - 4+	37 1+ - 4+	22 2+ - 4+	41 2+ - 4+	30 3+ - 4+
AUTOLYZED.	2	4	2	1	3
GLOMERULAR NEPHROSIS.	18 1+ - 4+	9 1+ - 4+	7 1+ - 3+	11 2+ - 3+	12 2+ - 4+
MINERALIZATION.	8 1+ - 3+	0	0	3 2+ - 3+	1
CHRONIC INTERSTITIAL NEPHRITIS.	1 2+	1 3+	0	0	2 2+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
KIDNEYS (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
INFARCT.	1	0	1	0	1
INFLAMMATION.	0	1 3+	1 4+	1 3+	2 4+
PYELONEPHRITIS.	0	1 3+	0	0	1 4+
CARCINOMA, METASTATIC.	0	0	1	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
CYST(S).	0	0	0	0	1
NECROSIS.	0	0	0	0	1 3+
PLASMACYTOMA.	0	0	0	0	1
URINARY BLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	39	38	39	40
NO SIGNIFICANT LESION RECOGNIZED.	4	8	8	9	9
AUTOLYZED.	5	3	3	1	1
VACUOLATION.	1 1+	0	0	0	0
HYPERPLASIA.	0	0	1 3+	0	0
INFLAMMATION.	0	0	1 3+	0	0
OVARIES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	32	37	40	38	39
NO SIGNIFICANT LESION RECOGNIZED.	9	10	10	8	7
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	1	0	0	1	0
CYST(S).	4	1	0	1	3
THECA CELL TUMOR.	1	0	0	0	0
HYPERPLASIA.	0	1	0	0	0
PLASMACYTOMA.	0	1	0	0	0
HEMORRHAGE.	0	0	0	1 3+	0
PAPILLARY HYPERPLASIA.	0	0	0	0	1 3+
INFLAMMATION.	0	0	0	0	1 4+
UTERUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	37	37	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	8	7	8	7	8
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	2	3	0	1	0
HYPERPLASIA.	0	2 3+	1 3+	1 2+	1 3+
FIBROMA.	0	1	0	0	0
PAPILLARY HYPERPLASIA.	0	0	1 3+	0	1 3+
FOLLICULAR HYPERPLASIA.	0	0	0	1 3+	0
CARCINOMA.	0	0	0	1	0
LEIOMYOMA.	0	0	0	0	1
INFLAMMATION.	0	0	0	0	1 3+
STERNUM & RIB JUNCTION					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	37	40	40	37	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	9	10

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
STERNUM & RIB JUNCTION (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
AUTOLYZED.	1	0	0	2	0
INFLAMMATION.	0	0	0	1 4+	0
FEMUR & BONE MARROW					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	40	40	39	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
NASAL CAVITY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	38	40	40	39	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
OTHER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[49]	[50]
NOT REQUIRED.	47	49	47	48	46
NO SIGNIFICANT LESION RECOGNIZED.	1	2	0	0	1
(CERVICAL LYMPH NODE), NO SIGNIFICANT LESIONS RECOGNIZED.	1	0	0	0	0
(RENAL LYMPH NODE), PLASMACYTOMA.	0	1	0	0	0
(LARGE INTESTINE), PLASMACYTOMA.	0	1	0	0	0
(LARGE INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	0	0	1	0	0
(SMALL INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	0	0	1	0	2
(MEDIASTINUM), CARCINOMA.	0	0	1	0	0
(RENAL LYMPH NODE), MALIGNANT LYMPHOMA.	0	0	1	0	0
(SUBLUMBAR LYMPH NODE), MALIGNANT LYMPHOMA.	0	0	1	0	0
(LARGE INTESTINE), AUTOLYZED.	0	0	0	0	2
(SMALL INTESTINE), AUTOLYZED.	0	0	0	0	1

KEY TO GROUP IDENTIFICATION

<u>GROUP NUMBER</u>	<u>TREATMENT</u>	<u>DOSE LEVEL (mg/0.2 ml distilled water)</u>
1	Vehicle Control	--
2	Ferric Oxide Control (Fe_2O_3 + Vehicle)	3.0
3	Positive Control (BaP + Fe_2O_3)	3.0 + 3.0
6	Green Sand	5.0
7	Green Sand	10.0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 7
SKIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	35	40	38	38	36
NO SIGNIFICANT LESION RECOGNIZED.	11	10	8	9	10
INFLAMMATION.	2 3+ - 4+	0	0	2 4+	1
AUTOLYZED.	0	0	1	0	0
ACARIASIS.	0	0	1	0	0
SARCOMA.	0	0	0	1	0
NECROSIS.	0	0	0	0	1 1+
CARCINOMA, METASTATIC.	0	0	0	0	1
SKIN/MAMMARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	35	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
NOT PRESENT IN SECTION.	3	0	0	0	0
THIGH MUSCLE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	37	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	11	10	10	10	10
SALIVARY GLAND					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	36	39	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	9	10
AUTOLYZED.	1	0	1	0	0
NOT PRESENT IN SECTION.	0	1	0	0	0
MISSING.	0	0	0	1	0
MANDIBULAR LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	36	39	37	40	36
NO SIGNIFICANT LESION RECOGNIZED.	6	5	5	8	8
MISSING.	4	3	3	2	1
HYPERPLASIA.	2 3+ - 4+	1 3+	1 4+	0	0
AMYLOID.	0	1 2+	0	0	0
INFLAMMATION.	0	1 4+	0	0	0
AUTOLYZED.	0	0	1	0	0
SARCOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	0	0	2
CARCINOMA.	0	0	0	0	1
SCIATIC NERVE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	37	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	11	10	10	10	10
BRAIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	36	40	38	37	35
NO SIGNIFICANT LESION RECOGNIZED.	11	9	8	11	10
AUTOLYZED.	1	0	2	1	3
MINERALIZATION.	0	1 3+	0	0	0
AMYLOID.	0	0	0	1 3+	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
PITUITARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	30	25	35	23	19
AUTOLYZED.	3	2	4	1	5
MISSING.	6	5	1	6	7
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	9	18	7	17	17
NOT PRESENT IN SECTION.	0	0	1	1	0
CYST(S).	0	0	0	1	0
VACUOLATION.	0	0	0	1 1+	0
ADENOMA.	0	0	0	1	0
ADRENALS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	9	9	26	13	11
AUTOLYZED.	7	3	7	3	3
INFLAMMATION.	1	0	0	0	0
AMYLOID.	14 2+ - 4+	20 2+ - 4+	2 2+ - 4+	16 2+ - 4+	15 2+ - 4+
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	8	6	2	3	3
HYPERPLASIA.	12 1+ - 4+	19	5 1+	17	13 3+
CORTICAL CELL HYPERPLASIA.	3 1+ - 2+	1	3 1+	1	1
MEDULLARY CELL HYPERPLASIA.	4 2+ - 3+	1 1+	0	1	2
CYST(S).	1	0	0	2	1
ADENOMA.	9	7	1	5	6
MISSING.	0	1	0	1	1
PHEOCHROMOCYTOMA.	0	2	0	0	0
CORTICAL ADENOMA.	0	1	1	0	0
CARCINOMA.	0	0	1	1	1
NOT PRESENT IN SECTION.	0	0	0	1	0
FIBROSIS.	0	0	0	1 1+	0
PIGMENT.	0	0	0	0	2 3+
HEMORRHAGE.	0	0	0	0	1 4+
THYMUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	18	18	29	16	12
AUTOLYZED.	4	3	5	3	6
NOT PRESENT IN SECTION.	15	18	6	10	14
MISSING.	5	8	5	12	7
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	2	1	1	6	2
CYST(S).	2	1	2	2	6
INVOLUTED.	2	1	0	1	0
RETICULUM CELL HYPERPLASIA.	0	0	0	0	1 3+
STOMACH					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	32	38	37	36	35
NO SIGNIFICANT LESION RECOGNIZED.	9	10	3	10	10
AUTOLYZED.	4	1	3	2	0
INFLAMMATION.	2 2+ - 3+	0	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
STOMACH (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
PIGMENT.	1 2+	1	0	1	2
MINERALIZATION.	1 3+	0	0	0	0
CYST(S).	0	0	1	0	0
PAPILLOMA.	0	0	3	0	0
MUCOSAL ATYPIA.	0	0	1	0	0
NECROSIS.	0	0	1 4+	1	0
NOT PRESENT IN SECTION.	0	0	0	0	1
DUODENUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	35	37	38	38	36
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	10	7
AUTOLYZED.	4	3	3	2	3
INFLAMMATION.	0	0	0	0	1 4+
LYMPHOID HYPERPLASIA.	0	0	0	0	1
JEJUNUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	35	39	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
AUTOLYZED.	3	1	0	0	0
CECUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	33	36	38	34	35
NO SIGNIFICANT LESION RECOGNIZED.	8	10	7	10	8
AUTOLYZED.	3	3	3	3	2
INFLAMMATION.	4 3+	1	0	2	2 4+
SARCOMA.	0	0	0	1	0
CONGESTION.	0	0	0	0	1
HEMORRHAGE.	0	0	0	0	1 3+
COLON					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	34	36	37	38	36
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	10	7
AUTOLYZED.	4	3	3	2	3
INFLAMMATION.	1 4+	0	1 4+	0	0
MISSING.	0	1	0	0	0
RECTUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	35	36	38	38	37
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	8	9
AUTOLYZED.	4	3	3	2	2
MISSING.	0	1	0	1	0
INFLAMMATION.	0	0	0	1 3+	0
MESENTERIC LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	34	37	38	40	35
NO SIGNIFICANT LESION RECOGNIZED.	4	4	2	7	5

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
MESENTERIC LYMPH NODE (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
AUTOLYZED.	4	1	1	0	0
AMYLOID.	1 4+	0	0	0	0
MISSING.	3	4	5	1	0
HYPERPLASIA.	3 3+ - 4+	0	1 4+	0	0
INFLAMMATION.	0	1 4+	0	0	0
MUCOSAL ECTOPIA.	0	1	0	0	1
LEUKEMIA/LYMPHOMA.	0	2	0	0	3
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	1	0	0
HISTIOCYTOSIS.	0	0	0	2 3+	1 3+
CONGESTION.	0	0	0	0	1 4+
CARCINOMA.	0	0	0	0	1
PLASMACYTOSIS.	0	0	0	0	1 4+
 ILEUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	35	36	38	38	37
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	10	9
AUTOLYZED.	4	3	3	2	2
MISSING.	0	1	0	0	0
 LARYNX					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	42	44	15	42	41
AUTOLYZED.	3	3	3	4	7
INFLAMMATION.	1 1+	1	1	0	0
PAPILLOMA.	1	1	0	0	0
HYDOPATHY.	1 3+	0	0	0	0
CARCINOMA.	0	1	12	0	0
MISSING.	0	0	1	2	0
HYPERPLASIA.	0	0	11 2+ - 4+	0	0
ADENOMA.	0	0	1	0	0
METAPLASIA.	0	0	4 1+ - 3+	0	0
MUCOSAL ATYPIA.	0	0	5 2+ - 3+	0	0
NOT PRESENT IN SECTION.	0	0	0	2	0
 TRACHEA					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	45	45	20	45	41
AUTOLYZED.	3	3	3	4	7
INFLAMMATION.	0	1	3 2+	0	0
CARCINOMA.	0	1	10	0	0
MISSING.	0	0	1	1	0
HYPERPLASIA.	0	0	8 2+ - 4+	0	0
METAPLASIA.	0	0	3 2+ - 3+	0	0
DYSKERATOSIS.	0	0	1	0	0
EOSINOPHILIC MASS(ES).	0	0	1	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
THYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	15	29	29	19	19
AUTOLYZED.	5	5	6	3	7
AMYLOID.	16 2+ - 4+	10 2+ - 3+	0	9 2+ - 4+	9 1+ - 4+
NOT PRESENT IN SECTION.	2	0	3	0	0
MISSING.	1	1	3	1	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	3	0	1	0	1
CYST(S).	10	8	5	18	13
FOLLICULAR HYPERPLASIA.	0	1 2+	0	0	0
HYPERPLASIA.	0	0	1 1+	1 1+	0
ADENOMA.	0	0	0	2	1
NEOPLASM, N.O.S.	0	0	0	0	1
PARATHYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	31	35	21	37	27
AUTOLYZED.	4	5	4	3	7
NOT PRESENT IN SECTION.	8	6	18	3	1
MISSING.	1	1	2	1	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	2	0	0	1	4
HYPERPLASIA.	1	2 1+	3 2+ - 3+	3	9 1+ - 3+
ADENOMA.	1	0	0	2	0
CYST(S).	0	1	0	0	0
AMYLOID.	0	0	0	0	1 1+
ESOPHAGUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	45	47	39	45	40
AUTOLYZED.	3	2	3	4	7
HYPERPLASIA.	0	1 3+	1 3+	0	0
MISSING.	0	0	2	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	1	0	0
INFLAMMATION.	0	0	1	0	0
METAPLASIA.	0	0	1 2+	0	0
HYPERKERATOSIS.	0	0	1	0	0
DYSKERATOSIS.	0	0	0	1 3+	1 4+
LUNG					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	11	1	0	13	2
AUTOLYZED.	1	1	3	3	6
INFLAMMATION.	2 2+ - 4+	2 2+ - 4+	1 4+	0	2 4+
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	16 1+ - 3+	37 1+ - 3+	22 1+ - 4+	25 1+ - 2+	29 1+ - 3+
PIGMENT.	4 2+ - 3+	47 1+ - 3+	45 1+ - 4+	4 1+ - 3+	9 1+ - 3+
PNEUMOLITHIASIS.	5 1+ - 2+	0	0	1 1+	1 1+
CONGESTION.	8 1+ - 4+	2 3+	2 4+	4 3+ - 4+	6 3+ - 4+
HEMORRHAGE.	6 1+ - 3+	1 2+	1 4+	3 1+ - 3+	4 1+ - 2+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
LUNG (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
HISTIOCYTOSIS.	5 2+ - 3+	5 3+ - 4+	0	6 1+ - 4+	5 2+ - 4+
FIBROSIS.	8 1+ - 2+	3 1+ - 2+	1 1+	7 1+ - 2+	4 1+ - 2+
ALVEOLAR/BRONCHIOLAR CELL ADENOMA.	1	0	1	0	0
ATELECTASIS.	1 3+	1 3+	3 3+	4 2+ - 4+	6 3+ - 4+
EOSINOPHILIC MASS(ES).	2	1	1	1	2 1+ - 2+
ADENOMA.	0	2	2	0	0
CARCINOMA, METASTATIC.	0	1	0	0	1
CARCINOMA.	0	1	23	0	0
BRONCHOPNEUMONIA.	0	0	7 3+ - 4+	0	0
PNEUMONITIS.	0	0	6 1+ - 4+	0	0
METAPLASIA.	0	0	1 4+	0	0
ADENOMATOSIS.	0	0	1 2+	0	0
ALVEOLAR/BRONCHIOLAR CELL CARCINOMA.	0	0	5	0	0
NECROSIS.	0	0	3 4+	0	0
HEMOSIDEROSIS.	0	0	3 4+	0	0
BRONCHITIS.	0	0	1 4+	0	0
EMPHYSEMA.	0	0	1 4+	0	0
HYPERPLASIA.	0	0	0	1 3+	0
MISSING.	0	0	0	1	0
LEUKEMIA/LYMPHOMA.	0	0	0	0	1
BRONCIECTASIS.	0	0	0	0	1 2+
LEUKOSTASIS.	0	0	0	0	1 3+
BRONCHIAL LYMPH NODES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	16	4	2	17	12
AUTOLYZED.	2	1	2	3	5
AMYLOID.	1 3+	0	0	0	0
NOT PRESENT IN SECTION.	9	8	1	8	12
PIGMENT.	6 2+ - 3+	25 1+ - 4+	32 1+ - 4+	3 1+ - 2+	9 1+ - 3+
MISSING.	10	9	11	7	5
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	2	3	1	6	1
HYPERPLASIA.	2 4+	0	2 4+	0	0
LYMPHOID HYPERPLASIA.	1	0	0	1 3+	0
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	0	1 1+	0	0	0
CARCINOMA.	0	0	2	0	0
INFLAMMATION.	0	0	1 3+	0	0
SARCOMA.	0	0	1	0	0
CONGESTION.	0	0	0	2 3+ - 4+	2 4+
HISTIOCYTOSIS.	0	0	0	2 3+	0
HEMOSIDEROSIS.	0	0	0	1 2+	0
ERYTHROPHAGOCYTOSIS.	0	0	0	0	1 1+
LEUKEMIA/LYMPHOMA.	0	0	0	0	1
MAINSTEM BRONCHI					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	22	44	41

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
MAINSTEM BRONCHI (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
AUTOLYZED.	2	3	3	4	7
MISSING.	2	0	4	2	0
INFLAMMATION.	0	1	1	0	0
CARCINOMA.	0	1	5	0	0
HYPERPLASIA.	0	0	9 3+ - 4+	0	0
NOT PRESENT IN SECTION.	0	0	2	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	1	0	0
METAPLASIA.	0	0	2	0	0
DYSKERATOSIS.	0	0	1	0	0
CARCINOMA, SQUAMOUS.	0	0	1	0	0
LIVER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	19	18	23	23	13
AUTOLYZED.	7	5	11	6	9
INFLAMMATION.	3 3+	2 3+	0	0	4 2+ - 4+
AMYLOID.	16 2+ - 4+	17 1+ - 4+	1 3+	14 1+ - 3+	13 2+ - 4+
PIGMENT.	1 4+	0	0	3 1+	0
BILE DUCT HYPERPLASIA.	1 1+	0	0	0	0
CONGESTION.	2 3+ - 4+	5 3+ - 4+	8 3+ - 4+	3 4+	4 3+ - 4+
KARYOMEGLY.	1 3+	0	0	0	0
HYPERTROPHY.	1 3+	0	0	0	0
EXTRAMEDULLARY HEMATOPOIESIS.	1 2+	0	0	0	0
CYST(S).	2	11	0	9	6
CLEAR CELL FOCUS/FOCI.	1	1	1	0	0
HEMANGIOMA.	1	0	0	0	0
HEPATOCELLULAR CYSTIC DEGENERATION.	1 3+	1 1+	0	3 2+ - 3+	2 3+
HEMOSIDEROSIS.	1 2+	0	0	0	0
HEMORRHAGE.	0	1 4+	0	0	0
NECROSIS.	0	4 1+ - 4+	2 1+ - 4+	2 3+	2 2+ - 3+
HYPERPLASIA.	0	0	1	1	0
HEPATITIS.	0	0	1 4+	0	0
SARCOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	0	0	3
CARCINOMA, METASTATIC.	0	0	0	0	1
HEPATOCELLULAR VACUOLATION.	0	0	0	0	1 3+
GALLBLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	33	37	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	6	11	1	8	7
AUTOLYZED.	7	2	9	2	2
MISSING.	1	0	0	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	0	0
PAPILLARY HYPERPLASIA.	0	0	1 4+	0	0
INFLAMMATION.	0	0	0	0	1 4+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
SPLEEN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	28	29	26	27	18
AUTOLYZED.	4	7	10	5	8
AMYLOID.	11 2+ - 4+	10 2+ - 4+	0	12 2+ - 4+	12 3+ - 4+
MISSING.	3	0	3	1	1
CONGESTION.	1 4+	1 3+	1 3+	3 2+ - 3+	7 3+ - 4+
EXTRAMEDULLARY HEMATOPOIESIS.	1 3+	2 3+ - 4+	2 4+	2 3+	3 4+
HEMOSIDEROSIS.	0	1 3+	0	0	0
HYPERPLASIA.	0	0	6 3+ - 4+	0	0
RETICULUM CELL HYPERPLASIA.	0	0	0	1 3+	0
LEUKEMIA/LYMPHOMA.	0	0	0	0	1
FIBROSIS.	0	0	0	0	1 3+
PANCREAS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	31	34	34	33	27
AUTOLYZED.	10	11	12	9	15
MISSING.	4	2	1	0	2
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	0	0	0	0
DUCTAL ECTASIA.	2 2+	3 2+	0	3 1+	3 2+ - 3+
CYST(S).	0	0	1	0	0
ADENOMA.	0	0	0	2	0
HEPATOCELLULAR DIFFERENTIATION.	0	0	0	1 3+	0
HEPATOCELLULAR REGENERATION.	0	0	0	2 3+ - 4+	1 3+
ATROPHY.	0	0	0	0	2 2+
HEART					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	32	28	0	36	38
NO SIGNIFICANT LESION RECOGNIZED.	8	13	31	7	4
AUTOLYZED.	4	3	10	2	0
THROMBOSIS.	3	2	1	3	3
MYOCARDIOPATHY.	2 3+	4 3+ - 4+	2 1+ - 2+	2 3+	3 2+ - 4+
MURAL THROMBOSIS.	0	1	0	0	1
INFLAMMATION.	0	0	1 4+	0	0
MINERALIZATION.	0	0	2 3+	0	0
TUMOR EMBOLUS.	0	0	1	0	0
KIDNEYS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NO SIGNIFICANT LESION RECOGNIZED.	5	10	28	10	4
AUTOLYZED.	4	4	10	5	8
AMYLOID.	20 2+ - 4+	21 2+ - 4+	0	19 2+ - 4+	21 1+ - 4+
GLOMERULAR NEPHROSIS.	29 1+ - 4+	21 1+ - 4+	10 2+ - 4+	28 1+ - 4+	23 1+ - 4+
HYPERPLASIA.	1 2+	0	0	0	0
PYELONEPHRITIS.	1 4+	0	0	0	0
MINERALIZATION.	2 3+	0	0	2 2+ - 3+	0
CARCINOMA.	0	1	0	0	0
THROMBOSIS.	0	0	1 3+	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	0	1	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
KIDNEYS (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
LEUKEMIA/LYMPHOMA.	0	0	0	0	1
CARCINOMA, METASTATIC.	0	0	0	0	1
URINARY BLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	34	40	38	40	37
NO SIGNIFICANT LESION RECOGNIZED.	9	10	6	9	8
AUTOLYZED.	4	0	3	1	2
HEMORRHAGE.	1	0	0	0	0
MISSING.	0	0	1	0	1
PROSTATE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	34	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	7	8
AUTOLYZED.	3	0	1	0	0
INFLAMMATION.	1	0	0	0	0
MISSING.	4	3	5	3	1
MINERALIZATION.	1	0	0	0	0
AMYLOID.	0	0	0	0	1
					3+
TESTES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	28	30	37	33	29
NO SIGNIFICANT LESION RECOGNIZED.	8	8	5	8	7
AUTOLYZED.	3	1	1	1	1
HYPOSPERMIA.	2	0	0	0	0
OLIGOSPERMIA.	7	9	5	6	8
AMYLOID.	0	1	0	0	0
NECROSIS.	0	1	0	0	0
ATROPHY.	0	1	0	0	1
DEGENERATION.	0	1	1	0	2
HEMORRHAGE.	0	0	0	1	0
MINERALIZATION.	0	0	0	1	0
INFLAMMATION.	0	0	0	0	1
				3+	2+ - 3+
				1+	4+
SEMINAL VESICLES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	34	40	37	40	36
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10
AUTOLYZED.	3	0	1	0	0
(EPIDIDYMIS), INFLAMMATION.	0	0	1	0	0
CYST(S).	0	0	0	0	1
(EPIDIDYMIS), NO SIGNIFICANT LESION RECOGNIZED.	0	0	0	0	1
STERNUM & RIB JUNCTION					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	35	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	11	10	6	9	9
AUTOLYZED.	2	0	1	0	1

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
STERNUM & RIB JUNCTION (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
MISSING.	0	0	1	0	0
SARCOMA.	0	0	1	0	0
HYPOPLASIA.	0	0	1 4+	0	0
HISTIOCYTOSIS.	0	0	0	1 4+	0
FEMUR & BONE MARROW					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	35	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10
AUTOLYZED.	2	0	1	0	0
NASAL CAVITY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	35	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10
AUTOLYZED.	2	0	1	0	0
OTHER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[48]
NOT REQUIRED.	45	50	47	50	46
(LARGE INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	1	0	0	0	0
(SMALL INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	1	0	0	0	0
(LARGE INTESTINE), MISSING.	1	0	0	0	0
(RENAL LYMPH NODE), NOT PRESENT IN SECTION.	1	0	0	0	0
(VISCERAL PLEURA), HYPERPLASIA.	0	0	1 2+	0	0
(PANCREATIC LYMPH NODE), LEUKEMIA/LYMPHOMA.	0	0	0	0	1
(PERITONEUM), INFLAMMATION.	0	0	0	0	1 4+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 7
SKIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	37	40	38	38	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
INFLAMMATION.	1	0	1	0	0
THROMBOSIS.	0	0	1	0	0
4+					
SKIN/MAMMARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	37	40	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
MISSING.	1	0	0	0	0
THIGH MUSCLE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	40	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
SALIVARY GLAND					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	40	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	8	10	9	10	10
AUTOLYZED.	2	0	1	0	0
MANDIBULAR LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	37	39	39	38	37
NO SIGNIFICANT LESION RECOGNIZED.	5	5	7	5	7
AUTOLYZED.	4	3	2	2	3
HYPERPLASIA.	1	1	0	1	0
4+					
RETICULUM CELL HYPERPLASIA.	1	0	0	0	0
2+					
LYMPHOID HYPERPLASIA.	1	0	0	0	1
3+					
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	1	0	0	0
NECROSIS.	0	1	0	0	0
2+					
PLASMOCYTOMA.	0	0	1	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
AMYLOID.	0	0	0	1	0
2+					
MISSING.	0	0	0	1	0
CONGESTION.	0	0	0	0	1
4+					
FOLLICULAR HYPERPLASIA.	0	0	0	0	1
3+					
SCIATIC NERVE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	40	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
BRAIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	39	40	38	37
NO SIGNIFICANT LESION RECOGNIZED.	8	6	8	10	10
AUTOLYZED.	1	2	2	0	3
NEURONAL VACUOLATION.	1	0	0	0	0
3+					
AMYLOID.	0	1	0	0	0
2+					
MINERALIZATION.	0	3	0	0	0
1+					

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
PITUITARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	21	28	33	21	27
AMYLOID.	2 2+	0	0	0	0
MISSING.	6	1	0	2	5
AUTOLYZED.	2	4	2	6	7
INSUFFICIENT TISSUE PRESENT IN SECTION.	18	15	13	18	9
CORTICAL ADENOMA.	1	0	0	0	0
NOT REQUIRED.	0	1	0	0	0
NOT PRESENT IN SECTION.	0	1	1	1	1
CYST(S).	0	0	1	0	0
ADENOMA.	0	0	0	0	1
ADRENALS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	4	9	23	5	10
AMYLOID.	39 1+ - 4+	35 2+ - 4+	16 2+ - 3+	34 2+ - 4+	25 1+ - 4+
MISSING.	1	0	0	0	1
AUTOLYZED.	2	5	2	5	9
HYPERPLASIA.	7	5	2	11 2+	14
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	0	4	7	1
CYST(S).	4	0	3	1	3
CORTICAL ADENOMA.	2	5	2	0	0
EXTRAMEDULLARY HEMATOPOIESIS.	1 2+	0	0	0	0
CORTICAL CELL HYPERPLASIA.	1 2+	1	4 1+	2	0
ADENOMA.	0	3	0	2	4
MEDULLARY CELL HYPERPLASIA.	0	0	0	0	2
THYMUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	18	18	27	7	19
MISSING.	20	23	11	24	15
NOT PRESENT IN SECTION.	3	2	6	8	5
AUTOLYZED.	2	4	1	3	6
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	2	3	4	2
INVOLUTED.	2	0	0	0	0
HEMOSIDEROSIS.	1 1+	0	0	0	0
PLASMACYTOMA.	0	1	0	0	3+
LEUKEMIA/LYMPHOMA.	0	0	1	0	0
MEDULLARY CELL HYPERPLASIA.	0	0	1 3+	0	0
CYST(S).	0	0	0	1	1
INFLAMMATION.	0	0	0	1 4+	0
PIGMENT.	0	0	0	0	1 2+
STOMACH					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	34	37	36	37	36
NO SIGNIFICANT LESION RECOGNIZED.	6	7	5	6	9
AUTOLYZED.	5	5	6	5	4

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
STOMACH (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
PAPILLOMA.	1	0	2	0	0
PIGMENT.	2	1	1	0	1
DUODENUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	38	38	33	37
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	6	9
AUTOLYZED.	5	5	7	6	5
NECROSIS.	0	0	1	0	0
HEMORRHAGE.	0	0	1	0	0
JEJUNUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	39	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
AUTOLYZED.	0	1	0	0	0
CECUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	35	36	39	34	34
NO SIGNIFICANT LESION RECOGNIZED.	4	5	4	4	8
AUTOLYZED.	6	4	6	4	7
INFLAMMATION.	2	4	1	4	0
LYMPHOID HYPERPLASIA.	1	0	0	0	0
AMYLOID.	0	1	0	0	0
NECROSIS.	0	1	0	0	1
		4+			4+
COLON					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	37	37	40	37	37
NO SIGNIFICANT LESION RECOGNIZED.	4	5	4	6	8
AUTOLYZED.	5	5	6	5	5
INTUSSUSCEPTION.	1	0	0	0	0
CARCINOMA.	1	0	0	0	0
AMYLOID.	0	1	0	0	0
INFLAMMATION.	0	2	0	0	0
		4+			
RECTUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	39	40	37	37
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	6	8
AUTOLYZED.	5	4	6	5	5
MESENTERIC LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	34	33	38	37	33
NO SIGNIFICANT LESION RECOGNIZED.	5	6	5	5	7
CONGESTION.	1	0	0	0	1
MISSING.	1	1	2	0	1
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	3	5	2	4	5
INFLAMMATION.	1	2	0	0	0
		4+			

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 7
MESENTERIC LYMPH NODE (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	0	0
HEMORRHAGE.	1 3+	0	0	0	0
LYMPHOID HYPERPLASIA.	1	0	0	0	0
HISTIOCYTOSIS.	0	1 1+	0	0	0
RETICULUM CELL HYPERPLASIA.	0	1	0	0	0
PLASMACYTOMA.	0	1	0	0	0
FOLLICULAR HYPERPLASIA.	0	0	1 3+	0	2 3+
HEMOSIDEROSIS.	0	0	1 3+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
ERYTHROPHAGOCYTOSIS.	0	0	0	1 3+	0
LEUKEMIA/LYMPHOMA.	0	0	0	1	0
PLASMACYTOSIS.	0	0	0	0	1 4+
ILEUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	39	40	37	37
NO SIGNIFICANT LESION RECOGNIZED.	5	8	4	6	8
AUTOLYZED.	5	3	3	5	5
LARYNX					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	34	44	43
MISSING.	1	0	0	0	0
AUTOLYZED.	2	5	1	4	6
INFLAMMATION.	1 2+	0	0	0	0
HYPERPLASIA.	0	0	9 2+ - 3+	0	0
CARCINOMA.	0	0	4	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	1	0	0
ATYPICAL EPITHELIAL HYPERPLASIA.	0	0	1 3+	0	0
NOT PRESENT IN SECTION.	0	0	0	0	1
TRACHEA					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	30	45	43
MISSING.	1	0	0	0	0
AUTOLYZED.	2	5	1	3	6
INFLAMMATION.	1 2+	0	0	0	0
HYPERPLASIA.	0	0	5 2+ - 3+	0	0
CARCINOMA.	0	0	13	0	0
FIBROSIS.	0	0	1	0	0
NOT PRESENT IN SECTION.	0	0	0	0	1
THYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	13	9	26	6	13
AMYLOID.	30 1+ - 4+	33 1+ - 4+	10 2+ - 3+	34 1+ - 4+	22 2+ - 4+
MISSING.	1	0	1	1	0
AUTOLYZED.	2	4	4	3	6

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
THYROID (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
CYST(S).	7	10	7	10	5
ATROPHY.	1 1+	0	0	0	0
FOLLICULAR CELL ADENOMA.	1	0	0	1	4
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	1	0	0	0
NOT PRESENT IN SECTION.	0	0	2	1	2
CARCINOMA, METASTATIC.	0	0	2	0	0
ADENOMA.	0	0	0	1	1
C-CELL ADENOMA.	0	0	0	1	0
HYPERPLASIA.	0	0	0	0	1
FOLLICULAR HYPERPLASIA.	0	0	0	0	1
PAPILLOMA.	0	0	0	0	1
PAPILLARY ADENOMA.	0	0	0	0	1
PARATHYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	25	31	32	23	32
MISSING.	1	1	2	1	0
NOT PRESENT IN SECTION.	9	6	7	8	5
AUTOLYZED.	2	5	3	8	7
HYPERPLASIA.	1	3 2+	5 2+	3 2+	2 2+
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	2	1	2	1
CYST(S).	3	1	0	1	0
ADENOMA.	7	1	0	2	3
ESOPHAGUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	45	46	46	42	42
MISSING.	1	0	0	0	0
AUTOLYZED.	2	3	1	6	8
INFLAMMATION.	0	1 4+	0	0	0
AMYLOID.	0	0	1 2+	0	0
HYPERPLASIA.	0	0	1 3+	0	0
CARCINOMA.	0	0	1	0	0
LUNG					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	17	1	0	17	9
CONGESTION.	5 2+ - 4+	0	0	1 3+	3 3+ - 4+
AUTOLYZED.	2	2	1	4	6
HISTIOCYTOSIS.	10 2+ - 4+	12 2+ - 4+	6 3+ - 4+	15 2+ - 4+	14 3+ - 4+
INFLAMMATION.	4 3+ - 4+	2 4+	1 3+	0	2 2+ - 4+
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	9 1+ - 2+	32 1+ - 3+	27 1+ - 4+	8 1+ - 3+	18 1+ - 2+
ADENOMA.	1	0	1	0	0
ATELECTASIS.	3 2+ - 4+	5 2+ - 3+	1 2+	2 3+	0
FIBROSIS.	4 1+ - 2+	2 1+	0	3 1+ - 2+	3 1+ - 2+
HEMOSIDEROSIS.	1 1+	0	0	1	1 2+
LEUKOSTASIS.	1	0	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 7
LUNG (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
PNEUMOLITHIASIS.	1 1+	0	0	1 1+	1 1+
EOSINOPHILIC MASS(ES).	1	0	0	0	3 2+
AMYLOID.	0	2 2+ - 4+	1 2+	0	1 2+
PIGMENT.	0	45 1+ - 3+	45 1+ - 4+	0	1 2+
CARCINOMA.	0	1	25	0	0
ADENOMATOSIS.	0	1 3+	3 2+	0	1 2+
HEMORRHAGE.	0	1 3+	0	1 4+	0
PLASMACYTOMA.	0	1	0	0	0
ALVEOLAR/BRONCHIOLAR CELL CARCINOMA.	0	0	9	0	0
PNEUMONITIS.	0	0	2 3+	0	0
BRONCHIAL PNEUMONIA.	0	0	1 4+	0	0
ALVEOLAR/BRONCHIOLAR CELL ADENOMA.	0	0	3	0	0
PNEUMONIA.	0	0	1 4+	0	0
BRONCHIOL EPITHELIAL HYPERPLASIA.	0	0	1 2+	0	0
BRONCHOPNEUMONIA.	0	0	3 3+ - 4+	0	0
NECROSIS.	0	0	1 4+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
EMPHYSEMA.	0	0	0	0	1 2+
BRONCHIAL LYMPH NODES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	11	6	1	10	15
AMYLOID.	1 2+	0	2 2+ - 3+	0	1 1+
CONGESTION.	1 4+	0	0	1 4+	1 4+
MISSING.	23	12	7	21	7
NOT PRESENT IN SECTION.	2	1	2	7	15
AUTOLYZED.	2	3	2	1	6
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	0	1
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	1 2+	0	1 2+	0	0
ERYTHROPHAGOCYTOSIS.	3 3+	1 3+	1 3+	2 3+	0
ATELECTASIS.	1 3+	0	0	0	0
HEMOSIDEROSIS.	2 1+ - 3+	0	0	0	2
HEMORRHAGE.	1 3+	0	0	0	0
PIGMENT.	0	28 1+ - 4+	37 1+ - 4+	5 1+ - 4+	3 1+ - 3+
HYPERPLASIA.	0	1 3+	2	1 3+	0
PLASMACYTOSIS.	0	1 4+	0	0	0
PLASMACYTOMA.	0	1	0	0	0
CARCINOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	1	0	0
LYMPHOID HYPERPLASIA.	0	0	1 3+	0	1
MALIGNANT LYMPHOMA.	0	0	1	0	0
MAINSTEM BRONCHI					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	45	45	34	44	43
MISSING.	1	0	3	1	0
AUTOLYZED.	2	5	1	3	5

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 7
MAINSTEM BRONCHI (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
AMYLOID.	0	0	1 3+	0	0
HYPERPLASIA.	0	0	4 3+	0	0
CARCINOMA.	0	0	6	0	0
NOT PRESENT IN SECTION.	0	0	1	0	1
LIVER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	2	7	12	5	9
AMYLOID.	42 1+ - 4+	33 1+ - 4+	22 1+ - 3+	33 2+ - 4+	29 2+ - 3+
CONGESTION.	2 2+ - 3+	5 3+ - 4+	4 3+ - 4+	6 3+ - 4+	9 3+ - 4+
AUTOLYZED.	2	9	6	7	10
HYPERPLASIA.	1 3+	0	0	0	0
THROMBOSIS.	1	0	1	0	0
CYST(S).	15	19	11	10	12
EXTRAMEDULLARY HEMATOPOIESIS.	3 1+ - 3+	1 2+	1 3+	0	0
CLEAR CELL FOCUS/FOCI.	1 2+	2 1+	2 1+	5 3+	3 3+
NECROSIS.	0	2 4+	0	0	5
HEPATOCELLULAR VACUOLATION.	0	1 3+	1 3+	0	0
CHOLANGIOMA.	0	1	0	0	1
BILE DUCT HYPERPLASIA.	0	0	1 2+	0	0
HEPATOCELLULAR CYSTIC DEGENERATION.	0	0	1 3+	0	1 3+
PLASMACYTOMA.	0	0	1	0	0
KARYOMEGLY.	0	0	1 2+	1	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
HEMOSIDEROSIS.	0	0	0	0	1 3+
GALLBLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	38	38	37	39
NO SIGNIFICANT LESION RECOGNIZED.	3	5	1	4	6
AUTOLYZED.	7	5	8	6	5
MISSING.	0	2	1	0	0
HYPERPLASIA.	0	0	1 2+	0	0
INFLAMMATION.	0	0	1 4+	0	0
PAPILLARY HYPERPLASIA.	0	0	0	1 2+	0
SPLEEN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	8	9	26	9	12
AMYLOID.	30 1+ - 4+	32 1+ - 4+	17 1+ - 4+	31 1+ - 4+	25 1+ - 4+
AUTOLYZED.	2	6	3	7	9
THROMBOSIS.	1	0	0	0	0
FOLLICULAR HYPERPLASIA.	1 3+	0	0	0	0
RETICULUM CELL HYPERPLASIA.	1 3+	0	0	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	0	0
CYST(S).	1	0	0	0	1
EXTRAMEDULLARY HEMATOPOIESIS.	8 1+ - 4+	1 3+	1 3+	5 3+	5 3+ - 4+
HEMOSIDEROSIS.	1 1+	0	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 7
SPLEEN (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
HEMORRHAGE.	1	0	0	0	0
MISSING.	0	2	1	1	1
HYPERPLASIA.	0	1 3+	3 3+	0	0
HEMANGIOECTASIS.	0	0	1 3+	0	0
PLASMOCYTOMA.	0	0	1	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
PANCREAS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	33	32	40	29	35
AUTOLYZED.	13	14	9	14	12
CYST(S).	1	1	0	0	0
ATROPHY.	1 2+	0	0	2 3+	0
NOT PRESENT IN SECTION.	0	1	0	0	0
PAPILLARY HYPERPLASIA.	0	1 2+	0	0	0
DUCTAL ECTASIA.	0	1 1+	0	0	0
MISSING.	0	0	1	1	0
HEPATOCELLULAR DIFFERENTIATION.	0	0	0	3 3+ - 4+	1 3+
AMYLOID.	0	0	0	0	1 3+
HYPERPLASIA.	0	0	0	0	1 1+
HEART					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	23	30	34	24	31
NO SIGNIFICANT LESION RECOGNIZED.	5	3	8	4	4
MISSING.	2	0	0	0	0
AUTOLYZED.	1	4	1	3	3
THROMBOSIS.	12	9	5	13	11
MURAL THROMBOSIS.	2	5	0	1	1
MINERALIZATION.	1 3+	0	0	1 4+	0
MYOCARDIOPATHY.	3 2+ - 4+	3 2+ - 3+	0	2 4+	1 2+
INFLAMMATION.	0	1 3+	0	0	0
CARCINOMA.	0	0	1	0	0
NEOPLASM, (N.O.S.).	0	0	1	0	0
AMYLOID.	0	0	0	1 4+	0
KIDNEYS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	1	5	18	5	4
AMYLOID.	40 1+ - 4+	37 1+ - 4+	22 2+ - 4+	38 2+ - 4+	33 2+ - 4+
AUTOLYZED.	2	4	2	4	8
GLOMERULAR NEPHROSIS.	18 1+ - 4+	9 1+ - 4+	7 1+ - 3+	5 2+ - 4+	9 2+ - 3+
MINERALIZATION.	8 1+ - 3+	0	0	3 1+ - 2+	0
CHRONIC INTERSTITIAL NEPHRITIS.	1 2+	1 3+	0	0	0
INFARCT.	1	0	1	0	1
INFLAMMATION.	0	1 3+	1 4+	0	1 3+
PYELONEPHRITIS.	0	1 3+	0	0	0
CARCINOMA, METASTATIC.	0	0	1	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
KIDNEYS (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
PLASMACYTOSIS,	0	0	0	1 2+	0
NEPHROPATHY, CHRONIC.	0	0	0	0	1 3+
URINARY BLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	39	38	38	40
NO SIGNIFICANT LESION RECOGNIZED.	4	8	8	7	9
AUTOLYZED.	5	3	3	3	0
VACUOLATION.	1 1+	0	0	0	0
HYPERPLASIA.	0	0	1 3+	0	0
INFLAMMATION.	0	0	1 3+	0	0
MISSING.	0	0	0	0	1
OVARIES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	32	37	40	38	35
NO SIGNIFICANT LESION RECOGNIZED.	9	10	10	9	11
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	1	0	0	1	2
CYST(S).	4	1	0	0	2
THECA CELL TUMOR.	1	0	0	0	0
HYPERPLASIA.	0	1	0	0	0
PLASMACYTOMA.	0	1	0	0	0
UTERUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	37	37	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	8	7	8	9	8
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	2	3	0	1	0
HYPERPLASIA.	0	2 3+	1 3+	0	0
FIBROMA.	0	1	0	0	0
PAPILLARY HYPERPLASIA.	0	0	1 3+	0	2 3+
STERNUM & RIB JUNCTION					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	37	40	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
AUTOLYZED.	1	0	0	0	0
FEMUR & BONE MARROW					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	40	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
NASAL CAVITY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	38	40	40	38	40
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
OTHER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NOT REQUIRED.	47	49	47	47	50

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 6	GROUP 7
OTHER (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[50]
NO SIGNIFICANT LESION RECOGNIZED.	1	2	0	1	0
(CERVICAL LYMPH NODE), NO					
SIGNIFICANT LESIONS RECOGNIZED.	1	0	0	0	0
(RENAL LYMPH NODE), PLASMACYTOMA.	0	1	0	0	0
(LARGE INTESTINE), PLASMACYTOMA.	0	1	0	0	0
(LARGE INTESTINE), NO SIGNIFICANT					
LESION RECOGNIZED.	0	0	1	0	0
(SMALL INTESTINE), NO SIGNIFICANT					
LESION RECOGNIZED.	0	0	1	0	0
(MEDIASTINUM), CARCINOMA.	0	0	1	0	0
(RENAL LYMPH NODE),					
MALIGNANT LYMPHOMA.	0	0	1	0	0
(SUBLUMBAR LYMPH NODE),					
MALIGNANT LYMPHOMA.	0	0	1	0	0
(ABDOMINAL CAVITY), MESOTHELIOMA,					
GENERALIZED.	0	0	0	1	0

KEY TO GROUP IDENTIFICATION

<u>GROUP NUMBER</u>	<u>TREATMENT</u>	<u>DOSE LEVEL (mg/0.2 ml distilled water)</u>
1	Vehicle Control	--
2	Ferric Oxide Control (Fe_2O_3 + Vehicle)	3.0
3	Positive Control (BaP + Fe_2O_3)	3.0 + 3.0
8	Furan	5.0
9	Furan	10.0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
SKIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	8	10	10
INFLAMMATION.	2 3+ - 4+	0	0	0	0
AUTOLYZED.	0	0	1	0	0
ACARIASIS.	0	0	1	0	0
SKIN/MAMMARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
NOT PRESENT IN SECTION.	3	0	0	0	0
THIGH MUSCLE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	37	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	10	10	10
SALIVARY GLAND					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	36	39	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	8
AUTOLYZED.	1	0	1	0	2
NOT PRESENT IN SECTION.	0	1	0	0	0
MANDIBULAR LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	36	39	37	40	39
NO SIGNIFICANT LESION RECOGNIZED.	4	5	5	8	4
MISSING.	4	3	3	0	0
HYPERPLASIA.	2 3+ - 4+	1 3+	1 4+	1	0
AMYLOID.	0	1 2+	0	0	0
INFLAMMATION.	0	1 4+	0	0	1 3+
AUTOLYZED.	0	0	1	0	2
SARCOMA.	0	0	1	0	0
PLASMACYTOSIS.	0	0	0	1 3+	0
PIGMENT.	0	0	0	0	1 3+
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	0	0	1
RETICULUM CELL HYPERPLASIA.	0	0	0	0	1 3+
SCIATIC NERVE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	37	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	10	10	10
BRAIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	36	40	38	39	37
NO SIGNIFICANT LESION RECOGNIZED.	11	9	8	9	7
AUTOLYZED.	1	0	2	1	3
MINERALIZATION.	0	1 3+	0	0	1 1+
AMYLOID.	0	0	0	1 2+	0
MISSING.	0	0	0	0	1

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
PITUITARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	30	25	35	20	22
AUTOLYZED.	3	2	4	3	6
MISSING.	6	5	1	3	6
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	9	18	7	21	15
NOT PRESENT IN SECTION.	0	0	1	2	0
CYST(S).	0	0	0	1	0
ADRENALS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	9	9	26	8	11
AUTOLYZED.	7	3	7	7	7
INFLAMMATION.	1	4+	0	0	0
AMYLOID.	14	2+	2	2+	19
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	8	6	2	5	6
HYPERPLASIA.	12	1+	5	1+	13
CORTICAL CELL HYPERPLASIA.	3	1+	3	1+	0
MEDULLARY CELL HYPERPLASIA.	4	2+	0	0	1
CYST(S).	1	0	0	0	1+
ADENOMA.	9	7	1	4	6
MISSING.	0	1	0	0	1
PHEOCHROMOCYTOMA.	0	2	0	0	0
CORTICAL ADENOMA.	0	1	1	0	0
CARCINOMA.	0	0	1	0	1
EXTRAMEDULLARY HEMATOPOIESIS.	0	0	0	1	0
THYMUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	18	18	29	18	9
AUTOLYZED.	4	3	5	2	6
NOT PRESENT IN SECTION.	15	18	6	13	28
MISSING.	5	8	5	9	4
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	2	1	1	3	0
CYST(S).	2	1	2	2	1
INVOLUTED.	2	1	0	0	0
PIGMENT.	0	0	0	3	0
EOSINOPHILIC MASS(ES).	0	0	0	0	1
STOMACH					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	32	38	37	37	36
NO SIGNIFICANT LESION RECOGNIZED.	9	10	3	10	10
AUTOLYZED.	4	1	3	0	2
INFLAMMATION.	2	2+	0	0	0
PIGMENT.	1	1	0	0	1
MINERALIZATION.	1	3+	0	0	0
CYST(S).	0	0	1	0	0
PAPILLOMA.	0	0	3	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
STOMACH (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
MUCOSAL ATYPIC.	0	0	1	0	0
NECROSIS.	0	0	1 4+	0	0
DYSKERATOSIS.	0	0	0	1 4+	0
INTUSSUSCEPTION.	0	0	0	1	0
(MASS), MISSING.	0	0	0	1	0
DUODENUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	37	38	38	39
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	10	7
AUTOLYZED.	4	3	3	1	2
CONGESTION.	0	0	0	1 4+	0
INFLAMMATION.	0	0	0	0	1 4+
JEJUNUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	39	38	39	38
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
AUTOLYZED.	3	1	0	0	1
INTUSSUSCEPTION.	0	0	0	1	0
CECUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	33	36	38	37	34
NO SIGNIFICANT LESION RECOGNIZED.	8	10	7	11	8
AUTOLYZED.	3	3	3	0	4
INFLAMMATION.	4 3+	1	0	2 4+	2 4+
CONGESTION.	0	0	0	0	1 3+
COLON					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	36	37	36	38
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	11	6
AUTOLYZED.	4	3	3	3	3
INFLAMMATION.	1 4+	0	1 4+	0	1 2+
MISSING.	0	1	0	0	0
AMYLOID.	0	0	0	0	2 1+
RECTUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	36	38	39	39
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	10	6
AUTOLYZED.	4	3	3	1	4
MISSING.	0	1	0	0	0
MESENTERIC LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	37	38	36	38
NO SIGNIFICANT LESION RECOGNIZED.	4	4	2	8	6
AUTOLYZED.	4	1	1	2	3
AMYLOID.	1 4+	0	0	0	1
MISSING.	3	4	5	2	0 3+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
MESENTERIC LYMPH NODE (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
HYPERPLASIA.	3 3+ - 4+	0	1 4+	0	0
INFLAMMATION.	0	1 4+	0	1 4+	1 3+
MUCOSAL ECTOPIA.	0	1	0	0	0
LEUKEMIA/LYMPHOMA.	0	2	0	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	1	0	0
RETICULUM CELL HYPERPLASIA.	0	0	0	1 3+	0
ILEUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	36	38	39	39
NO SIGNIFICANT LESION RECOGNIZED.	7	10	7	10	8
AUTOLYZED.	4	3	3	1	2
MISSING.	0	1	0	0	0
LARYNX					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	42	44	15	46	43
AUTOLYZED.	3	3	3	2	5
INFLAMMATION.	1 1+	1	1	0	0
PAPILLOMA.	1	1	0	0	0
MYOPATHY.	1 3+	0	0	0	0
CARCINOMA.	0	1	12	0	0
MISSING.	0	0	1	2	0
HYPERPLASIA.	0	0	11 2+ - 4+	0	1
ADENOMA.	0	0	1	0	0
METAPLASIA.	0	0	4 1+ - 3+	0	0
MUCOSAL ATYPIA.	0	0	5 2+ - 3+	0	0
TRACHEA					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	45	45	20	48	44
AUTOLYZED.	3	3	3	2	5
INFLAMMATION.	0	1	3 2+	0	0
CARCINOMA.	0	1	10	0	0
MISSING.	0	0	1	0	0
HYPERPLASIA.	0	0	8 2+ - 4+	0	0
METAPLASIA.	0	0	3 2+ - 3+	0	0
DYSKERATOSIS.	0	0	1	0	0
EOSINOPHILIC MASS(ES).	0	0	1	0	0
THYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	15	29	29	19	14
AUTOLYZED.	5	5	6	5	7
AMYLOID.	16 2+ - 4+	10 2+ - 3+	0	10 1+ - 3+	13 1+ - 4+
NOT PRESENT IN SECTION.	2	0	3	0	1
MISSING.	1	1	3	1	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	3	0	1	0	2

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
HYROID (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
CYST(S).	10	8	5	14	14
FOLLICULAR HYPERPLASIA.	0	1 2+	0	0	0
HYPERPLASIA.	0	0	1 1+	3 1+	1 1+
CARCINOMA.	0	0	0	1	0
ADENOMA.	0	0	0	1	1
PAPILLARY ADENOMA.	0	0	0	0	1
BRATHYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	31	35	21	36	32
AUTOLYZED.	4	5	4	6	7
NOT PRESENT IN SECTION.	8	6	18	2	5
MISSING.	1	1	2	1	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	0	0	0	1
HYPERPLASIA.	1	2 1+	3 2+ - 3+	4	3 1+
ADENOMA.	1	0	0	1	0
CYST(S).	0	1	0	0	0
AMYLOID.	0	0	0	0	1 1+
OPHAGUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	45	47	39	44	43
AUTOLYZED.	3	2	3	6	6
HYPERPLASIA.	0	1 3+	1 3+	0	0
MISSING.	0	0	2	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	1	0	0
INFLAMMATION.	0	0	1	0	0
METAPLASIA.	0	0	1 2+	0	0
HYPERKERATOSIS.	0	0	1	0	0
NG					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	11	1	0	0	0
AUTOLYZED.	1	1	3	2	6
INFLAMMATION.	2 2+ - 4+	2 2+ - 4+	1 4+	0	1 4+
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	16 1+ - 3+	37 1+ - 3+	22 1+ - 4+	47 1+ - 3+	42 1+ - 4+
PIGMENT.	4 2+ - 3+	47 1+ - 3+	45 1+ - 4+	48 1+ - 3+	46 1+ - 4+
PNEUMOLITHIASIS.	5 1+ - 2+	0	0	0	0
CONGESTION.	8 1+ - 4+	2 3+	2 4+	8 3+ - 4+	8 2+ - 4+
HEMORRHAGE.	6 1+ - 3+	1 2+	1 4+	2 3+ - 4+	1 2+
HISTIOCYTOSIS.	5 2+ - 3+	5 3+ - 4+	0	7 2+ - 4+	3 3+
FIBROSIS.	8 1+ - 2+	3 1+ - 2+	1 1+	4 1+ - 3+	6 1+ - 2+
ALVEOLAR/BRONCHIOLAR CELL ADENOMA.	1	0	1	1	0
ATELECTASIS.	1 3+	1 3+	3 3+	14 2+ - 4+	14 2+ - 3+
EOSINOPHILIC MASS(ES).	2	1	1	6 3+ - 4+	14
ADENOMA.	0	2	2	0	0
CARCINOMA, METASTATIC.	0	1	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
LUNG (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
CARCINOMA.	0	1	23	0	0
BRONCHOPNEUMONIA.	0	0	7 3+ - 4+	0	0
PNEUMONITIS.	0	0	6 1+ - 4+	0	0
METAPLASIA.	0	0	1 4+	0	1
ADENOMATOSIS.	0	0	1 2+	0	0
ALVEOLAR/BRONCHIOLAR CELL CARCINOMA.	0	0	5	0	0
NECROSIS.	0	0	3 4+	0	0
HEMOSIDEROSIS.	0	0	3 4+	0	0
BRONCHITIS.	0	0	1 4+	0	0
EMPHYSEMA.	0	0	1 4+	1 2+	1 4+
AMYLOID.	0	0	0	1 2+	0
PAPILLARY HYPERPLASIA.	0	0	0	0	1 1+
SARCOMA, METASTATIC.	0	0	0	0	1
BRONCHIAL LYMPH NODES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	16	4	2	6	7
AUTOLYZED.	2	1	2	2	4
AMYLOID.	1 3+	0	0	0	0
NOT PRESENT IN SECTION.	9	8	1	9	16
PIGMENT.	6 2+ - 3+	25 1+ - 4+	32 1+ - 4+	20 1+ - 4+	19 2+ - 4+
MISSING.	10	9	11	11	3
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	2	3	1	1	0
HYPERPLASIA.	2 4+	0	2 4+	2 3+	0
LYMPHOID HYPERPLASIA.	1	0	0	0	0
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	0	1 1+	0	1 1+	1 3+
CARCINOMA.	0	0	2	0	0
INFLAMMATION.	0	0	1 3+	0	0
SARCOMA.	0	0	1	0	0
CONGESTION.	0	0	0	2 3+	1 4+
RETICULUM CELL HYPERPLASIA.	0	0	0	1 3+	0
ERYTHROPHAGOCYTOSIS.	0	0	0	0	1
MAINSTEM BRONCHI					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	22	44	44
AUTOLYZED.	2	3	3	2	5
MISSING.	2	0	4	1	0
INFLAMMATION.	0	1	1	0	0
CARCINOMA.	0	1	5	0	0
HYPERPLASIA.	0	0	9 3+ - 4+	0	0
NOT PRESENT IN SECTION.	0	0	2	1	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	1	1	0
METAPLASIA.	0	0	2	0	0
DYSKERATOSIS.	0	0	1	0	0
CARCINOMA, SQUAMOUS.	0	0	1	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
MAINSTEM BRONCHI (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
PIGMENT.	0	0	0	1 2+	0
LIVER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	19	18	23	17	13
AUTOLYZED.	7	5	11	8	10
INFLAMMATION.	3 3+	2 3+	0	0	0
AMYLOID.	16 2+ - 4+	17 1+ - 4+	1 3+	18 2+ - 4+	15 3+ - 4+
PIGMENT.	1 4+	0	0	0	1 2+
BILE DUCT HYPERPLASIA.	1 1+	0	0	0	0
CONGESTION.	2 3+ - 4+	5 3+ - 4+	8 3+ - 4+	4 4+	11 3+ - 4+
KARYOMEGALY.	1 3+	0	0	0	0
HYPERTROPHY.	1 3+	0	0	0	0
EXTRAMEDULLARY HEMATOPOIESIS.	1 2+	0	0	1 3+	1 2+
CYST(S).	2	11	0	7	7
CLEAR CELL FOCUS/FOCI.	1	1	1	3	2
HEMANGIOMA.	1	0	0	0	0
HEPATOCELLULAR CYSTIC DEGENERATION.	1 3+	1 1+	0	1 3+	0
HEMOSIDEROSIS.	1 2+	0	0	0	0
HEMORRHAGE.	0	1 4+	0	0	0
NECROSIS.	0	4 1+ - 4+	2 1+ - 4+	3 4+	2 3+ - 4+
HYPERPLASIA.	0	0	1	0	0
HEPATITIS.	0	0	1 4+	0	0
SARCOMA.	0	0	1	0	0
CARCINOMA.	0	0	0	1	0
HEMANGIECTASIS.	0	0	0	1 2+	0
LYMPHOCYTOSIS.	0	0	0	1 2+	0
HEPATOCELLULAR VACUOLATION.	0	0	0	0	1 2+
CHOLANGIOMA.	0	0	0	0	1
GALLBLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	33	37	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	6	11	1	8	5
AUTOLYZED.	7	2	9	2	4
MISSING.	1	0	0	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	0	1
PAPILLARY HYPERPLASIA.	0	0	1 4+	0	0
SPLEEN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	28	29	26	26	26
AUTOLYZED.	4	7	10	6	9
AMYLOID.	11 2+ - 4+	10 2+ - 4+	0	9 1+ - 4+	8 2+ - 4+
MISSING.	3	0	3	1	0
CONGESTION.	1 4+	1 3+	1 3+	5 3+	2 3+ - 4+
EXTRAMEDULLARY HEMATOPOIESIS.	1 3+	2 3+ - 4+	2 4+	3 4+	4 3+ - 4+
HEMOSIDEROSIS.	0	1 3+	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
SPLEEN (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
HYPERPLASIA.	0	0	3 3+ - 4+	0	0
PANCREAS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	31	34	34	33	29
AUTOLYZED.	10	11	12	9	14
MISSING.	4	2	1	1	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	0	0	0	0
DUCTAL ECTASIA.	2 2+	3 2+	0	2 1+	3 1+ - 3+
CYST(S).	0	0	1	0	0
AMYLOID.	0	0	0	2 2+ - 3+	0
HYPERPLASIA.	0	0	0	1 1+	1 4+
CONGESTION.	0	0	0	1 3+	1 4+
HEPATOCELLULAR REGENERATION.	0	0	0	1 3+	0
ATROPHY.	0	0	0	0	1 2+
HEART					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	32	28	0	40	36
NO SIGNIFICANT LESION RECOGNIZED.	8	13	31	5	5
AUTOLYZED.	4	3	10	0	4
THROMBOSIS.	3	2	1	4	2
MYOCARDIOPATHY.	2 3+	4 3+ - 4+	2 1+ - 2+	0	2 2+ - 3+
MURAL THROMBOSIS.	0	1	0	0	0
INFLAMMATION.	0	0	1 4+	0	0
MINERALIZATION.	0	0	2 3+	0	0
TUMOR EMBOLUS.	0	0	1	0	0
AMYLOID.	0	0	0	1 1+	0
KIDNEYS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	5	10	28	5	1
AUTOLYZED.	4	4	10	8	9
AMYLOID.	20 2+ - 4+	21 2+ - 4+	0	17 2+ - 4+	23 2+ - 4+
GLOMERULAR NEPHROSIS.	29 1+ - 4+	21 1+ - 4+	10 2+ - 4+	31 2+ - 4+	32 1+ - 4+
HYPERPLASIA.	1 2+	0	0	0	0
PYELONEPHRITIS.	1 4+	0	0	0	0
MINERALIZATION.	2 3+	0	0	0	0
CARCINOMA.	0	1	0	1	0
THROMBOSIS.	0	0	1 3+	0	0
ADENOMA.	0	0	0	1	0
INFARCT.	0	0	0	0	1
URINARY BLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	9	10	6	8	7
AUTOLYZED.	4	0	3	0	4
HEMORRHAGE.	1 3+	0	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
URINARY BLADDER (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
MISSING.	0	0	1	0	0
ATYPICAL EPITHELIAL HYPERPLASIA.	0	0	0	1 1+	0
ATYPICAL EPITHELIAL HYPERPLASIA.	0	0	0	1 1+	0
PROSTATE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	10	4
AUTOLYZED.	3	0	1	0	2
INFLAMMATION.	1 3+	0	0	0	1 2+
MISSING.	4	3	5	0	3
MINERALIZATION.	1 4+	0	0	0	0
TESTES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	28	30	37	32	35
NO SIGNIFICANT LESION RECOGNIZED.	8	8	5	8	6
AUTOLYZED.	3	1	1	1	2
HYOSPERMIA.	2	0	0	0	0
OLIGOSPERMIA.	7	9 3+	5 3+	7	4
AMYLLOID.	0	1 3+	0	0	0
NECROSIS.	0	1	0	0	0
ATROPHY.	0	1	0	0	2 4+
DEGENERATION.	0	1	1 3+	1 4+	0
MISSING.	0	0	0	1	0
SEMINAL VESICLES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	40	37	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	7
AUTOLYZED.	3	0	1	0	2
(EPIDIDYMIS), INFLAMMATION.	0	0	1 4+	0	0
MISSING.	0	0	0	0	1
STERNUM & RIB JUNCTION					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	11	10	6	9	7
AUTOLYZED.	2	0	1	0	2
MISSING.	0	0	1	0	0
SARCOMA.	0	0	1	1	0
HYPOPLASIA.	0	0	1 4+	0	1 4+
FEMUR & BONE MARROW					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10
AUTOLYZED.	2	0	1	0	0
NASAL CAVITY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	39

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
NASAL CAVITY (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10
AUTOLYZED.	2	0	1	0	0
OTHER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	45	50	47	50	44
(LARGE INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	1	0	0	0	0
(SMALL INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	1	0	0	0	1
(LARGE INTESTINE), MISSING.	1	0	0	0	0
(RENAL LYMPH NODE), NOT PRESENT IN SECTION.	1	0	0	0	0
(VISCERAL PLEURA), HYPERPLASIA.	0	0	1	0	0
(MASS), FAT NECROSIS.	0	0	0	0	1
(MASS), SARCOMA.	0	0	0	0	1
(VERTEBRAE), OSTEOGENIC SARCOMA.	0	0	0	0	1
(PERITONEUM), INFLAMMATION.	0	0	0	0	1 4+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
SKIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	37	40	38	38	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	9
INFLAMMATION.	1	0	1	0	1
THROMBOSIS.	0	0	1	0	0
4+					4+
SKIN/MAMMARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	37	40	40	38	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
MISSING.	1	0	0	0	0
THIGH MUSCLE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	40	40	38	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
SALIVARY GLAND					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	40	40	38	36
NO SIGNIFICANT LESION RECOGNIZED.	8	10	9	9	10
AUTOLYZED.	2	0	1	1	1
MANDIBULAR LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	37	39	39	35	36
NO SIGNIFICANT LESION RECOGNIZED.	5	5	7	4	4
AUTOLYZED.	4	3	2	7	4
HYPERPLASIA.	1	1	0	0	0
4+					
RETICULUM CELL HYPERPLASIA.	1	0	0	0	0
2+					
LYMPHOID HYPERPLASIA.	1	0	0	1	0
3+					
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	1	0	0	0
NECROSIS.	0	1	0	0	0
2+					
PLASMACYTOMA.	0	0	1	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
FOLLICULAR HYPERPLASIA.	0	0	0	1	0
3+					
MISSING.	0	0	0	0	2
CORTICAL ADENOMA.	0	0	0	0	1
SCIATIC NERVE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	40	40	38	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
BRAIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	39	40	34	37
NO SIGNIFICANT LESION RECOGNIZED.	8	6	8	10	9
AUTOLYZED.	1	2	2	4	0
NEURONAL VACUOLATION.	1	0	0	0	0
3+					
AMYLOID.	0	1	0	0	0
2+					
MINERALIZATION.	0	3	1+	0	1
1+					

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
PITUITARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	21	28	33	19	20
AMYLOID.	2 2+	0	0	0	0
MISSING.	6	1	0	7	3
AUTOLYZED.	2	4	2	6	4
INSUFFICIENT TISSUE PRESENT IN SECTION.	18	15	13	14	19
CORTICAL ADENOMA.	1	0	0	0	0
NOT REQUIRED.	0	1	0	0	0
NOT PRESENT IN SECTION.	0	1	1	1	1
CYST(S).	0	0	1	0	0
INFLAMMATION.	0	0	0	1 4+	0
ADRENALS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	4	9	23	5	3
AMYLOID.	39 1+ - 4+	35 2+ - 4+	18 2+ - 3+	30 2+ - 4+	37 2+ - 4+
MISSING.	1	0	0	1	0
AUTOLYZED.	2	3	2	8	7
HYPERPLASIA.	7	5	2	7	12
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	0	4	6	1
CYST(S).	4	0	3	1	0
CORTICAL ADENOMA.	2	5	2	2	0
EXTRAMEDULLARY HEMATOPOIESIS.	1 2+	0	0	0	0
CORTICAL CELL HYPERPLASIA.	1 2+	1	4 1+	0	0
ADENOMA.	0	3	0	0	0
MEDULLARY CELL HYPERPLASIA.	0	0	0	1 1+	1 2+
THYMUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	18	18	27	18	10
MISSING.	20	23	11	13	21
NOT PRESENT IN SECTION.	3	2	6	6	9
AUTOLYZED.	2	4	1	7	5
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	2	3	3	1
INVOLUTED.	2	0	0	1	0
HEMOSIDEROSIS.	1 1+	0	0	0	1
PLASMACYTOMA.	0	1	0	0	0
LEUKEMIA/LYMPHOMA.	0	0	1	0	0
MEDULLARY CELL HYPERPLASIA.	0	0	1 3+	0	0
STOMACH					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	34	37	36	36	34
NO SIGNIFICANT LESION RECOGNIZED.	6	7	5	5	8
AUTOLYZED.	5	5	6	7	4
PAPILLOMA.	1	0	2	0	0
PIGMENT.	2	1	1	0	1

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
DUODENUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	38	38	35	35
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	5	8
AUTOLYZED.	5	5	7	8	4
NECROSIS.	0	0	1 4+	0	0
HEMORRHAGE.	0	0	1 2+	0	0
JEJUNUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	39	40	38	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
AUTOLYZED.	0	1	0	0	0
CECUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	35	36	39	33	32
NO SIGNIFICANT LESION RECOGNIZED.	4	5	4	5	8
AUTOLYZED.	6	4	6	7	6
INFLAMMATION.	2 4+	4 3+ - 4+	1 4+	2	1
LYMPHOID HYPERPLASIA.	1 3+	0	0	0	0
AMYLOID.	0	1 2+	0	0	0
NECROSIS.	0	1 4+	0	0	0
HEMOSIDEROSIS.	0	0	0	1 3+	0
COLON					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	37	37	40	35	34
NO SIGNIFICANT LESION RECOGNIZED.	4	5	4	5	8
AUTOLYZED.	5	5	6	8	5
INTUSSUSCEPTION.	1	0	0	0	0
CARCINOMA.	1	0	0	0	0
AMYLOID.	0	1 2+	0	0	0
INFLAMMATION.	0	2 4+	0	0	0
RECTUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	39	40	35	33
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	5	8
AUTOLYZED.	5	4	6	8	6
MESENTERIC LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	34	33	38	31	33
NO SIGNIFICANT LESION RECOGNIZED.	5	6	5	1	6
CONGESTION.	1 2+	0	0	0	0
MISSING.	1	1	2	4	0
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	3	5	2	6	5
INFLAMMATION.	1 3+	2 4+	0	1 4+	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	0	0
HEMORRHAGE.	1 3+	0	0	0	0
LYMPHOID HYPERPLASIA.	1	0	0	2	1 4+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
MESENTERIC LYMPH NODE (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
HISTIOCYTOSIS.	0	1 1+	0	0	0
RETICULUM CELL HYPERPLASIA.	0	1	0	1	1
PLASMACYTOMA.	0	1	0	0	0
FOLLICULAR HYPERPLASIA.	0	0	1 3+	1 3+	0
HEMOSIDEROSIS.	0	0	1 3+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
PLASMACYTOSIS.	0	0	0	1 3+	0
HYPERPLASIA.	0	0	0	0	1
AMYLOID.	0	0	0	0	1 3+
ILEUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	39	40	35	33
NO SIGNIFICANT LESION RECOGNIZED.	5	8	4	4	8
AUTOLYZED.	5	3	6	8	6
INFLAMMATION.	0	0	0	1 2+	0
LARYNX					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	34	34	37
MISSING.	1	0	0	0	0
AUTOLYZED.	2	5	1	14	10
INFLAMMATION.	1 2+	0	0	0	0
HYPERPLASIA.	0	0	9 2+ - 3+	0	0
CARCINOMA.	0	0	4	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	1	0	0
ATYPICAL EPITHELIAL HYPERPLASIA.	0	0	1 3+	0	0
TRACHEA					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	30	34	37
MISSING.	1	0	0	0	0
AUTOLYZED.	2	5	1	14	10
INFLAMMATION.	1 2+	0	0	0	0
HYPERPLASIA.	0	0	5 2+ - 3+	0	0
CARCINOMA.	0	0	13	0	0
FIBROSIS.	0	0	1	0	0
THYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	13	9	26	15	3
AMYLOID.	30 1+ - 4+	33 1+ - 4+	10 2+ - 3+	16 2+ - 4+	34 1+ - 4+
MISSING.	1	0	1	0	0
AUTOLYZED.	2	4	4	14	6
CYST(S).	7	10	7	2	5
ATROPHY.	1 1+	0	0	0	0
FOLLICULAR CELL ADENOMA.	1	0	0	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	1	0	0	1

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
THYROID (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT PRESENT IN SECTION.	0	0	2	0	0
CARCINOMA, METASTATIC.	0	0	2	0	0
HYPERPLASIA,	0	0	0	1 3+	0
ADENOMA.	0	0	0	1	2
PARATHYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	25	31	32	26	23
MISSING.	1	1	2	0	0
NOT PRESENT IN SECTION.	9	6	7	6	3
AUTOLYZED.	2	5	3	13	12
HYPERPLASIA.	1	3 2+	5 2+	2 2+ - 3+	6 1+ - 2+
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	2	1	1	1
CYST(S).	3	1	0	0	0
ADENOMA.	7	1	0	0	2
ESOPHAGUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	45	46	46	34	38
MISSING.	1	0	0	0	0
AUTOLYZED.	2	3	1	14	9
INFLAMMATION.	0	1 4+	0	0	0
AMYLOID.	0	0	1 2+	0	0
HYPERPLASIA.	0	0	1 3+	0	0
CARCINOMA.	0	0	1	0	0
LUNG					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	17	1	0	0	0
CONGESTION.	5 2+ - 4+	0	0	0	1 3+
AUTOLYZED.	2	2	1	5	8
HISTIOCYTOSIS.	10 2+ - 4+	12 2+ - 4+	6 3+ - 4+	11 3+ - 4+	7 3+ - 4+
INFLAMMATION.	4 3+ - 4+	2 4+	1 3+	1 4+	0
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	9 1+ - 2+	32 1+ - 3+	27 1+ - 4+	44 1+ - 3+	40 2+ - 4+
ADENOMA.	1	0	1	0	0
ATELECTASIS.	3 2+ - 4+	5 2+ - 3+	1 2+	1 4+	1 3+
FIBROSIS.	4 1+ - 2+	2 1+	0	0	0
HEMOSIDEROSIS.	1 1+	0	0	0	0
LEUKOSTASIS.	1	0	0	0	0
PNEUMOLITHIASIS.	1 1+	0	0	0	0
EOSINOPHILIC MASS(ES).	1	0	0	3 2+	30 1+ - 3+
AMYLOID.	0	2 2+ - 4+	1 2+	4 2+ - 3+	3 3+ - 4+
PIGMENT.	0	45 1+ - 3+	45 1+ - 4+	42 1+ - 3+	45 2+ - 4+
CARCINOMA.	0	1	25	0	0
ADENOMATOSIS.	0	1 3+	3 2+	4 2+ - 3+	3 3+ - 4+
HEMORRHAGE.	0	1 3+	0	1 2+	2 3+
PLASMACYTOMA.	0	1	0	0	0
ALVEOLAR/BRONCHIOLAR CELL CARCINOMA.	0	0	9	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
LUNG (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
PNEUMONITIS.	0	0	2 3+	0	0
BRONCHIAL PNEUMONIA.	0	0	1 4+	0	0
ALVEOLAR/BRONCHIOLAR CELL ADENOMA.	0	0	3	0	0
PNEUMONIA.	0	0	1 4+	0	0
BRONCHIOL EPITHELIAL HYPERPLASIA.	0	0	1 2+	0	0
BRONCHOPNEUMONIA.	0	0	3 3+ - 4+	0	0
NECROSIS.	0	0	1 4+	1 4+	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
INFARCT.	0	0	0	1	0
EMPHYSEMA.	0	0	0	1 2+	4 3+
CARCINOMA, METASTATIC.	0	0	0	1	0
SARCOMA, UNDIFFERENTIATED.	0	0	0	1	0
BRONCHIAL LYMPH NODES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	11	6	1	4	1
AMYLOID.	1 2+	0	2 2+ - 3+	0	3 2+ - 4+
CONGESTION.	1 4+	0	0	0	0
MISSING.	23	12	7	13	14
NOT PRESENT IN SECTION.	2	1	2	7	6
AUTOLYZED.	2	3	2	8	4
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	0	0	1	1
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	1 2+	0	1 2+	0	0
ERYTHROPHAGOCYTOSIS.	3 3+	1 3+	1 3+	0	1 2+
ATELECTASIS.	1 3+	0	0	0	0
HEMOSIDEROSIS.	2 1+ - 3+	0	0	0	0
HEMORRHAGE.	1 3+	0	0	0	0
PIGMENT.	0	28 1+ - 4+	37 1+ - 4+	15 1+ - 3+	20 1+ - 4+
HYPERPLASIA.	0	1 3+	2	1 4+	0
PLASMOCYTOSIS.	0	1 4+	0	0	0
PLASMOCYTOMA.	0	1	0	0	0
CARCINOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	1	0	0
LYMPHOID HYPERPLASIA.	0	0	1 3+	0	1 3+
MALIGNANT LYMPHOMA.	0	0	1	0	0
MAINSTEM BRONCHI					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	45	45	34	34	37
MISSING.	1	0	3	0	0
AUTOLYZED.	2	5	1	14	9
AMYLOID.	0	0	1 3+	0	0
HYPERPLASIA.	0	0	4 3+	0	0
CARCINOMA.	0	0	6	0	0
NOT PRESENT IN SECTION.	0	0	1	0	0
CYST(S).	0	0	0	0	1

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
LIVER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	2	7	12	3	1
AMYLOID.	42 1+ - 4+	33 1+ - 4+	22 1+ - 3+	29 1+ - 4+	39 2+ - 4+
CONGESTION.	2 2+ - 3+	5 3+ - 4+	4 3+ - 4+	5 3+ - 4+	4 3+ - 4+
AUTOLYZED.	2	9	6	17	10
HYPERPLASIA.	1 3+	0	0	0	1 2+
THROMBOSIS.	1	0	1	0	0
CYST(S).	15	19	11	12	8
EXTRAMEDULLARY HEMATOPOIESIS.	3 1+ - 3+	1 2+	1 3+	0	0
CLEAR CELL FOCUS/FOCI.	1 2+	2 1+	2 1+	2	2 3+
NECROSIS.	0	2 4+	0	0	2 3+
HEPATOCELLULAR VACUOLATION.	0	1 3+	1 3+	0	0
CHOLANGIOMA.	0	1	0	0	1
BILE DUCT HYPERPLASIA.	0	0	1 2+	0	0
HEPATOCELLULAR CYSTIC DEGENERATION.	0	0	1 3+	0	3 2+ - 3+
PLASMACYTOMA.	0	0	1	0	0
KARYOMEGALY.	0	0	1 2+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
GALLBLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	38	38	37	36
NO SIGNIFICANT LESION RECOGNIZED.	3	5	1	4	4
AUTOLYZED.	7	5	8	7	7
MISSING.	0	2	0	0	0
HYPERPLASIA.	0	0	1 2+	0	0
INFLAMMATION.	0	0	1 4+	0	0
SPLEEN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	8	9	26	8	6
AMYLOID.	30 1+ - 4+	32 1+ - 4+	17 1+ - 4+	27 1+ - 4+	31 2+ - 4+
AUTOLYZED.	2	6	3	12	10
THROMBOSIS.	1	0	0	0	0
FOLLICULAR HYPERPLASIA.	1 3+	0	0	0	0
RETICULUM CELL HYPERPLASIA.	1 3+	0	0	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	0	0	0	0
CYST(S).	1	0	0	0	0
EXTRAMEDULLARY HEMATOPOIESIS.	8 1+ - 4+	1 3+	1 3+	0	4 3+ - 4+
HEMOSIDEROSIS.	1 1+	0	0	0	0
HEMORRHAGE.	1	0	0	0	0
MISSING.	0	2	1	1	0
HYPERPLASIA.	0	1 3+	3 3+	0	0
HEMANGIOECTASIS.	0	0	1 3+	0	0
PLASMACYTOMA.	0	0	1	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
PANCREAS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	33	32	40	28	28

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
PANCREAS (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
AUTOLYZED.	13	14	9	17	19
CYST(S).	1	1	0	0	0
ATROPHY.	1 2+	0	0	0	0
NOT PRESENT IN SECTION.	0	1	0	0	0
PAPILLARY HYPERPLASIA.	0	1 2+	0	0	0
DUCTAL ECTASIA.	0	1 1+	0	2 1+ - 2+	0
MISSING.	0	0	1	0	0
HYPERPLASIA.	0	0	0	1 2+	0
HEART					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	23	30	34	30	29
NO SIGNIFICANT LESION RECOGNIZED.	5	3	8	3	7
MISSING.	2	0	0	0	0
AUTOLYZED.	1	4	1	4	3
THROMBOSIS.	12	9	5	9	6
MURAL THROMBOSIS.	2	5	0	1	2
MINERALIZATION.	1 3+	0	0	0	0
MYOCARDIOPATHY.	3 2+ - 4+	3 2+ - 3+	0	1 3+	0
INFLAMMATION.	0	1 3+	0	0	0
CARCINOMA.	0	0	1	0	0
NEOPLASM, (N.O.S.).	0	0	1	0	0
KIDNEYS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NO SIGNIFICANT LESION RECOGNIZED.	1	5	18	3	1
AMYLOID.	40 1+ - 4+	37 1+ - 4+	22 2+ - 4+	31 2+ - 4+	39 2+ - 4+
AUTOLYZED.	2	4	2	11	6
GLOMERULAR NEPHROSIS.	18 1+ - 4+	9 1+ - 4+	7 1+ - 3+	4 2+ - 4+	6 1+ - 3+
MINERALIZATION.	8 1+ - 3+	0	0	2 2+	4 1+ - 3+
CHRONIC INTERSTITIAL NEPHRITIS.	1 2+	1 3+	0	0	0
INFARCT.	1	0	1	1	0
INFLAMMATION.	0	1 3+	1 4+	1 4+	1 3+
PYELONEPHRITIS.	0	1 3+	0	0	0
CARCINOMA, METASTATIC.	0	0	1	1	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
SARCOMA, UNDIFFERENTIATED.	0	0	0	1	0
EOSINOPHILIC MASS(ES).	0	0	0	0	1
CYST(S).	0	0	0	0	2
URINARY BLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	39	38	38	36
NO SIGNIFICANT LESION RECOGNIZED.	4	8	8	6	8
AUTOLYZED.	5	3	3	4	3
VACUOLATION.	1 1+	0	0	0	0
HYPERPLASIA.	0	0	1 3+	0	0
INFLAMMATION.	0	0	1 3+	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 8	GROUP 9
OVARIES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	32	37	40	32	32
NO SIGNIFICANT LESION RECOGNIZED.	9	10	10	9	10
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	1	0	0	4	2
CYST(S).	4	1	0	1	1
THECA CELL TUMOR.	1	0	0	0	0
HYPERPLASIA.	0	1	0	0	0
PLASMACYTOMA.	0	1	0	0	0
GRANULOSA CELL TUMOR(S).	0	0	0	2	0
INFLAMMATION.	0	0	0	0	2 4+
UTERUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	37	37	40	38	33
NO SIGNIFICANT LESION RECOGNIZED.	8	7	8	9	11
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	2	3	0	0	2
HYPERPLASIA.	0	2 3+	1 3+	0	1 2+
FIBROMA.	0	1	0	0	0
PAPILLARY HYPERPLASIA.	0	0	1 3+	0	0
INFLAMMATION.	0	0	0	1	0
STERNUM & RIB JUNCTION					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	37	40	40	38	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	8	10
AUTOLYZED.	1	0	0	2	0
FEMUR & BONE MARROW					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	40	40	38	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
NASAL CAVITY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	38	40	40	38	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
OTHER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
NOT REQUIRED.	47	49	47	48	47
NO SIGNIFICANT LESION RECOGNIZED.	1	2	0	2	1
(CERVICAL LYMPH NODE), NO SIGNIFICANT LESIONS RECOGNIZED.	1	0	0	0	0
(RENAL LYMPH NODE), PLASMACYTOMA.	0	1	0	0	0
(LARGE INTESTINE), PLASMACYTOMA.	0	1	0	0	0
(LARGE INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	0	0	1	0	0
(SMALL INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	0	0	1	0	0
(MEDIASTINUM), CARCINOMA.	0	0	1	0	0
(RENAL LYMPH NODE), MALIGNANT LYMPHOMA.	0	0	1	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
 FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
OTHER (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[48]	[47]
(SUBLUMBAR LYMPH NODE),					
MALIGNANT LYMPHOMA.	0	0	1	0	0

KEY TO GROUP IDENTIFICATION

<u>GROUP NUMBER</u>	<u>TREATMENT</u>	<u>DOSE LEVEL (mg/0.2 ml distilled water)</u>
1	Vehicle Control	--
2	Ferric Oxide Control (Fe_2O_3 + Vehicle)	3.0
3	Positive Control (BaP + Fe_2O_3)	3.0 + 3.0
10	Urethane	2.5
11	Urethane	5.0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
SKIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	11	10	8	10	10
INFLAMMATION.	2 3+ - 4+	0	0	0	1 4+
AUTOLYZED.	0	0	1	0	0
ACARIASIS.	0	0	1	0	0
SKIN/MAMMARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
NOT PRESENT IN SECTION.	3	0	0	0	0
THIGH MUSCLE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	37	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	10	10	10
SALIVARY GLAND					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	36	39	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	11
AUTOLYZED.	1	0	1	0	0
NOT PRESENT IN SECTION.	0	1	0	0	0
MANDIBULAR LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	36	39	37	40	38
NO SIGNIFICANT LESION RECOGNIZED.	6	5	5	8	4
MISSING.	4	3	3	1	4
HYPERPLASIA.	2 3+ - 4+	1 3+	1 4+	1	2 3+
AMYLOID.	0	1 2+	0	0	0
INFLAMMATION.	0	1 4+	0	0	0
AUTOLYZED.	0	0	1	0	0
SARCOMA.	0	0	1	0	0
CORPORA AMYLACIA.	0	0	0	0	1 3+
SCIATIC NERVE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	37	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	10	10	10
BRAIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	36	40	38	39	38
NO SIGNIFICANT LESION RECOGNIZED.	11	9	8	9	10
AUTOLYZED.	1	0	2	1	1
MINERALIZATION.	0	1 3+	0	0	0
AMYLOID.	0	0	0	1 3+	0
PITUITARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	30	25	35	26	28
NO SIGNIFICANT LESION RECOGNIZED.	3	2	4	1	8
AUTOLYZED.	3	5	1	4	5
MISSING.					

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
PITUITARY (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
INSUFFICIENT TISSUE	9	18	7	17	8
PRESENT IN SECTION.	0	0	1	0	0
NOT PRESENT IN SECTION.	0	0	0	1 1+	0
HYPERPLASIA.	0	0	0	1 3+	0
VACUOLATION.	0	0	0		
ADRENALS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	9	9	26	11	4
AUTOLYZED.	7	3	7	1	5
INFLAMMATION.	1 4+	0	0	0	0
AMYLOID.	14 2+ - 4+	20 2+ - 4+	2 2+ - 4+	16 2+ - 4+	17 1+ - 4+
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	8	6	2	1	2
HYPERPLASIA.	12 1+ - 4+	19	5 1+	20 1+ - 3+	18
CORTICAL CELL HYPERPLASIA.	3 1+ - 2+	1	3 1+	1	3
MEDULLARY CELL HYPERPLASIA.	4 2+ - 3+	1 1+	0	0	0
CYST(S).	1	0	0	2	1
ADENOMA.	9	7	1	10	10
MISSING.	0	1	0	0	0
PHEOCHROMOCYTOMA.	0	2	0	0	0
CORTICAL ADENOMA.	0	1	1	0	0
CARCINOMA.	0	0	1	1	0
LIPIDOSIS.	0	0	0	0	1 3+
THYMUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	18	18	29	11	17
AUTOLYZED.	4	3	5	0	4
NOT PRESENT IN SECTION.	15	18	6	2	0
MISSING.	5	8	5	29	27
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	2	1	1	2	0
CYST(S).	2	1	2	2	0
INVOLUTED.	2	1	0	0	0
EOSINOPHILIC MASS(ES).	0	0	0	1	0
HEMORRHAGE.	0	0	0	1 3+	0
HYPERPLASIA.	0	0	0	1 3+	0
ERYTHROPHAGOCYTOSIS.	0	0	0	1 3+	0
AMYLOID.	0	0	0	1 3+	1 2+
STOMACH					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	32	38	37	37	37
NO SIGNIFICANT LESION RECOGNIZED.	9	10	3	10	10
AUTOLYZED.	4	1	3	2	1
INFLAMMATION.	2 2+ - 3+	0	0	0	0
PIGMENT.	1 2+	1	0	0	1
MINERALIZATION.	1 3+	0	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
STOMACH (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
CYST(S).	0	0	1	0	0
PAPILLOMA.	0	0	3	0	0
MUCOSAL ATYPIA.	0	0	1	0	0
NECROSIS.	0	0	1 4+	0	0
CARCINOMA.	0	0	0	1	0
DUODENUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	37	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	9	9
AUTOLYZED.	4	3	3	1	1
JEJUNUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	39	38	39	39
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	10
AUTOLYZED.	3	1	0	1	0
CECUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	33	36	38	33	38
NO SIGNIFICANT LESION RECOGNIZED.	8	10	7	10	9
AUTOLYZED.	3	3	3	4	2
INFLAMMATION.	4 3+	1	0	2 3+	1 4+
ERYTHROPHAGOCYTOSIS.	0	0	0	1 3+	0
NECROSIS.	0	0	0	1 3+	0
COLON					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	36	37	40	38
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	9	8
AUTOLYZED.	4	3	3	1	1
INFLAMMATION.	1 4+	0	1 4+	0	0
MISSING.	0	1	0	0	1
NECROSIS.	0	0	0	0	1 4+
RECTUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	36	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	9	8
AUTOLYZED.	4	3	3	1	1
MISSING.	0	1	0	0	1
MESENTERIC LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	37	38	38	39
NO SIGNIFICANT LESION RECOGNIZED.	4	4	2	7	4
AUTOLYZED.	4	1	1	0	0
AMYLOID.	1 4+	0	0	0	0
MISSING.	3	4	5	1	4
HYPERPLASIA.	3 3+ - 4+	0	1 4+	1	1 3+
INFLAMMATION.	0	1 4+	0	1 4+	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
MESENTERIC LYMPH NODE (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
MUCOSAL ECTOPIA.	0	1	0	0	0
LEUKEMIA/LYMPHOMA.	0	2	0	1	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	1	0	0
RETICULUM CELL HYPERPLASIA.	0	0	0	1 3+	1 3+
ILEUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	36	38	39	39
NO SIGNIFICANT LESION RECOGNIZED.	9	10	7	9	9
AUTOLYZED.	4	3	3	1	1
MISSING.	0	1	0	0	0
HEMORRHAGE.	0	0	0	1	0
LARYNX					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	42	44	15	47	40
AUTOLYZED.	3	3	3	1	6
INFLAMMATION.	1 1+	1	1	0	1 1+
PAPILLOMA.	1	1	0	0	0
MYOPATHY.	1 3+	0	0	0	0
CARCINOMA.	0	1	12	0	0
MISSING.	0	0	1	0	2
HYPERPLASIA.	0	0	11 2+ - 4+	0	0
ADENOMA.	0	0	1	0	0
METAPLASIA.	0	0	4 1+ - 3+	0	0
MUCOSAL ATYPIA.	0	0	5 2+ - 3+	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	0	1	0
DYSKERATOSIS.	0	0	0	1 4+	0
ATYPICAL EPITHELIAL HYPERPLASIA.	0	0	0	1 3+	0
TRACHEA					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	45	45	20	49	42
AUTOLYZED.	3	3	3	1	6
INFLAMMATION.	0	1	3 2+	0	0
CARCINOMA.	0	1	10	0	0
MISSING.	0	0	1	0	1
HYPERPLASIA.	0	0	8 2+ - 4+	0	0
METAPLASIA.	0	0	3 2+ - 3+	0	0
DYSKERATOSIS.	0	0	1	0	0
EOSINOPHILIC MASS(ES).	0	0	1	0	0
THYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	15	29	29	27	18
AUTOLYZED.	5	5	6	1	7
AMYLOID.	16 2+ - 4+	10 2+ - 3+	0	13 2+ - 4+	7 2+ - 4+
NOT PRESENT IN SECTION.	2	0	3	1	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
THYROID (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
MISSING.	1	1	3	0	2
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	3	0	1	0	1
CYST(S).	10	8	5	9	14
FOLLICULAR HYPERPLASIA.	0	1	0	0	0
HYPERPLASIA.	0	0	1	0	0
ADENOMA.	0	0	0	1	1
NEOPLASM, N.O.S..	0	0	0	3	0
PARATHYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	31	35	21	40	29
AUTOLYZED.	4	5	4	1	6
NOT PRESENT IN SECTION.	8	6	18	6	3
MISSING.	1	1	2	0	5
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	2	0	0	0	0
HYPERPLASIA.	1	2	3	2	1
ADENOMA.	1	0	0	1	4
CYST(S).	0	1	0	0	1
ESOPHAGUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	45	47	39	46	41
AUTOLYZED.	3	2	3	3	8
HYPERPLASIA.	0	1	1	0	0
MISSING.	0	0	2	1	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	1	0	0
INFLAMMATION.	0	0	1	0	0
METAPLASIA.	0	0	1	0	0
HYPERKERATOSIS.	0	0	1	0	0
LUNG					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	11	1	0	6	5
AUTOLYZED.	1	1	3	1	3
INFLAMMATION.	2	2	1	3	0
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	16	37	22	9	18
PIGMENT.	4	47	45	3	3
PNEUMOLITHIASIS.	5	0	0	1	2
CONGESTION.	8	2	2	13	11
HEMORRHAGE.	6	1	1	4	0
HISTIOCYTOSIS.	5	5	0	6	11
FIBROSIS.	8	3	1	17	12
ALVEOLAR/BRONCHIOLAR CELL ADENOMA.	1	0	1	0	0
ATELECTASIS.	1	1	3	7	7
EOSINOPHILIC MASS(ES).	2	1	1	2	0
ADENOMA.	0	2	2	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
LUNG (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
CARCINOMA, METASTATIC.	0	1	0	0	0
CARCINOMA.	0	1	23	1	0
BRONCHOPNEUMONIA.	0	0	7 3+ - 4+	0	0
PNEUMONITIS.	0	0	6 1+ - 4+	0	0
METAPLASIA.	0	0	1 4+	0	0
ADENOMATOSIS.	0	0	1 2+	1 1+	0
ALVEOLAR/BRONCHIOLAR CELL CARCINOMA.	0	0	5	0	0
NECROSIS.	0	0	3 4+	0	0
HEMOSIDEROSIS.	0	0	3 4+	0	0
BRONCHITIS.	0	0	1 4+	0	0
EMPHYSEMA.	0	0	1 4+	1 1+	2 2+ - 3+
AMYLOID.	0	0	0	1 3+	0
LEUKOSTASIS.	0	0	0	1 3+	0
MINERALIZATION.	0	0	0	1 1+	0
LEUKEMIA/LYMPHOMA.	0	0	0	1	0
BRONCHIAL LYMPH NODES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	16	4	2	12	22
AUTOLYZED.	2	1	2	1	1
AMYLOID.	1 3+	0	0	2 2+ - 3+	0
NOT PRESENT IN SECTION.	9	8	1	4	4
PIGMENT.	6 2+ - 3+	25 1+ - 4+	32 1+ - 4+	5 1+ - 3+	4 1+ - 4+
MISSING.	10	9	11	19	11
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	3	1	2	0
HYPERPLASIA.	2 4+	0	2 4+	0	1
LYMPHOID HYPERPLASIA.	1	0	0	0	0
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	0	1 1+	0	1 1+	0
CARCINOMA.	0	0	2	0	0
INFLAMMATION.	0	0	1 3+	0	0
SARCOMA.	0	0	1	0	0
HEMORRHAGE.	0	0	0	1 3+	0
CONGESTION.	0	0	0	2 3+ - 4+	3 1+ - 3+
ERYTHROPHAGOCYTOSIS.	0	0	0	1 2+	2 1+
HISTIOCYTOSIS.	0	0	0	1	2 3+
MAINSTEM BRONCHI					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	22	47	42
AUTOLYZED.	2	3	3	1	6
MISSING.	2	0	4	1	1
INFLAMMATION.	0	1	1	0	0
CARCINOMA.	0	1	5	0	0
HYPERPLASIA.	0	0	9 3+ - 4+	0	0
NOT PRESENT IN SECTION.	0	0	2	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	1	1	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
MAINSTEM BRONCHI (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
METAPLASIA.	0	0	2	0	0
DYSKERATOSIS.	0	0	1	0	0
CARCINOMA, SQUAMOUS.	0	0	1	0	0
LIVER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	19	18	23	18	13
AUTOLYZED.	7	5	11	2	9
INFLAMMATION.	3 3+	2 3+	0	1 4+	0
AMYLOID.	16 2+ - 4+	17 1+ - 4+	1 3+	15 1+ - 4+	13 2+ - 4+
PIGMENT.	1 4+	0	0	0	0
BILE DUCT HYPERPLASIA.	1 1+	0	0	0	1 3+
CONGESTION.	2 3+ - 4+	5 3+ - 4+	8 3+ - 4+	11 3+ - 4+	15 3+ - 4+
KARYOMEGALY.	1 3+	0	0	0	0
HYPERTROPHY.	1 3+	0	0	0	0
EXTRAMEDULLARY HEMATOPOIESIS.	1 2+	0	0	0	0
CYST(S).	2	11	0	9	8
CLEAR CELL FOCUS/FOCI.	1	1	1	0	0
HEMANGIOMA.	1	0	0	0	0
HEPATOCELLULAR CYSTIC DEGENERATION.	1 3+	1 1+	0	0	2 3+
HEMOSIDEROSIS.	1 2+	0	0	0	0
HEMORRHAGE.	0	1 4+	0	0	0
NECROSIS.	0	4 1+ - 4+	2 1+ - 4+	2 3+ - 4+	2 4+
HYPERPLASIA.	0	0	1	0	0
HEPATITIS.	0	0	1 4+	0	0
SARCOMA.	0	0	1	0	0
HEPATOCELLULAR VACUOLATION.	0	0	0	2 3+	0
LEUKEMIA/LYMPHOMA.	0	0	0	1	0
FIBROSIS.	0	0	0	0	1 1+
CHOLECYSTITIS.	0	0	0	0	1 1+
GALLBLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	33	37	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	6	11	1	6	8
AUTOLYZED.	7	2	9	2	1
MISSING.	1	0	0	1	1
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	0	0	1	0
PAPILLARY HYPERPLASIA.	0	0	1 4+	0	0
SPLEEN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	28	29	26	25	22
AUTOLYZED.	4	7	10	3	8
AMYLOID.	11 2+ - 4+	10 2+ - 4+	0	13 2+ - 4+	8 2+ - 4+
MISSING.	3	0	3	2	2
CONGESTION.	1 4+	1 3+	1 3+	2 3+	4 3+ - 4+
EXTRAMEDULLARY HEMATOPOIESIS.	1 3+	2 3+ - 4+	2 4+	2 2+ - 4+	6 2+ - 4+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
SPLEEN (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
HEMOSIDEROSIS.	0	1 3+	0	0	0
HYPERPLASIA.	0	0	6 3+ - 4+	1	1
INSUFFICIENT TISSUE PRESENT IN SECTION.	0	0	0	1	0
ERYTHROPHAGOCYTOSIS.	0	0	0	1 4+	0
CYST(S).	0	0	0	1	0
LYMPHOID HYPERPLASIA.	0	0	0	1 4+	0
PANCREAS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	31	34	34	37	27
AUTOLYZED.	10	11	12	9	15
MISSING.	4	2	1	0	2
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	0	0	0	0
DUCTAL ECTASIA.	2 2+	3 2+	0	2 1+ - 3+	2 1+
CYST(S).	0	0	1	0	0
HEMORRHAGE.	0	0	0	1 3+	1 4+
AMYLOID.	0	0	0	2 4+	1 2+
ATROPHY.	0	0	0	0	1 4+
HEPATOCELLULAR REGENERATION.	0	0	0	0	1 3+
HEART					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	32	28	0	37	30
NO SIGNIFICANT LESION RECOGNIZED.	8	13	31	11	6
AUTOLYZED.	4	3	10	1	7
THROMBOSIS.	3	2	1	1	6
MYOCARDIOPATHY.	2 3+	4 3+ - 4+	2 1+ - 2+	0	0
MURAL THROMBOSIS.	0	1	0	0	0
INFLAMMATION.	0	0	1 4+	0	0
MINERALIZATION.	0	0	2 3+	0	0
TUMOR EMBOLUS.	0	0	1	0	0
KIDNEYS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NO SIGNIFICANT LESION RECOGNIZED.	5	10	28	7	3
AUTOLYZED.	4	4	10	2	8
AMYLOID.	20 2+ - 4+	21 2+ - 4+	0	16 2+ - 4+	18 2+ - 4+
GLOMERULAR NEPHROSIS.	29 1+ - 4+	21 1+ - 4+	10 2+ - 4+	33 1+ - 4+	28 2+ - 4+
HYPERPLASIA.	1 2+	0	0	0	0
PYELONEPHRITIS.	1 4+	0	0	0	0
MINERALIZATION.	2 3+	0	0	0	1 3+
CARCINOMA.	0	1	0	0	0
THROMBOSIS.	0	0	1 3+	0	0
CYST(S).	0	0	0	1	0
LEUKEMIA/LYMPHOMA.	0	0	0	1	0
NEPHROPATHY, CHRONIC.	0	0	0	0	1 2+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
URINARY BLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	40	38	40	38
NO SIGNIFICANT LESION RECOGNIZED.	9	10	6	10	10
AUTOLYZED.	4	0	3	0	0
HEMORRHAGE.	1	0	0	0	0
MISSING.	0	0	1	0	1
PROSTATE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	6	7
AUTOLYZED.	3	0	1	0	0
INFLAMMATION.	1	0	0	0	0
MISSING.	4	3	5	4	3
MINERALIZATION.	1	0	0	0	0
TESTES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	28	30	37	32	34
NO SIGNIFICANT LESION RECOGNIZED.	8	8	5	6	9
AUTOLYZED.	3	1	1	2	0
HYPOSPERMIA.	2	0	0	0	0
OLIGOSPERMIA.	7	9	5	8	4
AMYLOID.	0	1	0	0	1
NECROSIS.	0	1	0	0	0
ATROPHY.	0	1	0	0	2
DEGENERATION.	0	1	1	1	0
MISSING.	0	0	0	1	0
HYPERPLASIA, ARTERY.	0	0	0	0	1
SEMINAL VESICLES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	34	40	37	40	37
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	9	12
AUTOLYZED.	3	0	1	0	0
(EPIDIDYMIS), INFLAMMATION.	0	0	1	0	0
MISSING.	0	0	0	1	0
STERNUM & RIB JUNCTION					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	6	10	9
AUTOLYZED.	2	0	1	0	1
MISSING.	0	0	1	0	0
SARCOMA.	0	0	1	0	0
HYPOPLASIA.	0	0	1	0	0
FEMUR & BONE MARROW					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10
AUTOLYZED.	2	0	1	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(MALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
NASAL CAVITY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	35	40	38	40	39
NO SIGNIFICANT LESION RECOGNIZED.	11	10	9	10	10
AUTOLYZED.	2	0	1	0	0
OTHER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[48]	[50]	[49]
NOT REQUIRED.	45	50	47	49	49
(LARGE INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	1	0	0	0	0
(SMALL INTESTINE), NO SIGNIFICANT LESION RECOGNIZED.	1	0	0	0	0
(LARGE INTESTINE), MISSING.	1	0	0	0	0
(RENAL LYMPH NODE), NOT PRESENT IN SECTION.	1	0	0	0	0
(VISCERAL PLEURA), HYPERPLASIA.	0	0	1 2+	0	0
(SMALL INTESTINE), HEMORRHAGE, INTRALUMINAL.	0	0	0	1 4+	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
SKIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	37	40	38	37	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	9
INFLAMMATION.	1	0	1	0	0
THROMBOSIS.	0	0	1	0	0
SKIN/MAMMARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	37	40	40	37	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	9
MISSING.	1	0	0	0	0
THIGH MUSCLE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	40	40	37	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	9
SALIVARY GLAND					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	40	40	37	35
NO SIGNIFICANT LESION RECOGNIZED.	8	10	9	9	9
AUTOLYZED.	2	0	1	1	2
MANDIBULAR LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	37	39	39	37	36
NO SIGNIFICANT LESION RECOGNIZED.	5	5	7	5	3
AUTOLYZED.	4	3	2	1	3
HYPERPLASIA.	1	1	0	0	0
RETICULUM CELL HYPERPLASIA.	1	2+	0	0	0
LYMPHOID HYPERPLASIA.	1	3+	0	1	1
INSUFFICIENT TISSUE					3+
PRESENT IN SECTION.	0	1	0	0	0
NECROSIS.	0	1	0	1	0
PLASMACYTOMA.	0	0	1	0	1
MALIGNANT LYMPHOMA.	0	0	1	0	0
AMYLOID.	0	0	0	1	0
PIGMENT.	0	0	0	1	0
MISSING.	0	0	0	0	1
LEUKOSTASIS.	0	0	0	0	1
SCIATIC NERVE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	40	40	37	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	9
BRAIN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	39	40	37	36
NO SIGNIFICANT LESION RECOGNIZED.	8	6	8	8	9
AUTOLYZED.	1	2	2	1	1
NEURONAL VACUOLATION.	1	0	0	0	0
AMYLOID.	0	1	0	0	0
MINERALIZATION.	0	3	1+	1	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
PITUITARY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	21	28	33	23	27
AMYLOID.	2 2+	0	0	0	0
MISSING.	6	1	0	2	1
AUTOLYZED.	2	4	2	6	2
INSUFFICIENT TISSUE PRESENT IN SECTION.	18	15	13	15	14
CORTICAL ADENOMA.	1	0	0	0	0
NOT REQUIRED.	0	1	0	0	0
NOT PRESENT IN SECTION.	0	1	1	0	0
CYST(S).	0	0	1	1	2
ADRENALS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	4	9	23	5	6
AMYLOID.	39 1+ - 4+	35 2+ - 4+	16 2+ - 3+	34 2+ - 4+	36 1+ - 4+
MISSING.	1	0	0	0	0
AUTOLYZED.	2	5	2	6	1
HYPERPLASIA.	7	5	2	11	10 2+
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	0	4	2	5
CYST(S).	4	0	3	2	3
CORTICAL ADENOMA.	2	5	2	0	0
EXTRAMEDULLARY HEMATOPOIESIS.	1 2+	0	0	0	0
CORTICAL CELL HYPERPLASIA.	1 2+	1	4 1+	0	0
ADENOMA.	0	3	0	2	4
MEDULLARY CELL HYPERPLASIA.	0	0	0	0	1
THYMUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	18	18	27	14	17
MISSING.	20	23	11	16	19
NOT PRESENT IN SECTION.	3	2	6	7	7
AUTOLYZED.	2	4	1	6	1
INSUFFICIENT TISSUE PRESENT IN SECTION.	2	2	3	4	1
INVOLUTED.	2	0	0	0	0
HEMOSIDEROSIS.	1 1+	0	0	0	0
PLASMOCYTOMA.	0	1	0	0	0
LEUKEMIA/LYMPHOMA.	0	0	1	0	1
MEDULLARY CELL HYPERPLASIA.	0	0	1 3+	0	0
STOMACH					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	34	37	36	37	33
NO SIGNIFICANT LESION RECOGNIZED.	6	7	5	8	5
AUTOLYZED.	5	5	6	2	7
PAPILLOMA.	1	0	2	0	0
PIGMENT.	2	1	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	0	0	1

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
DUODENUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	38	38	36	33
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	8	5
AUTOLYZED.	5	5	7	3	8
NECROSIS.	0	0	1 4+	0	0
HEMORRHAGE.	0	0	1 2+	0	0
JEJUNUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	39	40	36	33
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	9	5
AUTOLYZED.	0	1	0	2	8
CECUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	35	36	39	31	32
NO SIGNIFICANT LESION RECOGNIZED.	4	5	4	7	5
AUTOLYZED.	6	4	6	7	8
INFLAMMATION.	2 4+	4 3+ - 4+	1 4+	2	0
LYMPHOID HYPERPLASIA.	1 3+	0	0	0	0
AMYLOID.	0	1 2+	0	0	1 3+
NECROSIS.	0	1 4+	0	0	0
COLON					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	37	37	40	36	32
NO SIGNIFICANT LESION RECOGNIZED.	4	5	4	8	6
AUTOLYZED.	5	5	6	3	8
INTUSSUSCEPTION.	1	0	0	0	0
CARCINOMA.	1	0	0	0	0
AMYLOID.	0	1 2+	0	0	0
INFLAMMATION.	0	2 4+	0	0	0
RECTUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	39	40	36	33
NO SIGNIFICANT LESION RECOGNIZED.	5	7	4	8	5
AUTOLYZED.	5	4	6	3	8
MESENTERIC LYMPH NODE					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	34	33	38	31	35
NO SIGNIFICANT LESION RECOGNIZED.	5	6	5	7	4
CONGESTION.	1 2+	0	0	0	0
MISSING.	1	1	2	1	0
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	3	5	2	7	3
INFLAMMATION.	1 3+	2 4+	0	1 4+	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	0	0
HEMORRHAGE.	1 3+	0	0	0	0
LYMPHOID HYPERPLASIA.	1	0	0	0	1 3+
HISTIOCYTOSIS.	0	1 1+	0	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
MESENTERIC LYMPH NODE (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
RETICULUM CELL HYPERPLASIA.	0	1	0	0	1 3+
PLASMACYTOMA.	0	1	0	0	1
FOLLICULAR HYPERPLASIA.	0	0	1 3+	0	0
HEMOSIDEROSIS.	0	0	1 3+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
PLASMACYTOSIS.	0	0	0	0	1 4+
ILEUM					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	39	40	36	33
NO SIGNIFICANT LESION RECOGNIZED.	5	8	4	8	5
AUTOLYZED.	5	3	6	3	8
LARYNX					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	34	38	42
MISSING.	1	0	0	1	2
AUTOLYZED.	2	5	1	7	2
INFLAMMATION.	1 2+	0	0	0	0
HYPERPLASIA.	0	0	9 2+ - 3+	1 2+	0
CARCINOMA.	0	0	4	0	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	0	1	0	0
ATYPICAL EPITHELIAL HYPERPLASIA.	0	0	1 3+	0	0
TRACHEA					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	44	45	30	40	44
MISSING.	1	0	0	0	0
AUTOLYZED.	2	5	1	7	2
INFLAMMATION.	1 2+	0	0	0	0
HYPERPLASIA.	0	0	5 2+ - 3+	0	0
CARCINOMA.	0	0	13	0	0
FIBROSIS.	0	0	1	0	0
THYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	13	9	26	7	9
AMYLOID.	30 1+ - 4+	33 1+ - 4+	10 2+ - 3+	29 1+ - 4+	30 1+ - 4+
MISSING.	1	0	1	0	2
AUTOLYZED.	2	4	4	6	0
CYST(S).	7	10	7	7	10
ATROPHY.	1 1+	0	0	0	0
FOLLICULAR CELL ADENOMA.	1	0	0	2	0
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	0	1	0	0	0
NOT PRESENT IN SECTION.	0	0	2	1	0
CARCINOMA, METASTATIC.	0	0	2	0	0
HYPERPLASIA.	0	0	0	1 2+	0
ADENOMA.	0	0	0	0	3

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
PARATHYROID					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	25	31	32	27	35
MISSING.	1	1	2	1	2
NOT PRESENT IN SECTION.	9	6	7	3	1
AUTOLYZED.	2	5	3	8	2
HYPERPLASIA.	1	3	5	3	2
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	2	1	2	1
CYST(S).	3	1	0	1	1
ADENOMA.	7	1	0	2	2
ESOPHAGUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	45	46	46	39	40
MISSING.	1	0	0	0	0
AUTOLYZED.	2	3	1	8	5
INFLAMMATION.	0	1	0	0	0
AMYLOID.	0	0	1	0	0
HYPERPLASIA.	0	0	1	0	0
CARCINOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	0	0	1
LUNG					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	17	1	0	15	14
CONGESTION.	5 2+ - 4+	0	0	6 2+ - 4+	5 3+ - 4+
AUTOLYZED.	2	2	1	4	3
HISTIOCYTOSIS.	10 2+ - 4+	12 2+ - 4+	6 3+ - 4+	10 2+ - 4+	7 3+ - 4+
INFLAMMATION.	4 3+ - 4+	2 4+	1 3+	1 3+	2 3+ - 4+
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	9 1+ - 2+	32 1+ - 3+	27 1+ - 4+	6 1+ - 2+	9 1+ - 3+
ADENOMA.	1	0	1	0	0
ATELECTASIS.	3 2+ - 4+	5 2+ - 3+	1 2+	1 2+	5 2+ - 4+
FIBROSIS.	4 1+ - 2+	2 1+	0	3 1+	5 1+ - 2+
HEMOSIDEROSIS.	1 1+	0	0	0	0
LEUKOSTASIS.	1	0	0	0	0
PNEUMOLITHIASIS.	1 1+	0	0	3 1+ - 2+	1 2+
EOSINOPHILIC MASS(ES).	1	0	0	1 1+	0
AMYLOID.	0	2 2+ - 4+	1 2+	0	0
PIGMENT.	0	45 1+ - 3+	45 1+ - 4+	0	3 1+ - 3+
CARCINOMA.	0	1	25	0	0
ADENOMATOSIS.	0	1 3+	3 2+	0	0
HEMORRHAGE.	0	1 3+	0	3 3+ - 4+	1 3+
PLASMACYTOMA.	0	1	0	0	0
ALVEOLAR/BRONCHIOLAR CELL CARCINOMA.	0	0	9	0	0
PNEUMONITIS.	0	0	2 3+	0	0
BRONCHIAL PNEUMONIA.	0	0	1 4+	0	0
ALVEOLAR/BRONCHIOLAR CELL ADENOMA.	0	0	3	0	0
PNEUMONIA.	0	0	1 4+	0	0
BRONCHIOL EPITHELIAL HYPERPLASIA.	0	0	1 2+	0	0
BRONCHOPNEUMONIA.	0	0	3 3+ - 4+	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
LUNG (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NECROSIS.	0	0	1 4+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	0	0	1
BRONCHIAL LYMPH NODES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	11	6	1	17	20
AMYLOID.	1 2+	0	2 2+ - 3+	0	0
CONGESTION.	1 4+	0	0	0	0
MISSING.	23	12	7	15	15
NOT PRESENT IN SECTION.	2	1	2	4	3
AUTOLYZED.	2	3	2	4	1
INSUFFICIENT TISSUE					
PRESENT IN SECTION.	1	0	0	3	0
ALVEOLAR/BRONCHIOLAR CELL HYPERPLASIA.	1 2+	0	1 2+	0	0
ERYTHROPHAGOCYTOSIS.	3 3+	1 3+	1 3+	0	1
ATELECTASIS.	1 3+	0	0	0	0
HEMOSIDEROSIS.	2 1+ - 3+	0	0	1	3 2+
HEMORRHAGE.	1 3+	0	0	0	0
PIGMENT.	0	28 1+ - 4+	37 1+ - 4+	4 1+ - 3+	2 2+ - 3+
HYPERPLASIA.	0	1 3+	2	0	0
PLASMACYTOSIS.	0	1 4+	0	0	0
PLASMACYTOMA.	0	1	0	0	1
CARCINOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	1	0	2
LYMPHOID HYPERPLASIA.	0	0	1 3+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
CARCINOMA, METASTATIC.	0	0	0	0	1
MAINSTEM BRONCHI					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	45	45	34	40	44
MISSING.	1	0	3	0	0
AUTOLYZED.	2	5	1	7	2
AMYLOID.	0	0	1 3+	0	0
HYPERPLASIA.	0	0	4 3+	0	0
CARCINOMA.	0	0	6	0	0
NOT PRESENT IN SECTION.	0	0	1	0	0
LIVER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	2	7	12	5	5
AMYLOID.	42 1+ - 4+	33 1+ - 4+	22 1+ - 3+	36 2+ - 4+	34 1+ - 4+
CONGESTION.	2 2+ - 3+	5 3+ - 4+	4 3+ - 4+	6 3+ - 4+	7 3+ - 4+
AUTOLYZED.	2	9	6	8	5
HYPERPLASIA.	1 3+	0	0	0	0
THROMBOSIS.	1	0	1	0	0
CYST(S).	15	19	11	12	7
EXTRAMEDULLARY HEMATOPOIESIS.	3 1+ - 3+	1 2+	1 3+	0	1 1+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
LIVER (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
CLEAR CELL FOCUS/FOCI.	1 2+	2 1+	2 1+	2	3
NECROSIS.	0	2 4+	0	0	1
HEPATOCELLULAR VACUOLATION.	0	1 3+	1 3+	0	0
CHOLANGIOMA.	0	1	0	1	0
BILE DUCT HYPERPLASIA.	0	0	1 2+	1 4+	0
HEPATOCELLULAR CYSTIC DEGENERATION.	0	0	1 3+	1 3+	1 3+
PLASMACYTOMA.	0	0	1	0	1
KARYOMEGALY.	0	0	1 2+	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	0	0	1
GALLBLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	38	38	37	36
NO SIGNIFICANT LESION RECOGNIZED.	3	5	1	4	4
AUTOLYZED.	7	5	8	6	6
MISSING.	0	2	1	0	0
HYPERPLASIA.	0	0	1 2+	0	0
INFLAMMATION.	0	0	1 4+	0	0
SPLEEN					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	8	9	26	9	9
AMYLOID.	30 1+ - 4+	32 1+ - 4+	17 1+ - 4+	28 1+ - 4+	32 1+ - 4+
AUTOLYZED.	2	6	3	7	3
THROMBOSIS.	1	0	0	0	0
FOLLICULAR HYPERPLASIA.	1 3+	0	0	0	0
RETICULUM CELL HYPERPLASIA.	1 3+	0	0	0	0
INSUFFICIENT TISSUE PRESENT IN SECTION.	1	0	0	0	0
CYST(S).	1	0	0	0	0
EXTRAMEDULLARY HEMATOPOIESIS.	8 1+ - 4+	1 3+	1 3+	1 3+	7 2+ - 3+
HEMOSIDEROSIS.	1 1+	0	0	0	0
HEMORRHAGE.	1	0	0	0	0
MISSING.	0	2	1	1	0
HYPERPLASIA.	0	1 3+	3 3+	0	0
HEMANGIECTASIS.	0	0	1 3+	0	0
PLASMACYTOMA.	0	0	1	0	0
MALIGNANT LYMPHOMA.	0	0	1	0	0
LEUKEMIA/LYMPHOMA.	0	0	0	1	1
PANCREAS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED.	33	32	40	27	29
AUTOLYZED.	13	14	9	17	14
CYST(S).	1	1	0	0	0
ATROPHY.	1 2+	0	0	1 2+	1 2+
NOT PRESENT IN SECTION.	0	1	0	0	0
PAPILLARY HYPERPLASIA.	0	1 2+	0	0	1 2+

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
PANCREAS (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
DUCTAL ECTASIA,	0	1 1+	0	1 2+	0
MISSING,	0	0	1	0	0
AMYLOID,	0	0	0	1 4+	1 2+
HEPATOCELLULAR DIFFERENTIATION,	0	0	0	0	1 1+
HEART					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED,	23	30	34	27	34
NO SIGNIFICANT LESION RECOGNIZED,	5	3	8	2	4
MISSING,	2	0	0	0	0
AUTOLYZED,	1	4	1	6	0
THROMBOSIS,	12	9	5	8	7
MURAL THROMBOSIS,	2	5	0	2	1
MINERALIZATION,	1 3+	0	0	1 4+	0
MYOCARDIOPATHY,	3 2+ - 4+	3 2+ - 3+	0	1 3+	0
INFLAMMATION,	0	1 3+	0	2 3+ - 4+	0
CARCINOMA,	0	0	1	0	0
NEOPLASM, (N.O.S.),	0	0	1	0	0
KIDNEYS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NO SIGNIFICANT LESION RECOGNIZED,	1	5	18	1	4
AMYLOID,	40 1+ - 4+	37 1+ - 4+	22 2+ - 4+	36 1+ - 4+	34 1+ - 4+
AUTOLYZED,	2	4	2	6	3
GLOMERULAR NEPHROSIS,	18 1+ - 4+	9 1+ - 4+	7 1+ - 3+	6 2+ - 4+	6 2+
MINERALIZATION,	8 1+ - 3+	0	0	3 3+	3 3+
CHRONIC INTERSTITIAL NEPHRITIS,	1 2+	1 3+	0	0	0
INFARCT,	1	0	1	0	0
INFLAMMATION,	0	1 3+	1 4+	1 2+	0
PYELONEPHRITIS,	0	1 3+	0	0	0
CARCINOMA, METASTATIC,	0	0	1	0	0
MALIGNANT LYMPHOMA,	0	0	1	0	0
CYST(S),	0	0	0	0	1
CONGESTION,	0	0	0	0	1
URINARY BLADDER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED,	38	39	38	37	36
NO SIGNIFICANT LESION RECOGNIZED,	4	8	8	5	6
AUTOLYZED,	5	3	3	5	4
VACUOLATION,	1 1+	0	0	0	0
HYPERPLASIA,	0	0	1 3+	0	0
INFLAMMATION,	0	0	1 3+	0	0
OVARIES					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED,	32	37	40	32	35
NO SIGNIFICANT LESION RECOGNIZED,	9	10	10	10	7
NOT PRESENT IN SECTION,	1	0	0	0	0
AUTOLYZED,	1	0	0	4	2

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
OVARIES (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
CYST(S).	4	1	0	0	1
THECA CELL TUMOR.	1	0	0	0	0
HYPERPLASIA.	0	1	0	0	0
PLASMACYTOMA.	0	1	0	0	0
CONGESTION.	0	0	0	1	0
GRANULOSA CELL TUMOR(S).	0	0	0	0	1
UTERUS					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	37	37	40	37	36
NO SIGNIFICANT LESION RECOGNIZED.	8	7	8	9	8
NOT PRESENT IN SECTION.	1	0	0	0	0
AUTOLYZED.	2	3	0	1	2
HYPERPLASIA.	0	2	1	0	0
FIBROMA.	0	1	0	0	0
PAPILLARY HYPERPLASIA.	0	0	1	0	0
STERNUM & RIB JUNCTION					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	37	40	40	37	35
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	9	8
AUTOLYZED.	1	0	0	1	2
LEUKEMIA/LYMPHOMA.	0	0	0	0	1
FEMUR & BONE MARROW					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	40	40	37	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	9
NASAL CAVITY					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	38	40	40	37	37
NO SIGNIFICANT LESION RECOGNIZED.	10	10	10	10	9
OTHER					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
NOT REQUIRED.	47	49	47	47	45
NO SIGNIFICANT LESION RECOGNIZED.	1	2	0	0	0
(CERVICAL LYMPH NODE), NO					
SIGNIFICANT LESIONS RECOGNIZED.	1	0	0	0	0
(RENAL LYMPH NODE), PLASMACYTOMA.	0	1	0	0	0
(LARGE INTESTINE), PLASMACYTOMA.	0	1	0	0	0
(LARGE INTESTINE), NO SIGNIFICANT					
LESION RECOGNIZED.	0	0	1	0	0
(SMALL INTESTINE), NO SIGNIFICANT					
LESION RECOGNIZED.	0	0	1	0	0
(MEDIASTINUM), CARCINOMA.	0	0	1	0	0
(RENAL LYMPH NODE),					
MALIGNANT LYMPHOMA.	0	0	1	0	0
(SUBLUMBAR LYMPH NODE),					
MALIGNANT LYMPHOMA.	0	0	1	0	0

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS
FROM IRON FOUNDRY CASTING OPERATIONS

(FEMALES)

	GROUP 1	GROUP 2	GROUP 3	GROUP 10	GROUP 11
OTHER (continued)					
NUMBER OF ANIMALS EXAMINED	[48]	[50]	[50]	[47]	[46]
(AXILLARY MASS), LEUKEMIA/LYMPHOMA.	0	0	0	0	1
(RENAL LYMPH NODE), LEUKEMIA/LYMPHOMA.	0	0	0	0	1

TABLE 23
FISHER'S ANALYSIS OF TUMOR-BEARING ANIMALS
KEY TO GROUP IDENTIFICATION

<u>GROUP NUMBER</u>	<u>TREATMENT</u>	<u>DOSE LEVEL (mg/0.2 ml distilled water)</u>
1	Vehicle Control	--
2	Ferric Oxide Control (Fe_2O_3 + Vehicle)	3.0
3	Positive Control (BaP + Fe_2O_3)	3.0 + 3.0
4	Shell Sand	5.0
5	Shell Sand	10.0
6	Green Sand	5.0
7	Green Sand	10.0
8	Furan	5.0
9	Furan	10.0
10	Urethane	2.5
11	Urethane	5.0

TABLE 23A

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(TOTAL TISSUES) - MALE	1	10	48	2	15	50
(TOTAL TISSUES) - MALE	1	10	48	3	38	48
(TOTAL TISSUES) - MALE	1	10	44	4	11	46
(TOTAL TISSUES) - MALE	1	10	44	5	11	45
(TOTAL TISSUES) - MALE	1	10	45	6	9	46
(TOTAL TISSUES) - MALE	1	10	33	7	11	38
(TOTAL TISSUES) - MALE	1	10	32	8	10	36
(TOTAL TISSUES) - MALE	1	10	33	9	11	42
(TOTAL TISSUES) - MALE	1	10	47	10	17	49
(TOTAL TISSUES) - MALE	1	10	43	11	13	42

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* Significantly higher incidence of tumor bearing animals for the positive control males (Group 3) as compared to the vehicle control males (Group 1).

TABLE 23A (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(TOTAL TISSUES) - FEMALE	1	12	47	2	11	48
(TOTAL TISSUES) - FEMALE	1	12	48	3	38	49
(TOTAL TISSUES) - FEMALE	1	12	43	4	12	42
(TOTAL TISSUES) - FEMALE	1	12	43	5	13	34
(TOTAL TISSUES) - FEMALE	1	12	43	6	8	42
(TOTAL TISSUES) - FEMALE	1	12	43	7	12	44
(TOTAL TISSUES) - FEMALE	1	12	43	8	6	40
(TOTAL TISSUES) - FEMALE	1	12	43	9	5	40
(TOTAL TISSUES) - FEMALE	1	12	48	10	8	46
(TOTAL TISSUES) - FEMALE	1	12	48	11	9	46

* Significantly higher incidence of tumor bearing animals for the positive control females (Group 3) as compared to the vehicle control females (Group 1).

TABLE 23A (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FONDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(LUNGS) - MALE	1	1	48	2	3	50
(LUNGS) - MALE	1	1	48	3	30	44
(LUNGS) - MALE	1	1	32	4	0	39
(LUNGS) - MALE	1	1	32	5	0	40
(LUNGS) - MALE	1	1	32	6	0	37
(LUNGS) - MALE	1	1	32	7	2	34
(LUNGS) - MALE	1	1	32	8	1	36
(LUNGS) - MALE	1	1	32	9	1	41
(LUNGS) - MALE	1	1	47	10	2	49
(LUNGS) - MALE	1	1	32	11	0	32

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* Significantly higher incidence of tumor bearing animals for the positive control males (Group 3) as compared to the vehicle control males (Group 1).

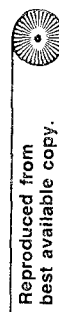
TABLE 23A (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(LUNGS) - FEMALE	1	1	47	2	48	0.50802 1.00009
(LUNGS) - FEMALE	1	1	48	3	48	0.00000 0.00000 *
(LUNGS) - FEMALE	1	1	21	4	0	0.46667 0.46667
(LUNGS) - FEMALE	1	1	21	5	0	0.47727 0.47727
(LUNGS) - FEMALE	1	1	21	6	0	0.48837 0.48837
(LUNGS) - FEMALE	1	1	21	7	0	0.47727 0.47727
(LUNGS) - FEMALE	1	1	21	8	1	0.74419 1.00001
(LUNGS) - FEMALE	1	1	21	9	0	0.60000 1.00000
(LUNGS) - FEMALE	1	1	21	10	0	0.53846 1.00000
(LUNGS) - FEMALE	1	1	27	11	1	0.64545 1.00000

* Significantly higher incidence of tumor bearing animals for the positive control females (Group 3) as compared to the vehicle control females (Group 1).

TABLE 23A (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(RESPIRATORY TRACT) - MALE	1	2	48	4	0.35854	1.00009
(RESPIRATORY TRACT) - MALE	1	2	48	37	0.00000	0.00000 *
(RESPIRATORY TRACT) - MALE	1	2	32	1	0.42526	1.00007
(RESPIRATORY TRACT) - MALE	1	2	32	0	0.19407	0.19407
(RESPIRATORY TRACT) - MALE	1	2	32	0	0.21143	0.21143
(RESPIRATORY TRACT) - MALE	1	2	32	2	0.66999	1.00004
(RESPIRATORY TRACT) - MALE	1	2	32	1	0.45527	1.00004
(RESPIRATORY TRACT) - MALE	1	2	32	1	0.40675	0.57816
(RESPIRATORY TRACT) - MALE	1	2	47	2	0.67559	1.00006
(RESPIRATORY TRACT) - MALE	1	2	32	11	0.24605	0.24605



* Significantly higher incidence of tumor bearing animals for the positive control males (Group 3) as compared to the vehicle control males (Group 1).

TABLE 23A (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(RESPIRATORY TRACT) - FEMALE	1	1	47	2	2	48
(RESPIRATORY TRACT) - FEMALE	1	1	48	3	36	48
(RESPIRATORY TRACT) - FEMALE	1	1	21	4	0	24
(RESPIRATORY TRACT) - FEMALE	1	1	21	5	0	23
(RESPIRATORY TRACT) - FEMALE	1	1	21	6	0	22
(RESPIRATORY TRACT) - FEMALE	1	1	21	7	0	23
(RESPIRATORY TRACT) - FEMALE	1	1	21	8	1	22
(RESPIRATORY TRACT) - FEMALE	1	1	21	9	0	14
(RESPIRATORY TRACT) - FEMALE	1	1	21	10	0	18
(RESPIRATORY TRACT) - FEMALE	1	1	27	11	1	18

* Significantly higher incidence of tumor bearing animals for the positive control females (Group 3) as compared to the vehicle control females (Group 1).

TABLE 23A (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK			GROUP AFFECTED AT RISK			1-TAIL	2-TAIL
(THYROID) - MALE	1	0	4	4	2	12	0.55000	1.00000
(THYROID) - MALE	1	0	7	5	2	9	0.30000	0.47500
(THYROID) - MALE	1	0	14	6	2	17	0.29243	0.46818
(THYROID) - MALE	1	0	19	7	2	22	0.28171	0.45025
(THYROID) - MALE	1	0	3	8	1	8	0.72727	1.00000
(THYROID) - MALE	1	0	30	9	2	39	0.31587	0.50129
(THYROID) - MALE	1	0	19	10	4	25	0.09319	0.12174
(THYROID) - MALE	1	0	23	11	1	25	0.52085	1.00003

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TABLE 23A (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL		
(THYROID) - FEMALE	1	1	27	2	0	21	0.56252	1.00003
(THYROID) - FEMALE	1	1	27	3	2	8	0.12407	0.12407
(THYROID) - FEMALE	1	1	27	4	1	24	0.72472	1.00003
(THYROID) - FEMALE	1	1	27	5	1	25	0.73532	1.00003
(THYROID) - FEMALE	1	1	33	6	3	34	0.31816	0.61358
(THYROID) - FEMALE	1	1	27	7	6	30	0.06834	0.10529
(THYROID) - FEMALE	1	1	36	8	1	32	0.72346	1.00003
(THYROID) - FEMALE	1	1	27	9	2	18	0.34862	0.35475
(THYROID) - FEMALE	1	1	27	10	2	24	0.45503	1.00000
(THYROID) - FEMALE	1	1	35	11	3	33	0.28474	0.61427

TABLE 23A (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL		
(ADRENALS) - MALE	1	9	32	2	9	39	0.41447	1.00004
(ADRENALS) - MALE	1	9	45	3	3	29	0.22132	0.52114
(ADRENALS) - MALE	1	9	44	4	9	46	0.56228	1.00020
(ADRENALS) - MALE	1	9	36	5	8	44	0.31924	1.00011
(ADRENALS) - MALE	1	9	33	6	6	39	0.17202	0.38461
(ADRENALS) - MALE	1	9	32	7	7	34	0.33482	1.00006
(ADRENALS) - MALE	1	9	32	8	4	36	0.07022	0.12127
(ADRENALS) - MALE	1	9	33	9	6	42	0.13480	0.24482
(ADRENALS) - MALE	1	9	47	10	11	49	0.44232	1.00007
(ADRENALS) - MALE	1	9	43	11	10	42	0.47667	1.00011

TABLE 23A (Continued)

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)

FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS

VEHICLE CONTROL vs TEST GROUPS

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL	*
(ADRENALS) - FEMALE	1	2	34	2	8	32	0.03280 0.04137
(ADRENALS) - FEMALE	1	2	44	3	2	30	0.53676 1.00010
(ADRENALS) - FEMALE	1	2	33	4	7	36	0.09706 0.15405
(ADRENALS) - FEMALE	1	2	31	5	6	27	0.08734 0.12849
(ADRENALS) - FEMALE	1	2	13	6	2	17	0.59060 1.00003
(ADRENALS) - FEMALE	1	2	27	7	4	30	0.38750 1.00006
(ADRENALS) - FEMALE	1	2	29	8	2	25	0.63606 1.00002
(ADRENALS) - FEMALE	1	2	8	9	0	8	0.23333 0.23333
(ADRENALS) - FEMALE	1	2	25	10	2	21	0.62650 1.00001
(ADRENALS) - FEMALE	1	2	48	11	4	46	0.31843 0.67763

* Significantly higher incidence of tumor bearing animals for the ferric oxide control females (Group 2) as compared to the vehicle control females (Group 1).

TABLE 23B

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)

FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS

LOW DOSE vs HIGH DOSE

DESCRIPTION	GROUP AFFECTED AT RISK			GROUP AFFECTED AT RISK			1-TAIL	2-TAIL
(TOTAL TISSUES) - MALE	4	11	47	5	11	45	0.55035	1.00016
(TOTAL TISSUES) - MALE	6	9	46	7	11	44	0.35710	1.00012
(TOTAL TISSUES) - MALE	8	10	37	9	11	42	0.56689	1.00014
(TOTAL TISSUES) - MALE	10	17	49	11	13	49	0.25565	0.39217
(TOTAL TISSUES) - FEMALE	4	12	39	5	13	32	0.26889	1.00011
(TOTAL TISSUES) - FEMALE	6	8	34	7	12	36	0.26074	1.00007
(TOTAL TISSUES) - FEMALE	8	6	32	9	5	36	0.41429	1.00002
(TOTAL TISSUES) - FEMALE	10	8	46	11	9	46	0.50006	0.79215

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TABLE 23B (Continued)

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)

FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS

LOW DOSE vs HIGH DOSE

DESCRIPTION	GROUP AFFECTED AT RISK	GROUP AFFECTED AT RISK	1-TAIL	2-TAIL
(LUNGS) - MALE	6	0	0.21739	0.28986
(LUNGS) - MALE	8	1	0.73885	1.00006
(LUNGS) - MALE	10	2	0.24745	0.24745
(LUNGS) - FEMALE	8	1	0.61291	1.00002
(LUNGS) - FEMALE	10	0	0.42856	0.42856

TABLE 23B (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 LOW DOSE vs HIGH DOSE

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL		
(RESPIRATORY TRACT) - MALE	4	1	36	5	0	31	0.53731	0.99999
(RESPIRATORY TRACT) - MALE	6	0	12	7	2	11	0.21739	0.28986
(RESPIRATORY TRACT) - MALE	8	1	35	9	1	33	0.73885	1.00006
(RESPIRATORY TRACT) - MALE	10	2	49	11	0	49	0.24745	0.24745
(RESPIRATORY TRACT) - FEMALE	8	1	19	9	0	12	0.61291	1.00002
(RESPIRATORY TRACT) - FEMALE	10	0	24	11	1	18	0.42856	0.42856

TABLE 23B (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 LOW DOSE vs HIGH DOSE

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL		
(THYROID) - MALE	4	2	16	5	2	9	0.45771	1.00002
(THYROID) - MALE	6	2	22	7	2	22	0.69655	1.00001
(THYROID) - MALE	8	1	36	9	2	39	0.53044	1.00009
(THYROID) - MALE	10	4	26	11	1	25	0.18711	0.32713
(THYROID) - FEMALE	4	1	9	5	1	5	0.60440	1.00000
(THYROID) - FEMALE	6	3	34	7	6	36	0.26852	0.73122
(THYROID) - FEMALE	8	1	32	9	2	36	0.54477	1.00004
(THYROID) - FEMALE	10	2	35	11	3	33	0.47158	1.00003

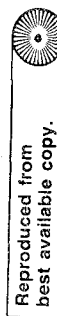


TABLE 23B (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 LOW DOSE vs HIGH DOSE

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK	1-TAIL	2-TAIL
(ADRENALS) - MALE	4	9	46	0.54098	1.00016
(ADRENALS) - MALE	6	6	39	0.47934	1.00017
(ADRENALS) - MALE	8	4	37	0.45307	1.00011
(ADRENALS) - MALE	10	11	49	0.50005	0.81169
(ADRENALS) - FEMALE	4	7	36	0.51422	1.00004
(ADRENALS) - FEMALE	6	2	27	0.38750	1.00006
(ADRENALS) - FEMALE	8	2	25	0.30303	0.49476
(ADRENALS) - FEMALE	10	2	46	0.33846	0.44003

TABLE 23C
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
MALE vs FEMALE

DESCRIPTION	GROUP AFFECTED AT RISK	GROUP AFFECTED AT RISK	1-TAIL	2-TAIL
(TOTAL TISSUES) - MALE vs FEMALE	1M	1F	0.50813	1.00013
(TOTAL TISSUES) - MALE vs FEMALE	2M	2F	0.24723	1.00003
(TOTAL TISSUES) - MALE vs FEMALE	3M	3F	0.52147	1.00010
(TOTAL TISSUES) - MALE vs FEMALE	4M	4F	0.45065	1.00012
(TOTAL TISSUES) - MALE vs FEMALE	5M	5F	0.18459	0.80789
(TOTAL TISSUES) - MALE vs FEMALE	6M	6F	0.50006	0.79815
(TOTAL TISSUES) - MALE vs FEMALE	7M	7F	0.58609	1.00014
(TOTAL TISSUES) - MALE vs FEMALE	8M	8F	0.30080	0.99068
(TOTAL TISSUES) - MALE vs FEMALE	9M	9F	0.19172	0.38336
(TOTAL TISSUES) - MALE vs FEMALE	10M	10F	0.04563	0.10209
(TOTAL TISSUES) - MALE vs FEMALE	11M	11F	0.28812	1.00010

M = Male; F = Female

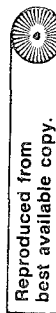


TABLE 23C (Continued)

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)

FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS

MALE vs FEMALE

DESCRIPTION	GROUP AFFECTED AT RISK			GROUP AFFECTED AT RISK	1-TAIL	2-TAIL		
(LUNGS) - MALE vs FEMALE	1M	1	32	1F	1	33	0.74619	1.00004
(LUNGS) - MALE vs FEMALE	2M	3	50	2F	2	50	0.50002	0.68111
(LUNGS) - MALE vs FEMALE	3M	30	44	3F	33	48	0.56545	1.00018
(LUNGS) - MALE vs FEMALE	7M	2	11	7F	0	0	1.00000	1.00000
(LUNGS) - MALE vs FEMALE	8M	1	35	8F	1	22	0.62724	1.00007
(LUNGS) - MALE vs FEMALE	9M	1	33	9F	0	18	0.64707	1.00004
(LUNGS) - MALE vs FEMALE	10M	2	49	10F	0	45	0.26908	0.49580
(LUNGS) - MALE vs FEMALE	11M	0	29	11F	1	18	0.38298	0.38298

M = Male; F = Female

TABLE 23C (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 MALE vs FEMALE

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(RESPIRATORY TRACT) - MALE vs FEMALE	1M	2	32	1 F	33	0.48832 1.00000
(RESPIRATORY TRACT) - MALE vs FEMALE	2M	4	50	2 F	50	0.35855 0.44110
(RESPIRATORY TRACT) - MALE vs FEMALE	3M	37	48	3 F	48	0.50003 0.81662
(RESPIRATORY TRACT) - MALE vs FEMALE	4M	1	36	4 F	0	0.60003 1.00004
(RESPIRATORY TRACT) - MALE vs FEMALE	7M	2	11	7 F	0	1.00000 1.00000
(RESPIRATORY TRACT) - MALE vs FEMALE	8M	1	35	8 F	1	0.62724 1.00007
(RESPIRATORY TRACT) - MALE vs FEMALE	9M	1	33	9 F	0	0.84709 1.00004
(RESPIRATORY TRACT) - MALE vs FEMALE	10M	2	49	10 F	0	0.26908 0.49560
(RESPIRATORY TRACT) - MALE vs FEMALE	11M	0	29	11 F	1	0.38298 0.38298

M = Male ; F = Female

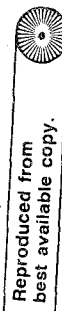


TABLE 23C (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 MALE vs FEMALE

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(THYROID) - MALE vs FEMALE	1M	0	29	1F	0.48218	0.48218
(THYROID) - MALE vs FEMALE	3M	0	1	3F	0.75000	1.00000
(THYROID) - MALE vs FEMALE	4M	2	16	4F	0.71305	1.00001
(THYROID) - MALE vs FEMALE	5M	2	9	5F	0.72527	1.00000
(THYROID) - MALE vs FEMALE	6M	2	37	6F	0.45931	1.00014
(THYROID) - MALE vs FEMALE	7M	2	25	7F	0.05346	0.11109
(THYROID) - MALE vs FEMALE	8M	1	37	8F	0.71314	1.00005
(THYROID) - MALE vs FEMALE	9M	2	39	9F	0.54349	0.99998
(THYROID) - MALE vs FEMALE	10M	4	25	10F	0.67176	1.00001
(THYROID) - MALE vs FEMALE	11M	1	36	11F	0.27455	0.61527

M = Male; F = Female

TABLE 23C (Continued)

CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)

FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS

MALE vs FEMALE

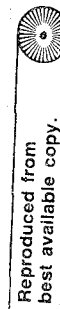
DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL		
(ADRENALS) - MALE vs FEMALE	1M	9	32	1F	2	33	0.01907	0.02259 *
(ADRENALS) - MALE vs FEMALE	2M	9	39	2F	8	32	0.53403	1.00006
(ADRENALS) - MALE vs FEMALE	3M	3	29	3F	2	34	0.42345	1.00005
(ADRENALS) - MALE vs FEMALE	4M	9	46	4F	7	44	0.43032	1.00011
(ADRENALS) - MALE vs FEMALE	5M	8	44	5F	6	33	0.62020	1.00012
(ADRENALS) - MALE vs FEMALE	6M	6	39	6F	2	38	0.13972	0.26035
(ADRENALS) - MALE vs FEMALE	7M	7	30	7F	4	30	0.25310	0.34339
(ADRENALS) - MALE vs FEMALE	8M	4	35	8F	2	25	0.50831	1.00005
(ADRENALS) - MALE vs FEMALE	9M	6	42	9F	0	33	0.02605	0.03156 *
(ADRENALS) - MALE vs FEMALE	10M	11	49	10F	2	45	0.01104	0.01104 *
(ADRENALS) - MALE vs FEMALE	11M	10	49	11F	4	46	0.09255	0.14683

M = Male; F = Female

* Significantly higher incidence of tumor bearing animals for the males as compared to the females.

TABLE 23D
CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
COMPARISONS BETWEEN TEST MATERIALS (LOW DOSE)

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL		
(TOTAL TISSUES) - MALE	4	11	48	6	9	46	0.44304	1.00009
(TOTAL TISSUES) - MALE	4	11	46	-8	10	45	0.52311	1.00014
(TOTAL TISSUES) - MALE	4	11	50	10	17	49	0.11912	0.37830
(TOTAL TISSUES) - MALE	6	9	46	8	10	49	0.56158	1.00007
(TOTAL TISSUES) - MALE	6	9	50	10	17	49	0.04813	0.10955
(TOTAL TISSUES) - MALE	8	10	50	10	17	49	0.07816	0.17599
(TOTAL TISSUES) - FEMALE	4	12	39	6	8	41	0.10314	0.60909
(TOTAL TISSUES) - FEMALE	4	12	39	8	6	35	0.13713	0.27724
(TOTAL TISSUES) - FEMALE	4	12	47	10	8	46	0.24153	1.00017
(TOTAL TISSUES) - FEMALE	6	8	38	8	6	32	0.52597	0.89606
(TOTAL TISSUES) - FEMALE	6	8	48	10	8	46	0.57111	1.00010
(TOTAL TISSUES) - FEMALE	8	6	48	10	8	46	0.35360	1.00014



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TABLE 23D (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 COMPARISONS BETWEEN TEST MATERIALS (HIGH DOSE)

DESCRIPTION	GROUP AFFECTED AT RISK		GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(TOTAL TISSUES) - MALE	5	11	45	7	11	42
(TOTAL TISSUES) - MALE	5	11	45	9	11	46
(TOTAL TISSUES) - MALE	5	11	45	11	13	44
(TOTAL TISSUES) - MALE	7	11	38	9	11	42
(TOTAL TISSUES) - MALE	7	11	41	11	13	42
(TOTAL TISSUES) - MALE	9	11	46	11	13	42
(TOTAL TISSUES) - FEMALE	5	13	27	7	12	33
(TOTAL TISSUES) - FEMALE	5	13	27	9	5	30
(TOTAL TISSUES) - FEMALE	5	13	43	11	9	46
(TOTAL TISSUES) - FEMALE	7	12	37	9	5	30
(TOTAL TISSUES) - FEMALE	7	12	49	11	9	46
(TOTAL TISSUES) - FEMALE	9	5	47	11	9	46
(TOTAL TISSUES) - FEMALE	5	13	27	7	12	33
(TOTAL TISSUES) - FEMALE	5	13	27	9	5	30
(TOTAL TISSUES) - FEMALE	5	13	43	11	9	46
(TOTAL TISSUES) - FEMALE	7	12	37	9	5	30
(TOTAL TISSUES) - FEMALE	7	12	49	11	9	46
(TOTAL TISSUES) - FEMALE	9	5	47	11	9	46

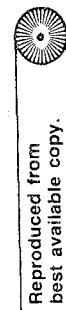
* Significantly higher incidence of tumor bearing animals for the high dose shell sand females (Group 5) as compared to the high dose furan females (Group 9).

TABLE 23D (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 COMPARISONS BETWEEN TEST MATERIALS (LOW DOSE)

DESCRIPTION	GROUP AFFECTED AT RISK			1-TAIL	2-TAIL
(LUNGS) - MALE	4	0	35	0.50006	0.50006
(LUNGS) - MALE	4	0	30	0.24246	0.33328
(LUNGS) - MALE	6	0	27	0.56456	1.00007
(LUNGS) - MALE	6	0	30	0.24246	0.33328
(LUNGS) - MALE	8	1	50	0.49241	1.02951
(LUNGS) - FEMALE	4	0	23	0.45238	0.45238
(LUNGS) - FEMALE	6	0	18	0.51351	0.99999
(LUNGS) - FEMALE	8	1	19	0.54286	1.00000

TABLE 23D (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 COMPARISONS BETWEEN TEST MATERIALS (HIGH DOSE)

DESCRIPTION	GROUP AFFECTED AT RISK			GROUP AFFECTED AT RISK	1-TAIL	2-TAIL
(LUNGS) - MALE	5	0	9	11	0.28947	0.47094
(LUNGS) - MALE	5	0	31	33	0.51567	1.00008
(LUNGS) - MALE	7	2	30	33	0.46375	1.00005
(LUNGS) - MALE	7	2	11	13	0.19928	0.19928
(LUNGS) - MALE	9	1	33	29	0.53230	1.00006
(LUNGS) - FEMALE	5	0	25	11	0.41861	0.41861
(LUNGS) - FEMALE	7	0	30	11	0.37501	0.37501
(LUNGS) - FEMALE	9	0	18	11	0.50000	0.50000



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TABLE 23D (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 COMPARISONS BETWEEN TEST MATERIALS (LOW DOSE)

DESCRIPTION	GROUP AFFECTED AT RISK			GROUP AFFECTED AT RISK	1-TAIL	2-TAIL
(RESPIRATORY TRACT) - MALE	4	1	36	0	0.57143	1.00006
(RESPIRATORY TRACT) - MALE	4	1	36	1	0.74604	1.07990
(RESPIRATORY TRACT) - MALE	4	1	50	2	0.47241	1.02951
(RESPIRATORY TRACT) - MALE	6	0	27	1	0.56456	1.00007
(RESPIRATORY TRACT) - MALE	6	0	50	2	0.24246	0.32328
(RESPIRATORY TRACT) - MALE	8	1	50	2	0.47241	1.02951
(RESPIRATORY TRACT) - FEMALE	4	0	23	1	0.45238	0.45238
(RESPIRATORY TRACT) - FEMALE	6	0	18	1	0.51351	0.99999
(RESPIRATORY TRACT) - FEMALE	8	1	19	0	0.54286	1.00000



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TABLE 23D (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 COMPARISONS BETWEEN TEST MATERIALS (HIGH DOSE)

DESCRIPTION	GROUP AFFECTED AT RISK			GROUP AFFECTED AT RISK	1-TAIL	2-TAIL
(RESPIRATORY TRACT) - MALE	5	0	9	7	2	11
(RESPIRATORY TRACT) - MALE	5	0	31	9	1	33
(RESPIRATORY TRACT) - MALE	7	2	30	9	1	33
(RESPIRATORY TRACT) - MALE	7	2	11	11	0	13
(RESPIRATORY TRACT) - MALE	9	1	33	11	0	29
(RESPIRATORY TRACT) - FEMALE	5	0	25	11	1	18
(RESPIRATORY TRACT) - FEMALE	7	0	30	11	1	18
(RESPIRATORY TRACT) - FEMALE	9	0	18	11	1	18

TABLE 23D (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 COMPARISONS BETWEEN TEST MATERIALS (LOW DOSE)

DESCRIPTION	GROUP AFFECTED AT RISK				GROUP AFFECTED AT RISK		1-TAIL	2-TAIL
(THYROID) - MALE	4	2	22	6	2	17	0.39276	0.99996
(THYROID) - MALE	4	2	12	8	1	10	0.07143	0.57143
(THYROID) - MALE	4	2	30	10	4	25	0.25093	0.39431
(THYROID) - MALE	6	2	17	8	1	16	0.52347	0.89736
(THYROID) - MALE	6	2	22	10	4	25	0.39751	1.00003
(THYROID) - MALE	8	1	28	10	4	25	0.14195	0.17619
(THYROID) - FEMALE	4	1	36	6	3	34	0.25555	0.61160
(THYROID) - FEMALE	4	1	37	8	1	32	0.71614	1.00005
(THYROID) - FEMALE	4	1	10	10	2	4	0.17582	0.17582
(THYROID) - FEMALE	6	3	38	8	1	32	0.37496	0.61976
(THYROID) - FEMALE	6	3	34	10	2	32	0.52933	0.84071
(THYROID) - FEMALE	8	1	32	10	2	37	0.55310	1.00005

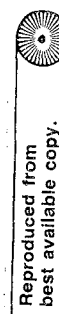
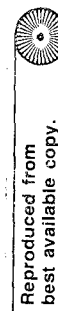


TABLE 23D (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 COMPARISONS BETWEEN TEST MATERIALS (HIGH DOSE)

DESCRIPTION	GROUP AFFECTED AT RISK			GROUP AFFECTED AT RISK	1-TAIL	2-TAIL
(THYROID) - MALE	5	2	25	7	22	0.64541 1.00002
(THYROID) - MALE	5	2	39	9	39	0.69250 1.00005
(THYROID) - MALE	5	2	28	11	25	0.54324 1.00000
(THYROID) - MALE	7	2	34	9	39	0.63901 1.00010
(THYROID) - MALE	7	2	24	11	25	0.48438 1.00003
(THYROID) - MALE	9	2	39	11	32	0.57481 1.00007
(THYROID) - FEMALE	5	1	17	7	19	0.06129 0.09179
(THYROID) - FEMALE	5	1	24	9	18	0.39094 0.56724
(THYROID) - FEMALE	5	1	27	11	33	0.38603 1.00005
(THYROID) - FEMALE	7	6	26	9	18	0.27437 0.69714
(THYROID) - FEMALE	7	6	38	11	33	0.31562 0.59145
(THYROID) - FEMALE	9	2	31	11	33	0.53029 1.00006

TABLE 23D (Continued)
 CARCINOGENIC POTENTIAL OF CONDENSED PYROLYSIS EFFLUENTS FROM IRON FOUNDRY CASTING OPERATIONS (CHRONIC STUDY)
 FISHER'S ANALYSIS OF TUMOR BEARING ANIMALS
 COMPARISONS BETWEEN TEST MATERIALS (LOW DOSE)

DESCRIPTION	GROUP AFFECTED AT RISK			GROUP AFFECTED AT RISK	1-TAIL	2-TAIL
(ADRENALS) - MALE	4	9	46	6	41	0.37454 0.97525
(ADRENALS) - MALE	4	9	46	8	45	0.12356 0.23052
(ADRENALS) - MALE	4	9	50	10	49	0.38193 1.00013
(ADRENALS) - MALE	6	6	39	8	37	0.40262 0.99470
(ADRENALS) - MALE	6	6	50	10	49	0.13305 0.28692
(ADRENALS) - MALE	8	4	50	10	49	0.04122 0.09053
(ADRENALS) - FEMALE	4	7	36	6	34	0.08928 0.14140
(ADRENALS) - FEMALE	4	7	36	8	28	0.14876 0.27784
(ADRENALS) - FEMALE	4	7	36	10	32	0.10558 0.10558
(ADRENALS) - FEMALE	6	2	27	8	25	0.66507 1.00001
(ADRENALS) - FEMALE	6	2	25	10	21	0.62350 1.00001
(ADRENALS) - FEMALE	8	2	25	10	25	0.89541 1.00001



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