

メタクリル酸ブチルのラットを用いた
吸入による 2 週間毒性試験報告書

試験番号 : 0818

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TABLE A

CONCENTRATIONS OF BUTYL METHACRYLATE IN THE
INHALATION CHAMBER OF THE 2-WEEK INHALATION STUDY

CONCENTRATIONS OF BUTYL METHACRYLATE IN THE
INHALATION CHAMBER OF THE 2-WEEK INHALATION STUDY

Group Name	Concentration(ppm) Mean \pm S.D.
Control	0.0 \pm 0.0
63 ppm	63.1 \pm 0.6
125 ppm	125.4 \pm 0.5
250 ppm	249.6 \pm 3.8
500 ppm	499.2 \pm 2.7
1000 ppm	1000.1 \pm 3.8

TABLE B 1

SURVIVAL ANIMAL NUMBERS : MALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
 REPORT TYPE : A1 2
 SEX : MALE

SURVIVAL ANIMAL NUMBERS

Group Name	Animals At start	Administration (Days)													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
Control	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
63ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
125ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
250ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
500ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
1000ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
		Number of survival/ Number of effective animals Survival rate(%)													

STUDY NO. : 0818
ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
REPORT TYPE : A1 2
SEX : MALE

SURVIVAL ANIMAL NUMBERS

PAGE : 2

Group Name	Animals At start	Administration (Days) 2-7
Control	5	5/ 5 100.0
63ppm	5	5/ 5 100.0
125ppm	5	5/ 5 100.0
250ppm	5	5/ 5 100.0
500ppm	5	5/ 5 100.0
1000ppm	5	5/ 5 100.0

Number of survival/ Number of effective animals
Survival rate(%)

(HAN360)

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TABLE B 2

SURVIVAL ANIMAL NUMBERS : FEMALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1 2
 SEX : FEMALE

SURVIVAL ANIMAL NUMBERS

Group Name	Animals At start	Administration (Days)													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
Control	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
63ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
125ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
250ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
500ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
1000ppm	5	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0	5/ 5 100.0
		Number of survival/ Number of effective animals Survival rate(%)													

STUDY NO. : 0818
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
REPORT TYPE : A1 2
SEX : FEMALE

SURVIVAL ANIMAL NUMBERS

Group Name	Animals At start	Administration (Days) 2-7
Control	5	5/ 5 100.0
63ppm	5	5/ 5 100.0
125ppm	5	5/ 5 100.0
250ppm	5	5/ 5 100.0
500ppm	5	5/ 5 100.0
1000ppm	5	5/ 5 100.0

Number of survival/ Number of effective animals
Survival rate(%)

TABLE C 1

CLINICAL OBSERVATION : MALE

STUDY NO. : 0818
ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 1

Clinical sign	Group Name	Administration Week-day				
		1-2	1-4	1-7	2-3	2-7
NON REMARKABLE	Control	5	5	5	5	5
	63ppm	5	5	5	5	5
	125ppm	5	5	5	5	5
	250ppm	5	5	5	5	5
	500ppm	5	5	5	5	5
	1000ppm	5	5	5	5	5

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TABLE C 2

CLINICAL OBSERVATION : FEMALE

STUDY NO. : 0818
ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 2

Clinical sign	Group Name	Administration Week-day				
		1-2	1-4	1-7	2-3	2-7
NON REMARKABLE	Control	5	5	5	5	5
	63ppm	5	5	5	5	5
	125ppm	5	5	5	5	5
	250ppm	5	5	5	5	5
	500ppm	5	5	5	5	5
	1000ppm	5	5	5	5	5

(HAN190)

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TABLE D 1

BODY WEIGHT CHANGES AND SURVIVAL ANIMAL
NUMBERS : MALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 2
 SEX : MALE

MEAN BODY WEIGHTS AND SURVIVAL

Week-Day on Study	Control		63ppm		125ppm		250ppm		500ppm		1000ppm						
	Av. Wt.	No. of Surviv. < 5>	Av. Wt.	% of cont. < 5>	No. of Surviv.	Av. Wt.	% of cont. < 5>	No. of Surviv.	Av. Wt.	% of cont. < 5>	No. of Surviv.	Av. Wt.	% of cont. < 5>	No. of Surviv.			
0-0	111 (5)	5/ 5	111 (5)	100	5/ 5	111 (5)	100	5/ 5	111 (5)	100	5/ 5	111 (5)	100	5/ 5	111 (5)	100	5/ 5
1-2	118 (5)	5/ 5	118 (5)	100	5/ 5	118 (5)	100	5/ 5	119 (5)	101	5/ 5	118 (5)	100	5/ 5	113 (5)	96	5/ 5
1-4	124 (5)	5/ 5	124 (5)	100	5/ 5	123 (5)	99	5/ 5	123 (5)	99	5/ 5	120 (5)	97	5/ 5	114 (5)	92	5/ 5
1-7	135 (5)	5/ 5	134 (5)	99	5/ 5	131 (5)	97	5/ 5	136 (5)	101	5/ 5	133 (5)	99	5/ 5	128 (5)	95	5/ 5
2-3	146 (5)	5/ 5	145 (5)	99	5/ 5	140 (5)	96	5/ 5	145 (5)	99	5/ 5	142 (5)	97	5/ 5	133 (5)	91	5/ 5
2-7	162 (5)	5/ 5	161 (5)	99	5/ 5	158 (5)	98	5/ 5	164 (5)	101	5/ 5	161 (5)	99	5/ 5	150 (5)	93	5/ 5

< >:No. of effective animals, ():No. of measured animals Av. Wt. : g

TABLE D 2

**BODY WEIGHT CHANGES AND SURVIVAL ANIMAL
NUMBERS : FEMALE**

STUDY NO. : 0818
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

MEAN BODY WEIGHTS AND SURVIVAL

Week-Day on Study	Control		63ppm			125ppm			250ppm			500ppm			1000ppm		
	Av. Wt.	No. of Surviv. < 5>	Av. Wt.	% of cont. < 5>	No. of Surviv.	Av. Wt.	% of cont. < 5>	No. of Surviv.	Av. Wt.	% of cont. < 5>	No. of Surviv.	Av. Wt.	% of cont. < 5>	No. of Surviv.	Av. Wt.	% of cont. < 5>	No. of Surviv.
0-0	91 (5)	5/ 5	91 (5)	100	5/ 5	91 (5)	100	5/ 5	91 (5)	100	5/ 5	92 (5)	101	5/ 5	91 (5)	100	5/ 5
1-2	97 (5)	5/ 5	95 (5)	98	5/ 5	97 (5)	100	5/ 5	96 (5)	99	5/ 5	95 (5)	98	5/ 5	91 (5)	94	5/ 5
1-4	99 (5)	5/ 5	97 (5)	98	5/ 5	98 (5)	99	5/ 5	98 (5)	99	5/ 5	95 (5)	96	5/ 5	92 (5)	93	5/ 5
1-7	104 (5)	5/ 5	103 (5)	99	5/ 5	103 (5)	99	5/ 5	104 (5)	100	5/ 5	101 (5)	97	5/ 5	100 (5)	96	5/ 5
2-3	110 (5)	5/ 5	107 (5)	97	5/ 5	106 (5)	96	5/ 5	107 (5)	97	5/ 5	105 (5)	95	5/ 5	101 (5)	92	5/ 5
2-7	116 (5)	5/ 5	116 (5)	100	5/ 5	116 (5)	100	5/ 5	116 (5)	100	5/ 5	115 (5)	99	5/ 5	111 (5)	96	5/ 5

< >:No. of effective animals, ():No. of measured animals Av. Wt. : g

TABLE D 3

BODY WEIGHT CHANGES : MALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 2
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day					
	0-0	1-2	1-4	1-7	2-3	2-7
Control	111± 5	118± 6	124± 8	135± 9	146± 11	162± 15
63ppm	111± 5	118± 5	124± 5	134± 5	145± 6	161± 7
125ppm	111± 5	118± 4	123± 5	131± 3	140± 4	158± 4
250ppm	111± 5	119± 6	123± 5	136± 6	145± 6	164± 7
500ppm	111± 5	118± 6	120± 8	133± 10	142± 11	161± 12
1000ppm	111± 5	113± 6	114± 7	128± 7	133± 8	150± 10

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

TABLE D 4

BODY WEIGHT CHANGES : FEMALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 2
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day					
	0-0	1-2	1-4	1-7	2-3	2-7
Control	91 ± 3	97 ± 4	99 ± 4	104 ± 5	110 ± 6	116 ± 3
63ppm	91 ± 4	95 ± 4	97 ± 5	103 ± 4	107 ± 6	116 ± 6
125ppm	91 ± 3	97 ± 2	98 ± 2	103 ± 2	106 ± 1	116 ± 3
250ppm	91 ± 4	96 ± 4	98 ± 3	104 ± 2	107 ± 2	116 ± 2
500ppm	92 ± 3	95 ± 4	95 ± 6	101 ± 5	105 ± 5	115 ± 5
1000ppm	91 ± 3	91 ± 3	92 ± 3	100 ± 4	101 ± 4	111 ± 5

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

TABLE E 1

FOOD CONSUMPTION CHANGES AND SURVIVAL ANIMAL
NUMBERS : MALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 2
 SEX : MALE

MEAN FOOD CONSUMPTION (FC) AND SURVIVAL

Week-Day on Study	Control		63ppm		125ppm		250ppm		500ppm		1000ppm						
	Av. FC.	No. of Surviv. < 5>	Av. FC.	% of cont. < 5>	No. of Surviv.	Av. FC.	% of cont. < 5>	No. of Surviv.	Av. FC.	% of cont. < 5>	No. of Surviv.	Av. FC.	% of cont. < 5>	No. of Surviv.			
1-7	14.9 (5)	5/ 5	14.0 (5)	94	5/ 5	14.3 (5)	96	5/ 5	14.1 (5)	95	5/ 5	13.6 (5)	91	5/ 5	12.9 (5)	87	5/ 5
2-7	15.1 (5)	5/ 5	14.5 (5)	96	5/ 5	14.3 (5)	95	5/ 5	15.0 (5)	99	5/ 5	15.2 (5)	101	5/ 5	14.1 (5)	93	5/ 5

< >:No. of effective animals, ():No. of measured animals Av. FC. : g

TABLE E 2

FOOD CONSUMPTION CHANGES AND SURVIVAL ANIMAL
NUMBERS : FEMALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 2
 SEX : FEMALE

MEAN FOOD CONSUMPTION (FC) AND SURVIVAL

Week-Day on Study	Control		63ppm			125ppm			250ppm			500ppm			1000ppm		
	Av. FC.	No. of Surviv. < 5>	Av. FC.	% of cont. < 5>	No. of Surviv.	Av. FC.	% of cont. < 5>	No. of Surviv.	Av. FC.	% of cont. < 5>	No. of Surviv.	Av. FC.	% of cont. < 5>	No. of Surviv.	Av. FC.	% of cont. < 5>	No. of Surviv.
1-7	11.3 (5)	5/ 5	11.0 (5)	97	5/ 5	11.2 (5)	99	5/ 5	12.1 (5)	107	5/ 5	11.3 (5)	100	5/ 5	10.4 (5)	92	5/ 5
2-7	10.9 (5)	5/ 5	10.9 (5)	100	5/ 5	11.3 (5)	104	5/ 5	12.3 (4)	113	5/ 5	11.7 (5)	107	5/ 5	11.2 (5)	103	5/ 5
		< >:No. of effective animals, ():No. of measured animals					Av. FC. : g										

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TABLE E 3

FOOD CONSUMPTION CHANGES : MALE

STUDY NO. : 0818
ANIMAL : RAT F344/DuCrIcRij [F344/DuCrj]
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day (effective)	
	1-7 (7)	2-7 (7)
Control	14.9 ± 1.2	15.1 ± 1.4
63ppm	14.0 ± 1.1	14.5 ± 1.5
125ppm	14.3 ± 0.9	14.3 ± 0.5
250ppm	14.1 ± 1.0	15.0 ± 1.1
500ppm	13.6 ± 1.2	15.2 ± 1.7
1000ppm	12.9 ± 1.4	14.1 ± 1.5

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

TABLE E 4

FOOD CONSUMPTION CHANGES : FEMALE

STUDY NO. : 0818
ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day (effective)	
	1-7 (7)	2-7 (7)
Control	11.3 ± 0.7	10.9 ± 0.8
63ppm	11.0 ± 0.5	10.9 ± 0.6
125ppm	11.2 ± 0.4	11.3 ± 0.4
250ppm	12.1 ± 2.0	12.3 ± 2.0
500ppm	11.3 ± 0.7	11.7 ± 0.9
1000ppm	10.4 ± 1.0	11.2 ± 1.1

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

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TABLE F 1

HEMATOLOGY : MALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	RED BLOOD CELL 1 O ⁶ /μℓ		HEMOGLOBIN g/dℓ		HEMATOCRIT %		MCV f ℓ		MCH D g		MCHC g/dℓ		PLATELET 1 O ⁹ /μℓ	
Control	5	8.58±	0.26	15.3±	0.4	44.8±	1.0	52.2±	0.6	17.8±	0.2	34.2±	0.2	927±	32
63ppm	5	8.59±	0.08	15.2±	0.3	44.5±	0.6	51.8±	0.2	17.7±	0.2	34.2±	0.3	926±	34
125ppm	5	8.63±	0.32	15.3±	0.4	44.6±	1.3	51.7±	0.5	17.7±	0.2	34.2±	0.3	869±	46
250ppm	5	8.43±	0.13	15.0±	0.3	43.6±	0.6	51.8±	0.3	17.8±	0.1	34.3±	0.2	932±	31
500ppm	5	8.48±	0.32	15.1±	0.3	44.0±	1.1	51.9±	0.6	17.8±	0.3	34.3±	0.4	890±	74
1000ppm	5	8.65±	0.16	15.3±	0.3	44.3±	0.6	51.3±	0.6	17.7±	0.1	34.5±	0.3	777±	41**

Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01

Test of Dunnett

STUDY NO. : 0818
ANIMAL : RAT F344/DuCrIcRij [F344/DuCrj]
MEASURE TIME : 1
SEX : MALE

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

REPORT TYPE : A1

PAGE : 2

Group Name	NO. of Animals	RETICULOCYTE %
Control	5	2.9± 0.4
63ppm	5	2.9± 0.4
125ppm	5	3.0± 0.3
250ppm	5	3.1± 0.5
500ppm	5	3.2± 0.4
1000ppm	5	2.6± 0.4

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	WBC		Differential		WBC (%)		MONO	EOSINO	BASO	OTHER				
		$10^9/\mu\ell$		NEUTRO		LYMPHO									
Control	5	4.11 ±	1.21	22 ±	3	75 ±	3	2 ±	1	1 ±	0	0 ±	0	1 ±	0
63ppm	5	3.50 ±	0.96	21 ±	3	75 ±	3	2 ±	1	1 ±	0	0 ±	0	1 ±	0
125ppm	5	3.22 ±	0.99	25 ±	5	72 ±	6	2 ±	0	1 ±	0	0 ±	0	1 ±	0
250ppm	5	3.75 ±	0.67	23 ±	5	73 ±	6	2 ±	1	1 ±	0	0 ±	0	1 ±	0
500ppm	5	3.93 ±	0.77	22 ±	5	74 ±	6	2 ±	1	1 ±	0	0 ±	0	1 ±	0
1000ppm	5	4.04 ±	0.72	20 ±	4	76 ±	4	3 ±	1	1 ±	0	0 ±	0	1 ±	0

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett

TABLE F 2

HEMATOLOGY : FEMALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 MEASURE TIME : 1
 SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	RED BLOOD CELL 10 ⁶ /μl		HEMOGLOBIN g/dl		HEMATOCRIT %		MCV fl		MCH Dg		MCHC g/dl		PLATELET 10 ³ /μl	
Control	5	8.90±	0.34	16.1±	0.5	45.9±	1.6	51.6±	0.2	18.1±	0.2	35.1±	0.4	871±	96
63ppm	5	8.91±	0.32	15.9±	0.6	45.9±	1.5	51.6±	0.5	17.8±	0.1*	34.6±	0.4	852±	58
125ppm	5	8.70±	0.38	15.7±	0.8	45.0±	2.3	51.7±	0.4	18.1±	0.2	35.0±	0.5	839±	26
250ppm	5	8.78±	0.13	15.9±	0.3	45.3±	0.9	51.6±	0.4	18.1±	0.1	35.0±	0.3	781±	45
500ppm	5	8.80±	0.24	15.6±	0.4	45.2±	1.2	51.4±	0.4	17.8±	0.2*	34.7±	0.4	734±	72*
1000ppm	5	8.80±	0.39	15.7±	0.8	45.1±	2.1	51.3±	0.4	17.9±	0.2	34.9±	0.4	712±	76**

Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01

Test of Dunnett

STUDY NO. : 0818
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
MEASURE. TIME : 1
SEX : FEMALE

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

REPORT TYPE : A1

PAGE : 5

Group Name	NO. of Animals	RETICULOCYTE %
Control	5	1.5± 0.2
63ppm	5	1.7± 0.3
125ppm	5	1.5± 0.2
250ppm	5	1.5± 0.2
500ppm	5	1.5± 0.2
1000ppm	5	1.4± 0.4

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 MEASURE TIME : 1
 SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	WBC		Differential		WBC (%)		MONO	EOSINO	BASO	OTHER		
		$10^9/\mu\text{l}$		NEUTRO		LYMPHO							
Control	5	2.97 ± 0.74		16 ± 2		81 ± 1		2 ± 0	1 ± 0	0 ± 0	1 ± 1		
63ppm	5	3.34 ± 0.59		19 ± 4		77 ± 3		2 ± 0	1 ± 0	0 ± 0	1 ± 0		
125ppm	5	3.39 ± 0.31		17 ± 4		78 ± 3		3 ± 0	1 ± 0	0 ± 0	1 ± 1		
250ppm	5	3.07 ± 1.02		19 ± 8		77 ± 8		2 ± 0	1 ± 0	0 ± 0	1 ± 0		
500ppm	5	3.56 ± 1.11		18 ± 3		77 ± 3		3 ± 1	1 ± 0	0 ± 0	1 ± 0		
1000ppm	5	3.16 ± 1.20		20 ± 8		74 ± 8		3 ± 0	1 ± 0	0 ± 0	1 ± 1		

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett

TABLE G 1

BIOCHEMISTRY : MALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	TOTAL PROTEIN g/dl		ALBUMIN g/dl		A/G RATIO		T-BILIRUBIN mg/dl		GLUCOSE mg/dl		T-CHOLESTEROL mg/dl		TRIGLYCERIDE mg/dl	
Control	5	5.5±	0.1	3.2±	0.1	1.4±	0.0	0.03±	0.01	149±	14	61±	5	48±	17
63ppm	5	5.5±	0.1	3.2±	0.1	1.5±	0.1	0.04±	0.01*	141±	4	59±	4	42±	10
125ppm	5	5.5±	0.1	3.3±	0.1	1.4±	0.1	0.04±	0.01	151±	5	59±	4	45±	6
250ppm	5	5.4±	0.1	3.2±	0.1	1.5±	0.1	0.03±	0.00	148±	14	57±	4	40±	9
500ppm	5	5.5±	0.0	3.2±	0.1	1.5±	0.1	0.04±	0.00	143±	11	58±	2	32±	9
1000ppm	5	5.4±	0.1	3.2±	0.0	1.5±	0.1	0.04±	0.01**	151±	19	59±	5	33±	7

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dl		AST U/L		ALT U/L		LDH U/L		ALP U/L		G-GTP U/L		CK U/L	
Control	5	111±	7	61±	4	32±	1	66±	7	1104±	80	0.5±	0.1	207±	17
63ppm	5	110±	5	62±	2	32±	2	58±	3	1102±	78	0.5±	0.1	224±	28
125ppm	5	108±	6	62±	2	33±	2	65±	5	1055±	23	0.4±	0.1	202±	29
250ppm	5	107±	4	62±	2	31±	2	65±	17	1041±	58	0.5±	0.2	197±	31
500ppm	5	108±	6	64±	2	31±	2	97±	33	1034±	75	0.5±	0.1	206±	14
1000ppm	5	110±	8	75±	5**	37±	4**	105±	42	987±	58	0.5±	0.2	201±	26

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ		CREATININE mg/dℓ		SODIUM mEq/ℓ		POTASSIUM mEq/ℓ		CHLORIDE mEq/ℓ		CALCIUM mg/dℓ		INORGANIC PHOSPHORUS mg/dℓ	
Control	5	17.5±	1.1	0.25±	0.03	142±	1	3.8±	0.5	104±	1	10.0±	0.3	8.2±	0.7
63ppm	5	17.9±	0.9	0.26±	0.03	142±	1	3.5±	0.2	104±	2	9.9±	0.4	8.6±	0.8
125ppm	5	18.1±	1.5	0.25±	0.01	142±	1	3.8±	0.5	105±	1	9.8±	0.4	9.0±	0.9
250ppm	5	18.9±	0.7	0.26±	0.02	142±	1	3.8±	0.3	104±	1	9.7±	0.1	8.6±	0.4
500ppm	5	18.7±	0.7	0.26±	0.02	143±	1	3.9±	0.3	106±	1	9.9±	0.1	8.7±	0.5
1000ppm	5	19.7±	2.2	0.26±	0.02	142±	1	3.7±	0.2	106±	2	9.8±	0.3	9.0±	0.7

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

TABLE G 2

BIOCHEMISTRY : FEMALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 MEASURE TIME : 1
 SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	TOTAL PROTEIN g/dl		ALBUMIN g/dl		A/G RATIO		T-BILIRUBIN mg/dl		GLUCOSE mg/dl		T-CHOLESTEROL mg/dl		TRIGLYCERIDE mg/dl	
Control	5	5.5±	0.2	3.3±	0.1	1.5±	0.0	0.03±	0.01	134±	10	74±	5	21±	8
63ppm	5	5.5±	0.1	3.3±	0.0	1.5±	0.1	0.04±	0.01	127±	10	70±	5	18±	6
125ppm	5	5.5±	0.0	3.3±	0.0	1.5±	0.0	0.04±	0.00	127±	8	71±	3	22±	8
250ppm	5	5.5±	0.2	3.3±	0.1	1.5±	0.1	0.04±	0.00	142±	17	71±	10	19±	7
500ppm	5	5.4±	0.1	3.3±	0.1	1.5±	0.1	0.04±	0.01*	144±	6	73±	8	17±	3
1000ppm	5	5.5±	0.2	3.3±	0.1	1.5±	0.0	0.05±	0.01**	149±	9	80±	6	25±	8

Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01

Test of Dunnett

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 MEASURE TIME : 1
 SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dl		AST U/L		ALT U/L		LDH U/L		ALP U/L		G-GTP U/L		CK U/L	
Control	5	136±	9	66±	3	30±	1	83±	15	914±	43	0.7±	0.2	185±	10
63ppm	5	133±	8	65±	6	29±	4	85±	34	895±	84	0.9±	0.2	171±	25
125ppm	5	134±	7	65±	4	30±	2	98±	50	872±	51	0.9±	0.1	203±	41
250ppm	5	130±	15	67±	6	30±	4	102±	40	843±	81	0.8±	0.3	186±	16
500ppm	5	130±	12	69±	4	30±	3	80±	26	866±	74	0.9±	0.2	179±	28
1000ppm	5	149±	11	69±	3	31±	2	97±	31	858±	69	1.0±	0.2	175±	27

Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01

Test of Dunnett

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
 MEASURE. TIME : 1
 SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (3W)

Group Name	NO. of Animals	UREA NITROGEN mg/dl		CREATININE mg/dl		SODIUM mEq/l		POTASSIUM mEq/l		CHLORIDE mEq/l		CALCIUM mg/dl		INORGANIC PHOSPHORUS mg/dl	
Control	5	18.4±	1.3	0.26±	0.02	142±	1	3.5±	0.2	106±	2	9.9±	0.2	8.2±	0.5
63ppm	5	18.6±	1.7	0.27±	0.02	142±	1	3.6±	0.3	107±	1	9.7±	0.3	8.1±	0.3
125ppm	5	19.4±	1.2	0.28±	0.03	142±	1	3.8±	0.1	108±	1	9.6±	0.2	8.3±	0.4
250ppm	5	21.1±	1.3	0.28±	0.03	142±	2	3.7±	0.1	108±	2	9.8±	0.2	8.4±	0.4
500ppm	5	21.5±	1.8*	0.28±	0.01	141±	1	3.7±	0.2	107±	2	9.8±	0.3	8.8±	0.6
1000ppm	5	21.2±	2.5	0.26±	0.02	140±	1*	3.9±	0.3	107±	3	9.7±	0.3	8.6±	0.7

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

TABLE H 1

GROSS FINDINGS : MALE

STUDY NO. : 0818
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name NO. of Animals	Control 5 (%)	63ppm 5 (%)	125ppm 5 (%)	250ppm 5 (%)
Liver	herniation		0 (0)	0 (0)	0 (0)	2 (40)

(HPT080)

BAIS 5

STUDY NO. : 0818
ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name NO. of Animals	500ppm 5 (%)	1000ppm 5 (%)
Liver	herniation		1 (20)	1 (20)

TABLE H 2

GROSS FINDINGS : FEMALE

STUDY NO. : 0818
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name NO. of Animals	Control 5 (%)	63ppm 5 (%)	125ppm 5 (%)	250ppm 5 (%)
liver	herniation		1 (20)	0 (0)	0 (0)	1 (20)

STUDY NO. : 0818
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name NO. of Animals	500ppm		1000ppm	
			5	(%)	5	(%)
liver	herniation		0	(0)	1	(20)

TABLE I 1

ORGAN WEIGHT, ABSOLUTE : MALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
 SURVIVAL ANIMALS (3W)

PAGE : 1

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	5	145 ± 14	0.249 ± 0.026	0.046 ± 0.001	2.307 ± 0.313	0.544 ± 0.034	0.674 ± 0.041
63ppm	5	143 ± 6	0.272 ± 0.026	0.043 ± 0.006	2.392 ± 0.170	0.557 ± 0.011	0.671 ± 0.029
125ppm	5	138 ± 3	0.247 ± 0.015	0.043 ± 0.002	2.340 ± 0.166	0.535 ± 0.033	0.654 ± 0.015
250ppm	5	144 ± 5	0.252 ± 0.007	0.044 ± 0.007	2.374 ± 0.133	0.544 ± 0.018	0.681 ± 0.035
500ppm	5	141 ± 10	0.257 ± 0.025	0.048 ± 0.003	2.294 ± 0.230	0.551 ± 0.037	0.703 ± 0.033
1000ppm	5	130 ± 8	0.228 ± 0.028	0.045 ± 0.003	2.202 ± 0.159	0.521 ± 0.022	0.650 ± 0.013

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

(HCL040)

BAIS 5

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
 SURVIVAL ANIMALS (3W)

PAGE : 2

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	5	1.151 ±	0.069	0.369 ±	0.035	4.278 ±	0.485	1.737 ±	0.035
63ppm	5	1.136 ±	0.030	0.365 ±	0.029	4.214 ±	0.180	1.735 ±	0.024
125ppm	5	1.156 ±	0.038	0.382 ±	0.059	4.156 ±	0.181	1.712 ±	0.048
250ppm	5	1.196 ±	0.073	0.360 ±	0.019	4.335 ±	0.231	1.696 ±	0.056
500ppm	5	1.208 ±	0.051	0.365 ±	0.019	4.281 ±	0.403	1.728 ±	0.041
1000ppm	5	1.096 ±	0.057	0.328 ±	0.019	3.916 ±	0.219	1.706 ±	0.026

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

(HCL040)

BAIS 5

TABLE I 2

ORGAN WEIGHT, ABSOLUTE : FEMALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIcRlj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
 SURVIVAL ANIMALS (3W)

PAGE : 3

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	5	104± 3	0.244± 0.022	0.050± 0.005	0.081± 0.011	0.433± 0.032	0.563± 0.032
63ppm	5	102± 4	0.243± 0.025	0.049± 0.006	0.087± 0.017	0.434± 0.023	0.553± 0.050
125ppm	5	102± 1	0.231± 0.024	0.050± 0.004	0.087± 0.018	0.451± 0.036	0.559± 0.031
250ppm	5	101± 1	0.232± 0.018	0.051± 0.003	0.088± 0.014	0.426± 0.017	0.562± 0.014
500ppm	5	99± 5	0.233± 0.017	0.047± 0.005	0.086± 0.014	0.428± 0.018	0.558± 0.025
1000ppm	5	96± 4**	0.209± 0.025	0.046± 0.002	0.081± 0.016	0.406± 0.011	0.527± 0.019

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

(HCL040)

BAIS 5

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
 SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	5	0.901 ±	0.047	0.280 ±	0.014	3.195 ±	0.163	1.596 ±	0.023
63ppm	5	0.915 ±	0.052	0.272 ±	0.032	3.127 ±	0.265	1.616 ±	0.028
125ppm	5	0.922 ±	0.035	0.274 ±	0.012	3.304 ±	0.167	1.614 ±	0.039
250ppm	5	0.930 ±	0.015	0.271 ±	0.018	3.170 ±	0.133	1.603 ±	0.034
500ppm	5	0.921 ±	0.067	0.271 ±	0.015	3.242 ±	0.196	1.605 ±	0.041
1000ppm	5	0.906 ±	0.029	0.252 ±	0.006	3.082 ±	0.089	1.583 ±	0.032

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

TABLE J 1

ORGAN WEIGHT, RELATIVE : MALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
 SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	5	145 ± 14	0.173 ± 0.018	0.032 ± 0.004	1.595 ± 0.179	0.377 ± 0.018	0.467 ± 0.021
63ppm	5	143 ± 6	0.190 ± 0.016	0.030 ± 0.005	1.675 ± 0.093	0.390 ± 0.018	0.470 ± 0.010
125ppm	5	138 ± 3	0.178 ± 0.011	0.031 ± 0.002	1.693 ± 0.115	0.387 ± 0.028	0.473 ± 0.019
250ppm	5	144 ± 5	0.176 ± 0.008	0.031 ± 0.005	1.654 ± 0.091	0.379 ± 0.020	0.474 ± 0.020
500ppm	5	141 ± 10	0.182 ± 0.012	0.034 ± 0.004	1.629 ± 0.141	0.391 ± 0.023	0.499 ± 0.013
1000ppm	5	130 ± 8	0.175 ± 0.018	0.034 ± 0.003	1.694 ± 0.124	0.401 ± 0.012	0.501 ± 0.029*

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0818
ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (3W)

PAGE : 2

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	0.798 ± 0.053	0.255 ± 0.002	2.951 ± 0.101	1.209 ± 0.122
63ppm	5	0.796 ± 0.043	0.255 ± 0.014	2.952 ± 0.057	1.216 ± 0.049
125ppm	5	0.837 ± 0.032	0.275 ± 0.036	3.007 ± 0.101	1.239 ± 0.048
250ppm	5	0.832 ± 0.026	0.251 ± 0.009	3.017 ± 0.056	1.182 ± 0.054
500ppm	5	0.858 ± 0.024	0.260 ± 0.007	3.033 ± 0.105	1.229 ± 0.069
1000ppm	5	0.843 ± 0.034	0.252 ± 0.004	3.009 ± 0.075	1.314 ± 0.089

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

(HCL042)

BAIS 5

TABLE J 2

ORGAN WEIGHT, RELATIVE : FEMALE

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
 SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	Body Weight (g)		THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	5	104±	3	0.235± 0.024	0.049± 0.004	0.078± 0.010	0.417± 0.028	0.543± 0.021
63ppm	5	102±	4	0.238± 0.016	0.048± 0.005	0.086± 0.017	0.426± 0.015	0.542± 0.033
125ppm	5	102±	1	0.226± 0.021	0.049± 0.004	0.085± 0.016	0.441± 0.030	0.546± 0.023
250ppm	5	101±	1	0.229± 0.018	0.050± 0.003	0.086± 0.014	0.420± 0.018	0.554± 0.018
500ppm	5	99±	5	0.236± 0.021	0.048± 0.005	0.086± 0.010	0.433± 0.014	0.564± 0.008
1000ppm	5	96±	4**	0.217± 0.018	0.048± 0.002	0.085± 0.020	0.423± 0.017	0.549± 0.016

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0818
ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
REPORT TYPE : A1
SEX : FEMALE
UNIT : %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (3W)

PAGE : 4

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	0.870 ± 0.040	0.271 ± 0.015	3.083 ± 0.123	1.541 ± 0.030
63ppm	5	0.899 ± 0.016	0.267 ± 0.021	3.068 ± 0.165	1.590 ± 0.072
125ppm	5	0.902 ± 0.021	0.268 ± 0.008	3.232 ± 0.139	1.579 ± 0.019
250ppm	5	0.917 ± 0.014	0.268 ± 0.020	3.126 ± 0.127	1.581 ± 0.031
500ppm	5	0.929 ± 0.033*	0.274 ± 0.012	3.274 ± 0.079	1.625 ± 0.095
1000ppm	5	0.945 ± 0.055**	0.263 ± 0.014	3.213 ± 0.096	1.652 ± 0.078

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$

Test of Dunnett

(HCL042)

BAIS 5

TABLE K 1

HISTOPATHOLOGICAL FINDINGS :
NON-NEOPLASTIC LESIONS : MALE
ALL ANIMALS

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 3W)

Organ	Findings	Control				63ppm				125ppm				250ppm			
		No. of Animals on Study				5				5				5			
		1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Respiratory system)																	
nasal cavit																	
	inflammation:respiratory epithelium	< 5>				< 5>				< 5>				< 5>			
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	respiratory metaplasia:gland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	regeneration:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	regeneration:olfactory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:olfactory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(Digestive system)																	
liver																	
	herniation	< 5>				< 5>				< 5>				< 5>			
		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(40)	(0)	(0)	(0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
 < a > a : Number of animals examined at the site
 b : Number of animals with lesion
 (c) c : b / a * 100

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 3W)

Organ	Findings	500ppm				1000ppm			
		1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)
(Respiratory system)									
nasal cavit		< 5>				< 5>			
	inflammation:respiratory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	2 (40)	0 (0)	0 (0)	0 (0)
	respiratory metaplasia:gland	0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)
	squamous cell metaplasia:respiratory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	2 (40)	0 (0)	0 (0)	0 (0)
	regeneration:respiratory epithelium	3 (60)	0 (0)	0 (0)	0 (0)	5 (100)	0 (0)	0 (0)	0 (0)
	regeneration:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	4 (80)	0 (0)	0 (0)	0 (0)
	necrosis:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)
(Digestive system)									
liver		< 5>				< 5>			
	herniation	1 (20)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
 < a > a : Number of animals examined at the site
 b b : Number of animals with lesion
 (c) c : b / a * 100

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrIj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 3W)

Organ	Findings	Control				63ppm				125ppm				250ppm			
		No. of Animals on Study				5				5				5			
Grade		1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Digestive system)																	
liver	inflammatory cell nest	< 5>				< 5>				< 5>				< 5>			
		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(Urinary system)																	
kidney	mineralization:papilla	< 5>				< 5>				< 5>				< 5>			
		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	regeneration:proximal tubule	< 5>				< 5>				< 5>				< 5>			
		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
 < a > a : Number of animals examined at the site
 b : Number of animals with lesion
 (c) c : b / a * 100

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 3W)

Organ	Findings	500ppm				1000ppm			
		1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)
(Digestive system)									
liver	inflammatory cell nest	< 5>				< 5>			
		1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
(Urinary system)									
kidney	mineralization:papilla	< 5>				< 5>			
		1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	regeneration:proximal tubule	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
 < a > a : Number of animals examined at the site
 b : Number of animals with lesion
 (c) c : b / a * 100

TABLE K 2

**HISTOPATHOLOGICAL FINDINGS :
NON-NEOPLASTIC LESIONS : FEMALE
ALL ANIMALS**

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 3W)

Organ	Findings	Control				63ppm				125ppm				250ppm			
		No. of Animals on Study				No. of Animals on Study				No. of Animals on Study				No. of Animals on Study			
		5				5				5				5			
		1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Respiratory system)																	
nasal cavit																	
		< 5>				< 5>				< 5>				< 5>			
inflammation:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
respiratory metaplasia:gland		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
squamous cell metaplasia:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
regeneration:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
regeneration:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(Digestive system)																	
liver																	
		< 5>				< 5>				< 5>				< 5>			
herniation		1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
		(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
 < a > a : Number of animals examined at the site
 b : Number of animals with lesion
 (c) c : b / a * 100

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 3W)

Organ	Findings	Group Name No. of Animals on Study Grade	500ppm				1000ppm			
			1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)
(Respiratory system)										
nasal cavit			< 5>				< 5>			
	inflammation:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	3 (60)	0 (0)	0 (0)	0 (0)
	respiratory metaplasia:gland		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	squamous cell metaplasia:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	3 (60)	0 (0)	0 (0)	0 (0)
	regeneration:respiratory epithelium		1 (20)	0 (0)	0 (0)	0 (0)	5 (100)	0 (0)	0 (0)	0 (0)
	regeneration:olfactory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	3 (60)	0 (0)	0 (0)	0 (0)
(Digestive system)										
liver			< 5>				< 5>			
	herniation		0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)
	inflammatory cell nest		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
 < a > a : Number of animals examined at the site
 b : Number of animals with lesion
 (c) c : b / a * 100

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 3W)

Organ	Findings	Control				63ppm				125ppm				250ppm			
		No. of Animals on Study				5				5				5			
Grade		1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

(Urinary system)

kidney	mineralization:cortico-medullary junction	< 5>				< 5>				< 5>				< 5>			
		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
 < a > a : Number of animals examined at the site
 b : Number of animals with lesion
 (c) c : b / a * 100

STUDY NO. : 0818
 ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 3W)

Organ	Findings	Group Name No. of Animals on Study	500ppm				1000ppm			
			Grade	1+ (%)	2+ (%)	3+ (%)	4+ (%)	Grade	1+ (%)	2+ (%)

(Urinary system)

kidney	mineralization:cortico-medullary junction		< 5>				< 5>			
		1	0	0	0	0	0	0	0	0
		(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
 < a > a : Number of animals examined at the site
 b : Number of animals with lesion
 (c) c : b / a * 100