

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

C Number: R88007B
Study Gender: Both
PWG Approval Date See web page for date of PWG Approval

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

	F0 Male			
	Treatment Groups (ppm)			
	0	5000	15000	40000
Disposition Summary				
Animals Initially In Study	22	22	22	22
Early Deaths				
Euthanized, moribund	2	1	1	
Scheduled Deaths				
Scheduled sacrifice, terminal (SD 224 - 226)	20	21	21	22
Number of Animals Examined	22	22	22	22
ALIMENTARY SYSTEM				
LIVER	(22)	(22)	(22)	(22)
ANGIECTASIS	1 (4.5%)			
CLEAR CELL FOCUS	2 (9.1%)	3 (13.6%)	1 (4.5%)	2 (9.1%)
HEPATODIAPHRAGMATIC NODULE	1 (4.5%)			
BILE DUCT; HYPERPLASIA		1 (4.5%)	2 (9.1%)	
INFILTRATION; MONONUCLEAR CELL	3 (13.6%) **	2 (9.1%)	19 (86.4%) **	22 (100%) **
INFLAMMATION; FOCAL	3 (13.6%)	2 (9.1%)		3 (13.6%)
HEPATOCYTE; MITOSIS, INCREASED	0 **			3 (13.6%)
NECROSIS; FOCAL	1 (4.5%)			
PIGMENT		1 (4.5%)		
HEPATOCYTE; VACUOLATION; CYTOPLASMIC	0 **		11 (50%) **	22 (100%) **
MESENTERY	(0)	(0)	(1)	(1)
ACCESSORY SPLEEN				1 (100%)
SALIVARY GLANDS	(1)	(0)	(0)	(0)
BILATERAL; EDEMA; PERIGLANDULAR	1 (100%)			
CARDIOVASCULAR SYSTEM				
None				

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

	F0 Male			
	Treatment Groups (ppm)			
	0	5000	15000	40000
ENDOCRINE SYSTEM				
ADRENAL CORTEX	(22)	(1)	(1)	(22)
UNILATERAL; HYPERTROPHY				1 (4.5%)
UNILATERAL; VACUOLATION; CYTOPLASMIC, FOCAL		1 (100%)		
PITUITARY GLAND	(22)	(1)	(1)	(22)
PARS DISTALIS; CYST	1 (4.5%)			
PARS NERVOSA; DEVELOPMENTAL MALFORMATION				1 (4.5%)
PARS DISTALIS; HYPERPLASIA				1 (4.5%)
THYROID GLANDS	(22)	(1)	(1)	(22)
C-CELL; UNILATERAL; HYPERPLASIA	1 (4.5%)			1 (4.5%)
GENERAL BODY SYSTEM				
None				

Study Number: R88007B

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence

Date Report Requested: 12/07/2018

Test Type: RACB

Test Compound: Butyl Paraben

Time Report Requested: 13:51:56

Route: Dosing in Feed

CAS Number: 94-26-8

Lab: RTI

Species/Strain: Rat/Sprague-Dawley

	F0 Male			
	Treatment Groups (ppm)			
	0	5000	15000	40000
GENITAL SYSTEM				
DORSAL PROSTATE	(22)	(1)	(1)	(22)
UNILATERAL; INFLAMMATION, ACUTE	1 (4.5%)			1 (4.5%)
EPIDIDYMIDES	(22)	(1)	(1)	(22)
HYOSPERMIA				1 (4.5%)
PREPUTIAL GLANDS	(5)	(5)	(4)	(8)
BILATERAL; INFLAMMATION, CHRONIC; ACTIVE		2 (40%)	1 (25%)	
BILATERAL; INFLAMMATION, CHRONIC	2 (40%)	1 (20%)	1 (25%)	4 (50%)
UNILATERAL; INFLAMMATION, CHRONIC; ACTIVE		1 (20%)		1 (12.5%)
UNILATERAL; INFLAMMATION, CHRONIC	3 (60%)		1 (25%)	1 (12.5%)
BILATERAL; INFLAMMATION, SUPPURATIVE				1 (12.5%)
UNILATERAL; INFLAMMATION, SUPPURATIVE	1 (20%)	1 (20%)		1 (12.5%)
TESTES	(22)	(1)	(1)	(22)
GERMINAL EPITHELIUM; ATROPHY				1 (4.5%)
GERM CELL; DEGENERATION	1 (4.5%)			
VENTRAL PROSTATE	(22)	(1)	(1)	(22)
UNILATERAL; INFLAMMATION, ACUTE	1 (4.5%)			
BILATERAL; INFLAMMATION, CHRONIC	2 (9.1%)	1 (100%)		1 (4.5%)
HEMATOPOIETIC SYSTEM				
SPLEEN	(22)	(1)	(1)	(22)
ACCESSORY NODULE	1 (4.5%)			
FOLLICLE; ATROPHY; LYMPHOID			1 (100%)	
THYMUS	(22)	(2)	(1)	(21)
HYPERPLASIA; EPITHELIAL	1 (4.5%)			2 (9.5%)
INTEGUMENTARY SYSTEM				
SKIN	(1)	(0)	(0)	(1)
INFLAMMATION, CHRONIC				1 (100%)

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

	F0 Male			
	Treatment Groups (ppm)			
	0	5000	15000	40000
LYMPHOID SYSTEM				
None				
MUSCULOSKELETAL SYSTEM				
DIAPHRAGM	(1)	(0)	(0)	(0)
HEPATODIAPHRAGMATIC NODULE	1 (100%)			
NERVOUS SYSTEM				
None				
RESPIRATORY SYSTEM				
None				
SPECIAL SENSES SYSTEM				
None				
URINARY SYSTEM				
KIDNEYS	(22)	(4)	(1)	(22)
CHRONIC PROGRESSIVE NEPHROPATHY	21 (95.5%)	4 (100%)	1 (100%)	22 (100%)
RENAL TUBULE; BILATERAL; DILATION			1 (100%)	
PELVIS; MINERAL; LINEAR	1 (4.5%)			

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

	F0 Female			
	Treatment Groups (ppm)			
	0	5000	15000	40000
Disposition Summary				
Animals Initially In Study	22	22	22	22
Early Deaths				
Euthanized, moribund		3	1	
Unscheduled Sacrifice	1	1		
Scheduled Deaths				
Scheduled sacrifice, terminal (LD 4, SD 32 - 219)	21	18	21	22
Number of Animals Examined	22	22	22	22
ALIMENTARY SYSTEM				
LIVER	(22)	(22)	(22)	(22)
HEPATOCYTE; APOPTOSIS				1 (4.5%)
CLEAR CELL FOCUS	0 *			2 (9.1%)
EXTRAMEDULLARY HEMATOPOIESIS		1 (4.5%)		
HEPATOCYTE; FATTY CHANGE; FOCAL				1 (4.5%)
BILE DUCT; HYPERPLASIA	0 *			2 (9.1%)
HEPATOCYTE; PERIPORTAL; HYPERTROPHY	0 **	2 (9.1%)	5 (22.7%) *	7 (31.8%) **
HEPATOCYTE; INCLUSION; CYTOPLASMIC				1 (4.5%)
INFILTRATION; MONONUCLEAR CELL	1 (4.5%) **	1 (4.5%)	11 (50%) **	15 (68.2%) **
HEPATOCYTE; MITOSIS; INCREASED	0 **			3 (13.6%)
NECROSIS; FOCAL		2 (9.1%)	1 (4.5%)	
CARDIOVASCULAR SYSTEM				
None				

Study Number: R88007B

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence

Date Report Requested: 12/07/2018

Test Type: RACB

Test Compound: Butyl Paraben

Time Report Requested: 13:51:56

Route: Dosing in Feed

CAS Number: 94-26-8

Lab: RTI

Species/Strain: Rat/Sprague-Dawley

F0 Female

Treatment Groups (ppm)

	0	5000	15000	40000
ENDOCRINE SYSTEM				
ADRENAL CORTEX	(22)	(4)	(1)	(22)
UNILATERAL; HYPERTROPHY; FOCAL	1 (4.5%)			
PITUITARY GLAND	(22)	(4)	(1)	(22)
PARS DISTALIS; CYST				1 (4.5%)
THYROID GLANDS	(22)	(4)	(1)	(22)
C-CELL; UNILATERAL; HYPERPLASIA	1 (4.5%)			
GENERAL BODY SYSTEM				
None				
GENITAL SYSTEM				
CLITORAL GLANDS	(1)	(0)	(0)	(0)
UNILATERAL; INFLAMMATION, CHRONIC	1 (100%)			
OVARIES	(22)	(22)	(22)	(22)
CORPUS LUTEUM; BILATERAL; CYST				1 (4.5%)
CORPUS LUTEUM; UNILATERAL; CYST	2 (9.1%)	3 (13.6%)		3 (13.6%)
FOLLICLE; BILATERAL; CYST			1 (4.5%)	
FOLLICLE; UNILATERAL; CYST	4 (18.2%)	3 (13.6%)	3 (13.6%)	2 (9.1%)
UNILATERAL; CYST	2 (9.1%)	1 (4.5%)		
UTERUS	(22)	(22)	(22)	(22)
ENDOMETRIAL GLANDS; CYST	1 (4.5%)	5 (22.7%)	4 (18.2%)	
DILATION		1 (4.5%)		
ENDOMETRIUM; HYPERPLASIA; CYSTIC				1 (4.5%)
HYPERPLASIA, ATYPICAL	1 (4.5%)		1 (4.5%)	
UNILATERAL; INFLAMMATION, ACUTE	1 (4.5%)			
ENDOMETRIUM; METAPLASIA; SQUAMOUS	5 (22.7%)	4 (18.2%)	6 (27.3%)	1 (4.5%)
ENDOMETRIUM; POLYP; STROMAL			1 (4.5%)	2 (9.1%)

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

	F0 Female			
	Treatment Groups (ppm)			
	0	5000	15000	40000
HEMATOPOIETIC SYSTEM				
SPLEEN	(22)	(4)	(1)	(22)
EXTRAMEDULLARY HEMATOPOIESIS; INCREASED		1 (25%)		
CAPSULE; FIBROSIS		1 (25%)		
THYMUS	(22)	(4)	(1)	(22)
HYPERPLASIA; EPITHELIAL	3 (13.6%)			1 (4.5%)
INTEGUMENTARY SYSTEM				
MAMMARY GLANDS	(2)	(3)	(1)	(1)
INFLAMMATION, ACUTE	1 (50%)	1 (33.3%)		
SKIN	(0)	(1)	(0)	(1)
ABSCESS; SUBCUTANEOUS		1 (100%)		
INFLAMMATION, SUPPURATIVE		1 (100%)		
ULCER				1 (100%)
SKIN, ABDOMINAL	(0)	(1)	(0)	(0)
ULCER		1 (100%)		
LYMPHOID SYSTEM				
None				
MUSCULOSKELETAL SYSTEM				
None				
NERVOUS SYSTEM				
None				
RESPIRATORY SYSTEM				
None				

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

	F0 Female			
	Treatment Groups (ppm)			
	0	5000	15000	40000
SPECIAL SENSES SYSTEM				
ZYMBALS GLANDS	(0)	(1)	(0)	(0)
URINARY SYSTEM				
KIDNEYS	(22)	(22)	(22)	(22)
CORTEX; ATROPHY				1 (4.5%)
CHRONIC PROGRESSIVE NEPHROPATHY	21 (95.5%) **	19 (86.4%)	20 (90.9%)	11 (50%) **
RENAL TUBULE; BILATERAL; DILATION	1 (4.5%)			
INFILTRATION; MONONUCLEAR CELL		1 (4.5%)		
METAPLASIA; OSSEOUS			1 (4.5%)	1 (4.5%)
CORTICOMEDULLARY JUNCTION; MINERAL; FOCAL	8 (36.4%)	8 (36.4%)	13 (59.1%)	12 (54.5%)
PAPILLA; MINERAL; LINEAR		1 (4.5%)	2 (9.1%)	
PELVIS; MINERAL	2 (9.1%)			
RENAL TUBULE; REGENERATION			1 (4.5%)	

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

F1 Male : F1c NonParent Males

	Treatment Groups (ppm)			
	0	5000	15000	40000
Disposition Summary				
Animals Initially In Study	45	34	46	45
Early Deaths				
Euthanized, moribund	1			30
Found Dead	1			9
Scheduled Deaths				
Scheduled sacrifice, terminal (PND 90 - 92)	43	34	46	6
Number of Animals Examined	45	34	46	6
Total number litters	16	12	18	5
ALIMENTARY SYSTEM				
INTESTINE, COLON	(1)	(1)	(0)	(0)
GALT; HYPERPLASIA; LYMPHOCYTE	1 (100%) [1]	1 (100%) [1]		
LIVER	(45)	(34)	(46)	(6)
DEFORMITY			2 (4.3%) [2]	
HEPATODIAPHRAGMATIC NODULE	1 (2.2%) [1]	1 (2.9%) [1]		
BILE DUCT; HYPERPLASIA	0 **		9 (19.6%) [6]	4 (66.7%) [4] *
INFILTRATION; MONONUCLEAR CELL	1 (2.2%) [1] **	4 (11.8%) [3]	29 (63%) [14] **	
INFLAMMATION; FOCAL	4 (8.9%) [3]	2 (5.9%) [2]	3 (6.5%) [3]	
INFLAMMATION, GRANULOMATOUS; FOCAL			1 (2.2%) [1]	
MINERAL; FOCAL			1 (2.2%) [1]	
POLYARTERITIS, NODOSA			2 (4.3%) [1]	
CARDIOVASCULAR SYSTEM				
None				

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

F1 Male : F1c NonParent Males

Treatment Groups (ppm)

0

5000

15000

40000

ENDOCRINE SYSTEM

ADRENAL CORTEX

(45)

(0)

(2)

(6)

BILATERAL; HYPERPLASIA

2 (100%) [1]

BILATERAL; POLYARTERITIS, NODOSA

2 (100%) [1]

PITUITARY GLAND

(45)

(0)

(0)

(6)

PARS DISTALIS; CYST

1 (2.2%) [1]

GENERAL BODY SYSTEM

None

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

F1 Male : F1c NonParent Males

	Treatment Groups (ppm)			
	0	5000	15000	40000
GENITAL SYSTEM				
COAGULATING GLANDS	(45)	(0)	(0)	(6)
BILATERAL; IMMATURE	1 (2.2%) [1]			
DORSAL PROSTATE	(45)	(0)	(0)	(6)
BILATERAL; IMMATURE	1 (2.2%) [1]			
UNILATERAL; INFLAMMATION, ACUTE	1 (2.2%) [1]			
BILATERAL; INFLAMMATION, CHRONIC	1 (2.2%) [1]			
EPIDIDYMIDES	(45)	(0)	(1)	(6)
DUCT; EXFOLIATED GERM CELL	3 (6.7%) [1]		1 (100%) [1]	1 (16.7%) [1]
HYOSPERMIA	1 (2.2%) [1]		1 (100%) [1]	
IMMATURE	1 (2.2%) [1]			
SEMINAL VESICLES	(45)	(0)	(2)	(6)
BILATERAL; IMMATURE	1 (2.2%) [1]			
UNILATERAL; POLYARTERITIS, NODOSA			1 (50%) [1]	
BILATERAL; SECRETORY MATERIAL DECREASED			1 (50%) [1]	
TESTES	(45)	(1)	(1)	(6)
GERM CELL; DEGENERATION	3 (6.7%) [1]		1 (100%) [1]	1 (16.7%) [1]
IMMATURE	1 (2.2%) [1]			
VENTRAL PROSTATE	(45)	(0)	(1)	(6)
BILATERAL; IMMATURE	1 (2.2%) [1]			
BILATERAL; INFLAMMATION, CHRONIC	29 (64.4%) [15]			3 (50%) [3]
HEMATOPOIETIC SYSTEM				
SPLEEN	(45)	(0)	(1)	(6)
ACCESSORY NODULE				1 (16.7%) [1]
EXTRAMEDULLARY HEMATOPOIESIS, INCREASED			1 (100%) [1]	
INTEGUMENTARY SYSTEM				
None				

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

F1 Male : F1c NonParent Males

	Treatment Groups (ppm)			
	0	5000	15000	40000
LYMPHOID SYSTEM				
None				
MUSCULOSKELETAL SYSTEM				
DIAPHRAGM	(1)	(0)	(0)	(0)
HERNIA	1 (100%) [1]			
NERVOUS SYSTEM				
None				
RESPIRATORY SYSTEM				
LUNGS	(1)	(0)	(0)	(0)
HEMORRHAGE	1 (100%) [1]			
SPECIAL SENSES SYSTEM				
EYES	(1)	(0)	(0)	(0)
RETINA; DYSPLASIA	1 (100%) [1]			
URINARY SYSTEM				
KIDNEYS	(45)	(4)	(4)	(6)
CHRONIC PROGRESSIVE NEPHROPATHY	41 (91.1%) [15]	4 (100%) [3]	4 (100%) [3]	1 (16.7%) [1] **
CORTEX; CYST	1 (2.2%) [1]			
MEDULLA; CYST	1 (2.2%) [1]			
PELVIS; DILATION	2 (4.4%) [2]	4 (100%) [3]	4 (100%) [3]	
RENAL TUBULE; DILATION	1 (2.2%) [1]			
PAPILLA; HYPERPLASIA; EPITHELIAL	1 (2.2%) [1]			
INFLAMMATION, CHRONIC; INTERSTITIAL	1 (2.2%) [1]			
CORTICOMEDULLARY JUNCTION; MINERAL; FOCAL	2 (4.4%) [1]			
RENAL TUBULE; REGENERATION; FOCAL	1 (2.2%) [1]			

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

F1 Female : F1c NonParent Female

	Treatment Groups (ppm)			
	0	5000	15000	40000
Disposition Summary				
Animals Initially In Study	40	35	41	34
Early Deaths				
Euthanized, moribund	1			20
Found Dead				14
Scheduled Deaths				
Scheduled sacrifice, terminal (PND 90 - 92)	39	35	41	
Number of Animals Examined	40	35	41	
Total number litters	17	14	15	
ALIMENTARY SYSTEM				
LIVER	(40)	(35)	(41)	(0)
CLEAR CELL FOCUS		1 (2.9%) [1]		
CYST; SQUAMOUS	1 (2.5%) [1]			
HEPATODIAPHRAGMATIC NODULE	1 (2.5%) [1]		1 (2.4%) [1]	
BILE DUCT; HYPERPLASIA		1 (2.9%) [1]		
HEPATOCTE; PERIportal; HYPERTROPHY	0 *	1 (2.9%) [1]	6 (14.6%) [5]	
INFILTRATION; MONONUCLEAR CELL	0 **	1 (2.9%) [1]	27 (65.9%) [12] **	
INFLAMMATION; FOCAL	4 (10%) [3]	6 (17.1%) [5]	4 (9.8%) [4]	
POLYARTERITIS; NODOSA			2 (4.9%) [1]	
CARDIOVASCULAR SYSTEM				
None				

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

F1 Female : F1c NonParent Female

	Treatment Groups (ppm)			
	0	5000	15000	40000
ENDOCRINE SYSTEM				
ADRENAL CORTEX	(40)	(35)	(41)	(0)
BILATERAL; HYPERPLASIA			1 (2.4%) [1]	
PITUITARY GLAND	(40)	(0)	(0)	(0)
PARS DISTALIS; CYST	3 (7.5%) [3]			
GENERAL BODY SYSTEM				
None				
GENITAL SYSTEM				
CERVIX	(40)	(0)	(0)	(0)
HYPERPLASIA; MUCINOUS	1 (2.5%) [1]			
CLITORAL GLANDS	(1)	(0)	(0)	(0)
BILATERAL; INFLAMMATION, CHRONIC	1 (100%) [1]			
OVARIES	(39)	(0)	(1)	(0)
CORPUS LUTEUM; BILATERAL; CYST	2 (5.1%) [2]			
CORPUS LUTEUM; UNILATERAL; CYST	2 (5.1%) [2]			
BILATERAL; POLYARTERITIS; NODOSA			1 (100%) [1]	
UTERUS	(40)	(2)	(41)	(0)
ENDOMETRIAL GLANDS; CYST	1 (2.5%) [1]			
CYST	4 (10%) [4]	1 (50%) [1]	2 (4.9%) [2]	
DEVELOPMENTAL MALFORMATION	1 (2.5%) [1]			
HEMORRHAGE	1 (2.5%) [1]			
ENDOMETRIUM; METAPLASIA; SQUAMOUS			1 (2.4%) [1]	
POLYARTERITIS; NODOSA			2 (4.9%) [1]	
VAGINA	(40)	(0)	(0)	(0)
HYPERPLASIA; MUCINOUS	1 (2.5%) [1]			

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

F1 Female : F1c NonParent Female

	Treatment Groups (ppm)			
	0	5000	15000	40000
HEMATOPOIETIC SYSTEM				
SPLEEN	(40)	(0)	(2)	(0)
EXTRAMEDULLARY HEMATOPOIESIS; INCREASED			2 (100%) [1]	
POLYARTERITIS; NODOSA			1 (50%) [1]	
THYMUS	(39)	(35)	(41)	(0)
HYPERPLASIA; EPITHELIAL			1 (2.4%) [1]	
INTEGUMENTARY SYSTEM				
MAMMARY GLANDS	(39)	(0)	(41)	(0)
ACINUS; HYPERPLASIA	6 (15.4%) [6]		4 (9.8%) [4]	
LYMPHOID SYSTEM				
None				
MUSCULOSKELETAL SYSTEM				
None				
NERVOUS SYSTEM				
None				
RESPIRATORY SYSTEM				
None				
SPECIAL SENSES SYSTEM				
None				

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

F1 Female : F1c NonParent Female

	Treatment Groups (ppm)			
	0	5000	15000	40000
URINARY SYSTEM				
KIDNEYS	(40)	(1)	(2)	(0)
CHRONIC PROGRESSIVE NEPHROPATHY	17 (42.5%) [8]		2 (100%) [1]	
CORTEX; CYST	1 (2.5%) [1]			
PELVIS; DILATION		1 (100%) [1]		
INFLAMMATION, CHRONIC; INTERSTITIAL	1 (2.5%) [1]			
CORTICOMEDULLARY JUNCTION; MINERAL; FOCAL	24 (60%) [14]	1 (100%) [1]	2 (100%) [1]	
PAPILLA; MINERAL; LINEAR			2 (100%) [1]	
NEPHROBLASTEMATOSIS	1 (2.5%) [1]			
POLYARTERITIS; NODOSA			2 (100%) [1]	

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

F1 Male : F1c Parental Males

	Treatment Groups (ppm)			
	0	5000	15000	40000
Disposition Summary				
Animals Initially In Study	40	40	40	26
Early Deaths				
Euthanized, moribund	1	3		
Unscheduled Sacrifice			1	
Scheduled Deaths				
Scheduled sacrifice, terminal (PND 207 - 213)	39	37	39	26
Number of Animals Examined	40	40	40	26
Total number litters	19	14	18	7
ALIMENTARY SYSTEM				
LIVER	(40)	(40)	(40)	(26)
BASOPHILIC FOCUS				1 (3.8%) [1]
CHOLANGIOFIBROSIS	1 (2.5%) [1]			
CLEAR CELL FOCUS	2 (5%) [2]	3 (7.5%) [3]	3 (7.5%) [3]	1 (3.8%) [1]
HEPATOCYTE; FATTY CHANGE; FOCAL			1 (2.5%) [1]	
HEPATODIAPHRAGMATIC NODULE	3 (7.5%) [2]			
BILE DUCT; HYPERPLASIA	3 (7.5%) [3] **	2 (5%) [2]	12 (30%) [9] *	19 (73.1%) [7] **
HEPATOCYTE; INCLUSION; CYTOPLASMIC				1 (3.8%) [1]
INFILTRATION; MONONUCLEAR CELL	0 **	4 (10%) [4]	32 (80%) [18] **	16 (61.5%) [7] **
INFLAMMATION; FOCAL	9 (22.5%) [7]	7 (17.5%) [6]	3 (7.5%) [3]	2 (7.7%) [1]
HEPATOCYTE; MITOSIS; INCREASED	0 **			5 (19.2%) [4] *
NECROSIS; FOCAL		1 (2.5%) [1]	1 (2.5%) [1]	
HEPATOCYTE; VACUOLATION; CYTOPLASMIC	0 **		9 (22.5%) [7] *	17 (65.4%) [6] **
SALIVARY GLANDS	(2)	(0)	(1)	(0)
EDEMA; PERIGLANDULAR			1 (100%) [1]	

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

F1 Male : F1c Parental Males

	Treatment Groups (ppm)			
	0	5000	15000	40000
CARDIOVASCULAR SYSTEM				
HEART	(0)	(2)	(0)	(0)
AORTIC VALVE; VALVULOPATHY		1 (50%) [1]		
ENDOCRINE SYSTEM				
ADRENAL CORTEX	(40)	(3)	(1)	(26)
BILATERAL; VACUOLIZATION CYTOPLASMIC; DIFFUSE		1 (33.3%) [1]		
PITUITARY GLAND	(40)	(3)	(1)	(25)
PARS DISTALIS; CYST	1 (2.5%) [1]			
GENERAL BODY SYSTEM				
FAT	(1)	(0)	(1)	(0)
NECROSIS	1 (100%) [1]			

Study Number: R88007B

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence

Date Report Requested: 12/07/2018

Test Type: RACB

Test Compound: Butyl Paraben

Time Report Requested: 13:51:56

Route: Dosing in Feed

CAS Number: 94-26-8

Lab: RTI

Species/Strain: Rat/Sprague-Dawley

F1 Male : F1c Parental Males

	Treatment Groups (ppm)			
	0	5000	15000	40000
GENITAL SYSTEM				
DORSAL PROSTATE	(40)	(3)	(1)	(26)
UNILATERAL; INFLAMMATION, CHRONIC	1 (2.5%) [1]			
EPIDIDYMIDES	(40)	(3)	(1)	(26)
DUCT; EXFOLIATED GERM CELL	1 (2.5%) [1]			
HYOSPERMIA	1 (2.5%) [1]		1 (100%) [1]	
INFILTRATION; MONONUCLEAR CELL				1 (3.8%) [1]
PREPUTIAL GLANDS	(2)	(2)	(0)	(1)
BILATERAL; INFLAMMATION, CHRONIC	2 (100%) [2]	1 (50%) [1]		
BILATERAL; INFLAMMATION, SUPPURATIVE		1 (50%) [1]		1 (100%) [1]
TESTES	(40)	(3)	(1)	(26)
GERMINAL EPITHELIUM; ATROPHY	1 (2.5%) [1]			
GERM CELL; DEGENERATION	3 (7.5%) [2]			1 (3.8%) [1]
INTERSTITIAL CELL; HYPERPLASIA	1 (2.5%) [1]			
VENTRAL PROSTATE	(40)	(3)	(1)	(26)
BILATERAL; INFLAMMATION, CHRONIC	8 (20%) [6]			3 (11.5%) [3]
UNILATERAL; INFLAMMATION, CHRONIC	1 (2.5%) [1]			
HEMATOPOIETIC SYSTEM				
LYMPH NODE	(1)	(0)	(0)	(0)
ABDOMINAL; PIGMENT	1 (100%) [1]			
SPLEEN	(40)	(3)	(1)	(26)
LYMPHOCYTE; DEPLETION	1 (2.5%) [1]			
THYMUS	(40)	(3)	(1)	(26)
APOPTOSIS; LYMPHOCYTE		1 (33.3%) [1]		
ATROPHY	1 (2.5%) [1]			
HEMORRHAGE		1 (33.3%) [1]		
HYPERPLASIA; EPITHELIAL	2 (5%) [2]			4 (15.4%) [3]

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

F1 Male : F1c Parental Males

	Treatment Groups (ppm)			
	0	5000	15000	40000
INTEGUMENTARY SYSTEM				
SKIN	(0)	(1)	(1)	(0)
INFLAMMATION, SUPPURATIVE EYELID; ULCER		1 (100%) [1]	1 (100%) [1]	
LYMPHOID SYSTEM				
None				
MUSCULOSKELETAL SYSTEM				
None				
NERVOUS SYSTEM				
BRAIN, FOREBRAIN	(1)	(0)	(0)	(0)
RESPIRATORY SYSTEM				
LUNGS	(1)	(0)	(0)	(0)
CONGESTION	1 (100%) [1]			
SPECIAL SENSES SYSTEM				
None				
URINARY SYSTEM				
KIDNEYS	(40)	(6)	(2)	(26)
CHRONIC PROGRESSIVE NEPHROPATHY	40 (100%) [19]	6 (100%) [4]	2 (100%) [2]	26 (100%) [7]
MEDULLA; CYST	1 (2.5%) [1]			
PELVIS; DILATION	4 (10%) [4]	3 (50%) [3]	2 (100%) [2]	
PELVIS; MINERAL	6 (15%) [5]	1 (16.7%) [1]		

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

F1 Female : F1c Parental Females

	Treatment Groups (ppm)			
	0	5000	15000	40000
Disposition Summary				
Animals Initially In Study	40	40	40	26
Early Deaths				
Euthanized, moribund	1	2	2	
Found Dead			1	
Unscheduled Sacrifice	2		2	
Scheduled Deaths				
Scheduled sacrifice, terminal (LD 21, PND 227 - 236)	37	38	35	26
Number of Animals Examined	40	40	40	26
Total number litters	20	14	18	8
ALIMENTARY SYSTEM				
LIVER	(40)	(40)	(40)	(26)
HEPATOCYTE; APOPTOSIS				1 (3.8%) [1]
CLEAR CELL FOCUS				2 (7.7%) [2]
FATTY CHANGE; DIFFUSE	1 (2.5%) [1]			
BILE DUCT; HYPERPLASIA	3 (7.5%) [2] **	3 (7.5%) [2]	5 (12.5%) [3]	11 (42.3%) [7] **
HEPATOCYTE; PERIPORTAL; HYPERTROPHY	0 **	22 (55%) [11] **	28 (70%) [17] **	24 (92.3%) [8] **
HEPATOCYTE; INCLUSION; CYTOPLASMIC	0 **			21 (80.8%) [8] **
INFILTRATION; MONONUCLEAR CELL	1 (2.5%) [1]		10 (25%) [8] *	4 (15.4%) [3]
INFLAMMATION; FOCAL	3 (7.5%) [3]	3 (7.5%) [3]		
NECROSIS	1 (2.5%) [1]			
POLYARTERITIS; NODOSA			1 (2.5%) [1]	
HEPATOCYTE; VACUOLIZATION; CYTOPLASMIC	0 *			6 (23.1%) [3]
MESENTERY	(0)	(0)	(2)	(0)
POLYARTERITIS; NODOSA			2 (100%) [1]	

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

F1 Female : F1c Parental Females

	Treatment Groups (ppm)			
	0	5000	15000	40000
CARDIOVASCULAR SYSTEM				
None				
ENDOCRINE SYSTEM				
ADRENAL CORTEX	(40)	(40)	(40)	(26)
BILATERAL; DEGENERATION			1 (2.5%) [1]	
BILATERAL; HYPERPLASIA; DIFFUSE			1 (2.5%) [1]	
UNILATERAL; HYPERPLASIA; FOCAL		1 (2.5%) [1]		
UNILATERAL; HYPERTROPHY; FOCAL			1 (2.5%) [1]	
UNILATERAL; VACUOLIZATION CYTOPLASMIC; FOCAL	1 (2.5%) [1]	1 (2.5%) [1]		
ZONA GLOMERULOSA; BILATERAL; VACUOLIZATION CYTOPLASMIC	0 **	2 (5%) [2]	10 (25%) [9] **	23 (88.5%) [8] **
PITUITARY GLAND	(40)	(2)	(5)	(26)
PARS DISTALIS; CYST	2 (5%) [2]			
THYROID GLANDS	(40)	(2)	(5)	(25)
C-CELL; UNILATERAL; HYPERPLASIA	1 (2.5%) [1]			
GENERAL BODY SYSTEM				
FAT	(0)	(1)	(0)	(0)
NECROSIS		1 (100%) [1]		

Study Number: R88007B

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence

Date Report Requested: 12/07/2018

Test Type: RACB

Test Compound: Butyl Paraben

Time Report Requested: 13:51:56

Route: Dosing in Feed

CAS Number: 94-26-8

Lab: RTI

Species/Strain: Rat/Sprague-Dawley

F1 Female : F1c Parental Females

	Treatment Groups (ppm)			
	0	5000	15000	40000
GENITAL SYSTEM				
CERVIX	(40)	(2)	(5)	(26)
CYST; SQUAMOUS	1 (2.5%) [1]			
POLYARTERITIS; NODOSA			2 (40%) [1]	
CLITORAL GLANDS	(1)	(1)	(1)	(2)
DUCT; BILATERAL; ECTASIA		1 (100%) [1]		1 (50%) [1]
UNILATERAL; INFLAMMATION, CHRONIC, ACTIVE			1 (100%) [1]	
OVARIES	(40)	(3)	(5)	(26)
CORPUS LUTEUM; BILATERAL; CYST	1 (2.5%) [1]	1 (33.3%) [1]		
CORPUS LUTEUM; UNILATERAL; CYST	5 (12.5%) [4]			1 (3.8%) [1]
FOLLICLE; BILATERAL; CYST	3 (7.5%) [3]			
FOLLICLE; UNILATERAL; CYST	6 (15%) [6]			2 (7.7%) [2]
OVIDUCT; UNILATERAL; CYST	1 (2.5%) [1]			
PARAOVARIAN TISSUE; UNILATERAL; CYST	1 (2.5%) [1]			
BILATERAL; POLYARTERITIS; NODOSA			2 (40%) [1]	
UTERUS	(40)	(3)	(6)	(26)
ENDOMETRIAL GLANDS; CYST	1 (2.5%) [1]			
DILATION				1 (3.8%) [1]
HEMATOCYST	1 (2.5%) [1]			
ENDOMETRIUM; METAPLASIA; SQUAMOUS	2 (5%) [2]			
POLYARTERITIS; NODOSA			2 (33.3%) [1]	
PLACENTA; RETENTION		1 (33.3%) [1]		
VAGINA	(40)	(2)	(5)	(26)
MUCIFICATION	1 (2.5%) [1]			
POLYARTERITIS; NODOSA			1 (20%) [1]	

Study Number: R88007B
 Test Type: RACB
 Route: Dosing in Feed
 Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
 Test Compound: Butyl Paraben
 CAS Number: 94-26-8

Date Report Requested: 12/07/2018
 Time Report Requested: 13:51:56
 Lab: RTI

F1 Female : F1c Parental Females

	Treatment Groups (ppm)			
	0	5000	15000	40000
HEMATOPOIETIC SYSTEM				
SPLEEN	(40)	(2)	(5)	(26)
ACCESSORY SPLEEN			1 (20%) [1]	
EXTRAMEDULLARY HEMATOPOIESIS; INCREASED INFILTRATION, HISTIOCYTIC	1 (2.5%) [1]	1 (50%) [1]	1 (20%) [1]	
THYMUS	(40)	(40)	(39)	(26)
ATROPHY	1 (2.5%) [1] **	1 (2.5%) [1]	7 (17.9%) [5]	13 (50%) [6] **
CYST			1 (2.6%) [1]	1 (3.8%) [1]
HYPERPLASIA; EPITHELIAL	3 (7.5%) [3]			
INTEGUMENTARY SYSTEM				
MAMMARY GLANDS	(40)	(3)	(4)	(26)
INFLAMMATION, ACUTE	1 (2.5%) [1]			
POLYARTERITIS; NODOSA			1 (25%) [1]	
SKIN	(0)	(1)	(0)	(1)
EDEMA; SUBCUTANEOUS				1 (100%) [1]
EPITHELIUM; HYPERPLASIA		1 (100%) [1]		
DERMIS; INFLAMMATION, CHRONIC		1 (100%) [1]		
LYMPHOID SYSTEM				
None				
MUSCULOSKELETAL SYSTEM				
LIMB	(1)	(0)	(0)	(0)
PAW	(1)	(0)	(0)	(0)
NERVOUS SYSTEM				
None				

Study Number: R88007B

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence

Date Report Requested: 12/07/2018

Test Type: RACB

Test Compound: Butyl Paraben

Time Report Requested: 13:51:56

Route: Dosing in Feed

CAS Number: 94-26-8

Lab: RTI

Species/Strain: Rat/Sprague-Dawley

F1 Female : F1c Parental Females

Treatment Groups (ppm)

0

5000

15000

40000

RESPIRATORY SYSTEM

None

SPECIAL SENSES SYSTEM

None

URINARY SYSTEM

	(40)	(3)	(6)	(26)
KIDNEYS				
CHRONIC PROGRESSIVE NEPHROPATHY	33 (82.5%) [19]	2 (66.7%) [2]	4 (66.7%) [2]	8 (30.8%) [5] **
MEDULLA; CYST				1 (3.8%) [1]
PELVIS; DILATION			1 (16.7%) [1]	
RENAL TUBULE; PAPILLA; DILATION				2 (7.7%) [2]
INFLAMMATION, CHRONIC; INTERSTITIAL	1 (2.5%) [1]			2 (7.7%) [2]
CORTICOMEDULLARY JUNCTION; MINERAL; FOCAL	22 (55%) [14]	1 (33.3%) [1]	2 (33.3%) [2]	2 (7.7%) [2] **
PAPILLA; MINERAL; LINEAR	2 (5%) [2]			
BILATERAL; POLYARTERITIS; NODOSA			2 (33.3%) [1]	
RENAL TUBULE; REST				1 (3.8%) [1]

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

PA10R: Statistical Analysis of Non-Neoplastic Lesions with Litter Incidence
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/07/2018
Time Report Requested: 13:51:56
Lab: RTI

LEGEND

Number of animals examined given for each tissue. If none of the animals examined have the specific lesion then there is a blank for that dose group for that specific lesion. The exception to this is if statistical analysis is performed for a lesion and the control group has no animals with the lesion then a 0 is included for the control group on the table for that lesion.

Number of animals with observation reported with percent incidence in parentheses

Number of litters shown in square brackets for F1 and F2 animals

Trend p-values are reported only for those organs that were fully examined in the control group plus two or more other dose groups. For organs that were fully examined in just the control and one other dose group, only the pairwise p-values are reported.

Statistical analysis for the F0 animals was performed using the Poly-3 trend and pairwise statistics.

Statistical analysis for the F1 Non-parental animals was performed by Cochran-Armitage test with a Rao-Scott modification for the random effect due to litter.

Statistical analysis for the F1 Parental animals was performed by Cochran-Armitage test with a poly-3 adjustment for age and a Rao-Scott modification for the random effect due to litter.

All trend and pairwise p-values are reported as one-sided.

Statistical significance for the control group indicates a significant trend test

Statistical significance for a treatment group indicates a significant pairwise test compared to the vehicle control group

* Statistically significant at $P \leq 0.05$

** Statistically significant at $P \leq 0.01$

Non-pregnant females from the F0 and F1 generations are included in the analysis.

**** END OF REPORT ****