

メタクリル酸ブチルのラットを用いた
吸入による 13 週間毒性試験報告書

試験番号 : 0829

TABLES

TABLES

TABLE A	CONCENTRATIONS OF BUTYL METHACRYLATE IN THE INHALATION CHAMBER OF THE 13-WEEK INHALATION STUDY
TABLE B 1	SURVIVAL ANIMAL NUMBERS: MALE
TABLE B 2	SURVIVAL ANIMAL NUMBERS: FEMALE
TABLE C 1	CLINICAL OBSERVATION: MALE
TABLE C 2	CLINICAL OBSERVATION: FEMALE
TABLE D 1	BODY WEIGHT CHANGES AND SURVIVAL ANIMAL NUMBERS : MALE
TABLE D 2	BODY WEIGHT CHANGES AND SURVIVAL ANIMAL NUMBERS : FEMALE
TABLE D 3	BODY WEIGHT CHANGES: MALE
TABLE D 4	BODY WEIGHT CHANGES: FEMALE
TABLE E 1	FOOD CONSUMPTION CHANGES AND SURVIVAL ANIMAL NUMBERS: MALE
TABLE E 2	FOOD CONSUMPTION CHANGES AND SURVIVAL ANIMAL NUMBERS: FEMALE
TABLE E 3	FOOD CONSUMPTION CHANGES: MALE
TABLE E 4	FOOD CONSUMPTION CHANGES: FEMALE
TABLE F 1	HEMATOLOGY: MALE
TABLE F 2	HEMATOLOGY: FEMALE
TABLE G 1	BIOCHEMISTRY: MALE
TABLE G 2	BIOCHEMISTRY: FEMALE

TABLES (CONTINUED)

TABLE H 1 URINALYSIS: MALE: MALE

TABLE H 2 URINALYSIS: MALE: FEMALE

TABLE I 1 GROSS FINDINGS: MALE: ALL ANIMALS

TABLE I 2 GROSS FINDINGS: FEMALE: ALL ANIMALS

TABLE J 1 ORGAN WEIGHT, ABSOLUTE: MALE

TABLE J 2 ORGAN WEIGHT, ABSOLUTE: FEMALE

TABLE K 1 ORGAN WEIGHT, RELATIVE: MALE

TABLE K 2 ORGAN WEIGHT, RELATIVE: FEMALE

TABLE L 1 HISTOPATHOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS
: MALE: ALL ANIMALS

TABLE L 2 HISTOPATHOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS
: FEMALE: ALL ANIMALS

TABLE A

**CONCENTRATIONS OF BUTYL METHACRYLATE IN THE
INHALATION CHAMBER OF THE 13-WEEK INHALATION STUDY**

CONCENTRATIONS OF BUTYL METHACRYLATE
IN THE INHALATION CHAMBER OF THE 13-WEEK INHALATION STUDY

Group Name	Concentration(ppm) Mean \pm S.D.
Control	0.0 \pm 0.0
63 ppm	62.9 \pm 0.3
125 ppm	124.7 \pm 0.5
250 ppm	250.2 \pm 0.8
500 ppm	498.9 \pm 1.2
1000 ppm	996.5 \pm 4.0

TABLE B 1

SURVIVAL ANIMAL NUMBERS: MALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
 REPORT TYPE : A1 13
 SEX : MALE

SURVIVAL ANIMAL NUMBERS

Group Name	Animals At start	Administration (Weeks)													
		0	1	2	3	4	5	6	7	8	9	10	11	12	13
Control	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
63ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
125ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
250ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
500ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
1000ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
		Number of survival/ Number of effective animals Survival rate(%)													

TABLE B 2

SURVIVAL ANIMAL NUMBERS: FEMALE

STUDY NO. : 0829

ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]

REPORT TYPE : A1 13

SEX : FEMALE

SURVIVAL ANIMAL NUMBERS

PAGE : 2

Group Name	Animals At start	Administration (Weeks)													
		0	1	2	3	4	5	6	7	8	9	10	11	12	13
Control	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
63ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
125ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
250ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
500ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
1000ppm	10	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0	10/10 100.0
		Number of survival/ Number of effective animals Survival rate(%)													

(HAN360)

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TABLE C 1

CLINICAL OBSERVATION: MALE

STUDY NO. : 0829
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 1

Clinical sign	Group Name	Administration Week-day												
		1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
NON REMARKABLE	Control	10	10	10	10	10	10	10	10	10	10	10	10	10
	63ppm	10	10	10	10	10	10	10	10	10	10	10	10	10
	125ppm	10	10	10	10	10	10	10	10	10	10	10	10	10
	250ppm	10	10	10	10	10	10	10	10	10	10	10	10	10
	500ppm	10	10	10	10	10	10	10	10	10	10	10	10	10
	1000ppm	10	10	10	10	10	10	10	10	10	10	10	10	

(HAN190)

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TABLE C 2

CLINICAL OBSERVATION: FEMALE

STUDY NO. : 0829
ANIMAL : RAT F344/DuCr|Cr|j [F344/DuCrj]
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 2

Clinical sign	Group Name	Administration Week-day												
		1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
NON REMARKABLE	Control	10	10	10	10	10	10	10	10	10	10	10	10	10
	63ppm	10	10	10	10	10	10	10	10	10	10	10	10	10
	125ppm	10	10	10	10	10	10	10	10	10	10	10	10	10
	250ppm	10	10	10	10	10	10	10	10	10	10	10	10	10
	500ppm	10	10	10	10	10	10	10	10	10	10	10	10	10
	1000ppm	10	10	10	10	10	10	10	10	10	10	10	10	10

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TABLE D 1

BODY WEIGHT CHANGES AND SURVIVAL ANIMAL
NUMBERS: MALE

STUDY NO. : 0829
ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

MEAN BODY WEIGHTS AND SURVIVAL

Week-Day on Study	Control		63ppm		125ppm		250ppm		500ppm		1000ppm						
	Av. Wt. <10>	No. of Surviv. <10>	Av. Wt. <10>	% of cont. <10>	No. of Surviv. <10>	Av. Wt. <10>	% of cont. <10>	No. of Surviv. <10>	Av. Wt. <10>	% of cont. <10>	No. of Surviv. <10>	Av. Wt. <10>	% of cont. <10>	No. of Surviv. <10>			
0-0	114 (10)	10/10	114 (10)	100	10/10	114 (10)	100	10/10	114 (10)	100	10/10	114 (10)	100	10/10	114 (10)	100	10/10
1-7	145 (10)	10/10	142 (10)	98	10/10	143 (10)	99	10/10	143 (10)	99	10/10	139 (10)	96	10/10	135 (10)	93	10/10
2-7	171 (10)	10/10	168 (10)	98	10/10	169 (10)	99	10/10	172 (10)	101	10/10	167 (10)	98	10/10	160 (10)	94	10/10
3-7	199 (10)	10/10	197 (10)	99	10/10	199 (10)	100	10/10	204 (10)	103	10/10	197 (10)	99	10/10	189 (10)	95	10/10
4-7	218 (10)	10/10	215 (10)	99	10/10	219 (10)	100	10/10	222 (10)	102	10/10	215 (10)	99	10/10	205 (10)	94	10/10
5-7	236 (10)	10/10	233 (10)	99	10/10	237 (10)	100	10/10	240 (10)	102	10/10	232 (10)	98	10/10	218 (10)	92	10/10
6-7	251 (10)	10/10	247 (10)	98	10/10	252 (10)	100	10/10	254 (10)	101	10/10	244 (10)	97	10/10	229 (10)	91	10/10
7-7	262 (10)	10/10	260 (10)	99	10/10	264 (10)	101	10/10	265 (10)	101	10/10	255 (10)	97	10/10	239 (10)	91	10/10
8-7	275 (10)	10/10	273 (10)	99	10/10	276 (10)	100	10/10	276 (10)	100	10/10	265 (10)	96	10/10	247 (10)	90	10/10
9-7	286 (10)	10/10	284 (10)	99	10/10	286 (10)	100	10/10	288 (10)	101	10/10	276 (10)	97	10/10	255 (10)	89	10/10
10-7	- (-)	10/10	- (-)	-	10/10	- (-)	-	10/10	- (-)	-	10/10	- (-)	-	10/10	- (-)	-	10/10
11-3	298 (10)	10/10	296 (10)	99	10/10	297 (10)	100	10/10	297 (10)	100	10/10	286 (10)	96	10/10	260 (10)	87	10/10
11-7	300 (10)	10/10	299 (10)	100	10/10	301 (10)	100	10/10	300 (10)	100	10/10	291 (10)	97	10/10	264 (10)	88	10/10
12-7	306 (10)	10/10	305 (10)	100	10/10	306 (10)	100	10/10	306 (10)	100	10/10	295 (10)	96	10/10	268 (10)	88	10/10
13-7	312 (10)	10/10	312 (10)	100	10/10	311 (10)	100	10/10	311 (10)	100	10/10	300 (10)	96	10/10	271 (10)	87	10/10

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

TABLE D 2

BODY WEIGHT CHANGES AND SURVIVAL ANIMAL
NUMBERS: FEMALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : FEMALE

MEAN BODY WEIGHTS AND SURVIVAL

Week-Day on Study	Control		63ppm			125ppm			250ppm			500ppm			1000ppm		
	Av. Wt.	No. of Surviv. <10>	Av. Wt.	% of cont. <10>	No. of Surviv.	Av. Wt.	% of cont. <10>	No. of Surviv.	Av. Wt.	% of cont. <10>	No. of Surviv.	Av. Wt.	% of cont. <10>	No. of Surviv.	Av. Wt.	% of cont. <10>	No. of Surviv.
0-0	93 (10)	10/10	93 (10)	100	10/10	93 (10)	100	10/10	93 (10)	100	10/10	93 (10)	100	10/10	93 (10)	100	10/10
1-7	106 (10)	10/10	105 (10)	99	10/10	107 (10)	101	10/10	106 (10)	100	10/10	105 (10)	99	10/10	103 (10)	97	10/10
2-7	118 (10)	10/10	116 (10)	98	10/10	119 (10)	101	10/10	118 (10)	100	10/10	118 (10)	100	10/10	113 (10)	96	10/10
3-7	130 (10)	10/10	128 (10)	98	10/10	132 (10)	102	10/10	132 (10)	102	10/10	130 (10)	100	10/10	126 (10)	97	10/10
4-7	135 (10)	10/10	135 (10)	100	10/10	140 (10)	104	10/10	139 (10)	103	10/10	137 (10)	101	10/10	132 (10)	98	10/10
5-7	143 (10)	10/10	141 (10)	99	10/10	148 (10)	103	10/10	145 (10)	101	10/10	143 (10)	100	10/10	139 (10)	97	10/10
6-7	148 (10)	10/10	146 (10)	99	10/10	155 (10)	105	10/10	150 (10)	101	10/10	150 (10)	101	10/10	142 (10)	96	10/10
7-7	153 (10)	10/10	150 (10)	98	10/10	159 (10)	104	10/10	155 (10)	101	10/10	153 (10)	100	10/10	146 (10)	95	10/10
8-7	158 (10)	10/10	154 (10)	97	10/10	164 (10)	104	10/10	161 (10)	102	10/10	157 (10)	99	10/10	148 (10)	94	10/10
9-7	163 (10)	10/10	159 (10)	98	10/10	169 (10)	104	10/10	165 (10)	101	10/10	162 (10)	99	10/10	152 (10)	93	10/10
10-7	- (-)	10/10	- (-)	-	10/10	- (-)	-	10/10	- (-)	-	10/10	- (-)	-	10/10	- (-)	-	10/10
11-3	168 (10)	10/10	164 (10)	98	10/10	172 (10)	102	10/10	169 (10)	101	10/10	165 (10)	98	10/10	155 (10)	92	10/10
11-7	170 (10)	10/10	167 (10)	98	10/10	177 (10)	104	10/10	171 (10)	101	10/10	167 (10)	98	10/10	156 (10)	92	10/10
12-7	172 (10)	10/10	171 (10)	99	10/10	181 (10)	105	10/10	176 (10)	102	10/10	170 (10)	99	10/10	158 (10)	92	10/10
13-7	175 (10)	10/10	174 (10)	99	10/10	184 (10)	105	10/10	178 (10)	102	10/10	170 (10)	97	10/10	158 (10)	90	10/10

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

TABLE D 3

BODY WEIGHT CHANGES: MALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration		week-day		1-7		2-7		3-7		4-7		5-7		6-7	
	0-0															
Control	114±	4	145±	7	171±	8	199±	10	218±	12	236±	11	251±	12		
63ppm	114±	4	142±	8	168±	10	197±	13	215±	12	233±	13	247±	14		
125ppm	114±	4	143±	6	169±	7	199±	6	219±	8	237±	8	252±	8		
250ppm	114±	4	143±	6	172±	9	204±	11	222±	11	240±	11	254±	11		
500ppm	114±	4	139±	6	167±	8	197±	9	215±	8	232±	8	244±	7		
1000ppm	114±	4	135±	6**	160±	6*	189±	8	205±	9*	218±	9**	229±	8**		

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

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STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrIcRlj [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration		week-day		9-7	10-7	11-3	11-7	12-7
	7-7	8-7	8-7	9-7					
Control	262± 14	275± 14	286± 14	-	298± 13	300± 12	306± 14		
63ppm	260± 13	273± 14	284± 14	-	296± 13	299± 15	305± 15		
125ppm	264± 9	276± 8	286± 11	-	297± 11	301± 11	306± 11		
250ppm	265± 10	276± 10	288± 10	-	297± 8	300± 9	306± 9		
500ppm	255± 7	265± 7	276± 7	-	286± 9	291± 7	295± 8		
1000ppm	239± 9**	247± 10**	255± 12**	-	260± 11**	264± 11**	268± 11**		

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

Test of Dunnett

STUDY NO. : 0829
ANIMAL : RAT F344/DuCrICrlj [F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 3

Group Name	Administration week-day
	13-7
Control	312± 14
63ppm	312± 16
125ppm	311± 12
250ppm	311± 8
500ppm	300± 8
1000ppm	271± 12**

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

Test of Dunnett

(HAN260)

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TABLE D 4

BODY WEIGHT CHANGES: FEMALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration		week-day											
	0-0		1-7		2-7		3-7		4-7		5-7		6-7	
Control	93±	3	106±	4	118±	4	130±	5	135±	4	143±	4	148±	7
63ppm	93±	3	105±	4	116±	5	128±	5	135±	6	141±	6	146±	6
125ppm	93±	3	107±	4	119±	5	132±	5	140±	5	148±	6	155±	7
250ppm	93±	3	106±	4	118±	4	132±	4	139±	5	145±	4	150±	5
500ppm	93±	3	105±	3	118±	4	130±	5	137±	5	143±	6	150±	7
1000ppm	93±	3	103±	3	113±	4	126±	4	132±	6	139±	5	142±	6

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day		7-7		8-7		9-7		10-7		11-3		11-7		12-7	
Control	153±	7	158±	8	163±	9	-	-	168±	10	170±	11	172±	11		
63ppm	150±	6	154±	7	159±	7	-	-	164±	8	167±	9	171±	9		
125ppm	159±	8	164±	8	169±	10	-	-	172±	10	177±	10	181±	11		
250ppm	155±	5	161±	4	165±	5	-	-	169±	5	171±	5	176±	5		
500ppm	153±	9	157±	7	162±	6	-	-	165±	7	167±	7	170±	7		
1000ppm	146±	6	148±	6*	152±	6**	-	-	155±	7**	156±	6**	158±	6**		

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

Test of Dunnett

STUDY NO. : 0829
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration	week-day
	13-7	
Control	175±	10
63ppm	174±	9
125ppm	184±	11
250ppm	178±	5
500ppm	170±	7
1000ppm	158±	6**

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. : 0829
 ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : MALE

MEAN FOOD CONSUMPTION (FC) AND SURVIVAL

Week-Day on Study	Control		63ppm			125ppm			250ppm			500ppm			1000ppm		
	Av. FC.	No. of Surviv. <10>	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.
1-7	14.4 (10)	10/10	14.5 (10)	101	10/10	14.5 (10)	101	10/10	13.8 (10)	96	10/10	13.9 (10)	97	10/10	12.6 (10)	88	10/10
2-7	16.5 (10)	10/10	16.5 (10)	100	10/10	16.7 (10)	101	10/10	16.2 (10)	98	10/10	16.4 (10)	99	10/10	14.4 (10)	87	10/10
3-7	16.8 (10)	10/10	17.7 (10)	105	10/10	17.3 (10)	103	10/10	17.4 (10)	104	10/10	17.6 (10)	105	10/10	15.9 (10)	95	10/10
4-7	16.9 (10)	10/10	17.0 (10)	101	10/10	17.1 (10)	101	10/10	17.2 (10)	102	10/10	17.3 (10)	102	10/10	16.4 (10)	97	10/10
5-7	16.9 (10)	10/10	17.1 (10)	101	10/10	16.9 (10)	100	10/10	16.8 (10)	99	10/10	17.2 (10)	102	10/10	15.8 (10)	93	10/10
6-7	16.9 (10)	10/10	16.6 (10)	98	10/10	16.8 (10)	99	10/10	16.4 (10)	97	10/10	16.3 (10)	96	10/10	15.3 (10)	91	10/10
7-7	16.5 (10)	10/10	16.8 (10)	102	10/10	16.7 (10)	101	10/10	16.5 (10)	100	10/10	16.0 (10)	97	10/10	15.5 (10)	94	10/10
8-7	17.1 (10)	10/10	16.7 (10)	98	10/10	16.5 (10)	96	10/10	16.6 (10)	97	10/10	16.7 (10)	98	10/10	14.8 (10)	87	10/10
9-7	17.0 (10)	10/10	16.8 (10)	99	10/10	16.6 (10)	98	10/10	16.9 (10)	99	10/10	16.5 (10)	97	10/10	14.9 (10)	88	10/10
10-7	16.9 (10)	10/10	17.1 (10)	101	10/10	16.7 (10)	99	10/10	16.5 (10)	98	10/10	16.4 (10)	97	10/10	14.9 (10)	88	10/10
11-7	16.4 (10)	10/10	16.8 (10)	102	10/10	16.4 (10)	100	10/10	16.1 (10)	98	10/10	16.3 (10)	99	10/10	14.4 (10)	88	10/10
12-7	16.4 (10)	10/10	16.6 (10)	101	10/10	16.2 (10)	99	10/10	16.1 (10)	98	10/10	16.1 (10)	98	10/10	13.8 (10)	84	10/10
13-7	16.2 (10)	10/10	16.5 (10)	102	10/10	16.1 (10)	99	10/10	15.9 (10)	98	10/10	16.0 (10)	99	10/10	14.0 (10)	86	10/10

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

TABLE E 2

FOOD CONSUMPTION CHANGES AND SURVIVAL ANIMAL
NUMBERS: FEMALE

STUDY NO. : 0829
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCr1j]
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

MEAN FOOD CONSUMPTION (FC) AND SURVIVAL

Week-Day on Study	Control		63ppm			125ppm			250ppm			500ppm			1000ppm		
	Av. FC.	No. of Surviv. <10>	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.
1-7	10.7 (10)	10/10	10.5 (10)	98	10/10	10.8 (10)	101	10/10	10.7 (10)	100	10/10	10.1 (10)	94	10/10	9.8 (10)	92	10/10
2-7	11.0 (10)	10/10	11.2 (10)	102	10/10	11.4 (10)	104	10/10	11.3 (10)	103	10/10	11.0 (10)	100	10/10	10.5 (10)	95	10/10
3-7	10.8 (10)	10/10	11.1 (10)	103	10/10	11.3 (10)	105	10/10	11.7 (10)	108	10/10	10.9 (10)	101	10/10	10.1 (10)	94	10/10
4-7	10.6 (10)	10/10	10.5 (10)	99	10/10	11.4 (10)	108	10/10	11.2 (10)	106	10/10	10.6 (10)	100	10/10	10.0 (10)	94	10/10
5-7	10.6 (10)	10/10	10.4 (10)	98	10/10	11.0 (10)	104	10/10	11.1 (10)	105	10/10	11.0 (10)	104	10/10	9.7 (10)	92	10/10
6-7	10.7 (10)	10/10	10.6 (10)	99	10/10	11.3 (10)	106	10/10	11.2 (10)	105	10/10	10.9 (10)	102	10/10	9.5 (10)	89	10/10
7-7	10.8 (10)	10/10	10.4 (10)	96	10/10	11.2 (10)	104	10/10	10.9 (10)	101	10/10	10.3 (10)	95	10/10	9.9 (10)	92	10/10
8-7	10.7 (10)	10/10	10.8 (10)	101	10/10	11.2 (10)	105	10/10	11.2 (10)	105	10/10	10.9 (10)	102	10/10	9.5 (10)	89	10/10
9-7	11.0 (10)	10/10	10.7 (10)	97	10/10	11.6 (10)	105	10/10	11.2 (10)	102	10/10	10.7 (10)	97	10/10	9.8 (10)	89	10/10
10-7	10.9 (10)	10/10	10.9 (10)	100	10/10	11.4 (10)	105	10/10	11.2 (10)	103	10/10	10.7 (10)	98	10/10	9.5 (10)	87	10/10
11-7	11.2 (10)	10/10	11.1 (10)	99	10/10	11.3 (10)	101	10/10	11.4 (10)	102	10/10	10.8 (10)	96	10/10	9.7 (10)	87	10/10
12-7	10.6 (10)	10/10	11.2 (10)	106	10/10	12.2 (10)	115	10/10	11.4 (10)	108	10/10	10.6 (10)	100	10/10	9.2 (10)	87	10/10
13-7	10.9 (10)	10/10	11.0 (10)	101	10/10	12.1 (10)	111	10/10	11.0 (10)	101	10/10	10.3 (10)	94	10/10	9.4 (10)	86	10/10

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

TABLE E 3

FOOD CONSUMPTION CHANGES: MALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrICrIj [F344/DuCrIj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day (effective)						
	1-7 (7)	2-7 (7)	3-7 (7)	4-7 (7)	5-7 (7)	6-7 (7)	7-7 (7)
Control	14.4 ± 0.9	16.5 ± 1.1	16.8 ± 1.3	16.9 ± 1.1	16.9 ± 1.3	16.9 ± 1.1	16.5 ± 1.3
63ppm	14.5 ± 1.0	16.5 ± 1.4	17.7 ± 2.2	17.0 ± 1.5	17.1 ± 1.1	16.6 ± 0.9	16.8 ± 0.9
125ppm	14.5 ± 1.2	16.7 ± 1.4	17.3 ± 1.2	17.1 ± 1.2	16.9 ± 1.3	16.8 ± 1.2	16.7 ± 1.4
250ppm	13.8 ± 0.6	16.2 ± 0.8	17.4 ± 1.4	17.2 ± 0.9	16.8 ± 0.8	16.4 ± 0.6	16.5 ± 0.5
500ppm	13.9 ± 0.9	16.4 ± 1.4	17.6 ± 1.7	17.3 ± 1.4	17.2 ± 1.9	16.3 ± 1.8	16.0 ± 1.8
1000ppm	12.6 ± 0.7**	14.4 ± 1.0**	15.9 ± 1.5	16.4 ± 1.3	15.8 ± 1.0	15.3 ± 0.7**	15.5 ± 0.8*

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration		week-day (effective)			
	8-7 (7)	9-7 (7)	10-7 (7)	11-7 (7)	12-7 (7)	13-7 (7)
Control	17.1 ± 1.2	17.0 ± 1.1	16.9 ± 0.7	16.4 ± 0.8	16.4 ± 0.7	16.2 ± 0.8
63ppm	16.7 ± 0.7	16.8 ± 0.7	17.1 ± 0.6	16.8 ± 0.9	16.6 ± 0.9	16.5 ± 0.8
125ppm	16.5 ± 1.2	16.6 ± 1.0	16.7 ± 1.0	16.4 ± 1.1	16.2 ± 0.9	16.1 ± 1.0
250ppm	16.6 ± 0.5	16.9 ± 0.8	16.5 ± 0.7	16.1 ± 0.7	16.1 ± 0.7	15.9 ± 0.4
500ppm	16.7 ± 2.2	16.5 ± 1.6	16.4 ± 1.8*	16.3 ± 1.5	16.1 ± 1.7	16.0 ± 1.6
1000ppm	14.8 ± 0.8**	14.9 ± 1.0**	14.9 ± 1.0**	14.4 ± 0.5**	13.8 ± 0.8**	14.0 ± 0.6**

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

Test of Dunnett

TABLE E 4

FOOD CONSUMPTION CHANGES: FEMALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day (effective)						
	1-7 (7)	2-7 (7)	3-7 (7)	4-7 (7)	5-7 (7)	6-7 (7)	7-7 (7)
Control	10.7 ± 0.7	11.0 ± 0.4	10.8 ± 0.2	10.6 ± 0.6	10.6 ± 0.5	10.7 ± 0.5	10.8 ± 0.8
63ppm	10.5 ± 0.5	11.2 ± 1.1	11.1 ± 0.9	10.5 ± 0.6	10.4 ± 0.7	10.6 ± 0.6	10.4 ± 0.8
125ppm	10.8 ± 0.5	11.4 ± 0.6	11.3 ± 0.5	11.4 ± 0.6	11.0 ± 0.5	11.3 ± 0.9	11.2 ± 1.0
250ppm	10.7 ± 0.8	11.3 ± 0.7	11.7 ± 0.6**	11.2 ± 0.8	11.1 ± 0.8	11.2 ± 0.8	10.9 ± 0.6
500ppm	10.1 ± 0.4	11.0 ± 0.8	10.9 ± 0.8	10.6 ± 0.8	11.0 ± 1.7	10.9 ± 1.1	10.3 ± 0.7
1000ppm	9.8 ± 0.6**	10.5 ± 0.6	10.1 ± 0.8	10.0 ± 0.9	9.7 ± 0.8	9.5 ± 0.7**	9.9 ± 0.8*

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr|Cr|j [F344/DuCrj]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day (effective)					
	8-7 (7)	9-7 (7)	10-7 (7)	11-7 (7)	12-7 (7)	13-7 (7)
Control	10.7 ± 1.0	11.0 ± 0.9	10.9 ± 1.0	11.2 ± 1.3	10.6 ± 0.9	10.9 ± 0.8
63ppm	10.8 ± 0.8	10.7 ± 0.8	10.9 ± 0.8	11.1 ± 0.8	11.2 ± 0.8	11.0 ± 0.7
125ppm	11.2 ± 1.1	11.6 ± 0.6	11.4 ± 0.8	11.3 ± 0.7	12.2 ± 1.5**	12.1 ± 1.3*
250ppm	11.2 ± 0.6	11.2 ± 0.4	11.2 ± 0.5	11.4 ± 0.4	11.4 ± 0.9	11.0 ± 0.8
500ppm	10.9 ± 0.6	10.7 ± 0.8	10.7 ± 1.0	10.8 ± 0.7	10.6 ± 1.1	10.3 ± 0.8
1000ppm	9.5 ± 1.1*	9.8 ± 0.8**	9.5 ± 0.4**	9.7 ± 0.7**	9.2 ± 0.7*	9.4 ± 0.6**

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

Test of Dunnett

TABLE F 1

HEMATOLOGY: MALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrIj]
 MEASURE. TIME : 1
 SEX : MALE

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

PAGE : 1

Group Name	NO. of Animals	RED BLOOD CELL 10 ⁶ /μℓ		HEMOGLOBIN g/dℓ		HEMATOCRIT %		MCV fℓ		MCH pg		MCHC g/dℓ		PLATELET 10 ⁹ /μℓ	
Control	10	9.30±	0.11	15.5±	0.3	44.9±	0.6	48.3±	0.3	16.7±	0.2	34.6±	0.4	755±	58
63ppm	10	9.15±	0.18	15.2±	0.3	44.0±	0.9	48.1±	0.3	16.6±	0.2	34.6±	0.4	786±	52
125ppm	10	9.04±	0.20**	15.2±	0.3	43.7±	0.9**	48.4±	0.3	16.8±	0.2	34.8±	0.4	794±	52
250ppm	10	8.87±	0.15**	14.9±	0.2**	43.0±	0.7**	48.5±	0.1	16.8±	0.2	34.6±	0.5	786±	57
500ppm	10	9.05±	0.16**	15.2±	0.2	44.0±	0.8	48.7±	0.5*	16.8±	0.2	34.5±	0.4	815±	34
1000ppm	10	8.84±	0.12**	15.1±	0.3**	43.5±	0.7**	49.2±	0.3**	17.0±	0.3**	34.6±	0.5	757±	38

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

Test of Dunnett

STUDY NO. : 0829
ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
MEASURE TIME : 1
SEX : MALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

PAGE : 2

Group Name	NO. of Animals	RETICULOCYTE %		PROTHROMBIN TIME sec		APTT sec	
Control	10	1.8±	0.2	12.1±	0.5	18.1±	1.1
63ppm	10	1.9±	0.2	12.0±	0.5	17.2±	1.0
125ppm	10	1.9±	0.2	11.9±	0.8	17.6±	1.8
250ppm	10	2.0±	0.1	11.8±	0.4	16.9±	1.4
500ppm	10	1.9±	0.2	11.7±	0.1	16.8±	0.8
1000ppm	10	1.9±	0.2	12.2±	0.5	16.8±	1.4

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrIcRij [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (14W)

Group Name	NO. of Animals	WBC		Differential		WBC (%)		MONO	EOSINO	BASO	OTHER	
		$10^9/\mu\ell$		NEUTRO		LYMPHO						
Control	10	4.21 ± 0.57		25 ± 4		71 ± 4		2 ± 0	1 ± 0	0 ± 0	1 ± 0	0
63ppm	10	4.60 ± 0.65		26 ± 3		70 ± 3		2 ± 0	1 ± 0	0 ± 0	1 ± 0	0
125ppm	10	4.34 ± 0.70		24 ± 2		72 ± 2		2 ± 0	1 ± 0	0 ± 0	1 ± 0	0
250ppm	10	4.68 ± 0.94		25 ± 3		71 ± 3		2 ± 0	1 ± 0	0 ± 0	1 ± 0	0
500ppm	10	4.85 ± 1.12		25 ± 4		71 ± 4		2 ± 0	1 ± 0	0 ± 0	1 ± 0	0
1000ppm	10	3.81 ± 1.04		26 ± 4		70 ± 5		2 ± 0	1 ± 0	0 ± 0	1 ± 0	0

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

Test of Dunnett

TABLE F 2

HEMATOLOGY: FEMALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE. TIME : 1
 SEX : FEMALE

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

PAGE : 4

Group Name	NO. of Animals	RED BLOOD CELL 10 ⁶ /μl		HEMOGLOBIN g/dl		HEMATOCRIT %		MCV fl		MCH pg		MCHC g/dl		PLATELET 10 ⁹ /μl	
Control	10	8.64±	0.23	15.5±	0.5	44.0±	1.2	50.9±	0.3	17.9±	0.2	35.3±	0.4	885±	72
63ppm	10	8.48±	0.26	15.3±	0.5	43.3±	1.2	51.1±	0.3	18.0±	0.2	35.3±	0.4	855±	45
125ppm	10	8.33±	0.22*	15.0±	0.4	42.6±	1.0*	51.2±	0.5	18.0±	0.1	35.2±	0.4	891±	29
250ppm	10	8.36±	0.19*	15.1±	0.4	42.7±	1.0	51.1±	0.4	18.0±	0.2	35.2±	0.4	871±	54
500ppm	10	8.30±	0.20**	15.0±	0.4	42.4±	0.9*	51.2±	0.3	18.0±	0.2	35.2±	0.4	856±	39
1000ppm	10	8.43±	0.23	15.3±	0.4	43.2±	1.0	51.2±	0.4	18.1±	0.2	35.4±	0.5	779±	38**

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

Test of Dunnett

STUDY NO. : 0829
ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
MEASURE TIME : 1
SEX : FEMALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

PAGE : 5

Group Name	NO. of Animals	RETICULOCYTE %		PROTHROMBIN TIME sec		APTT sec	
Control	10	1.6±	0.2	11.4±	0.4	13.2±	1.1
63ppm	10	1.6±	0.2	11.4±	0.2	13.1±	1.1
125ppm	10	1.9±	0.2*	11.4±	0.2	13.4±	0.7
250ppm	10	1.7±	0.3	11.3±	0.3	13.6±	1.5
500ppm	10	1.8±	0.3	11.6±	0.4	12.9±	0.5
1000ppm	10	1.7±	0.2	11.8±	0.3*	13.0±	0.7

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (14W)

Group Name	NO. of Animals	WBC		Differential		WBC (%)		MONO	EOSINO	BASO	OTHER				
		$10^3/\mu\ell$		NEUTRO		LYMPHO									
Control	10	2.93±	0.94	29±	8	67±	8	2±	1	2±	0	0±	0	1±	0
63ppm	10	2.20±	0.67	25±	7	70±	7	2±	0	2±	1	0±	0	1±	0
125ppm	10	2.18±	0.65	25±	7	69±	8	3±	1	2±	1	1±	1	1±	0
250ppm	10	2.19±	0.54	28±	5	67±	5	3±	1	2±	1	0±	1	1±	0
500ppm	10	2.65±	0.52	25±	5	70±	5	3±	1	2±	0	0±	0	1±	0
1000ppm	10	2.43±	0.64	26±	4	69±	4	2±	1	2±	0	0±	0	1±	0

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

TABLE G 1

BIOCHEMISTRY: MALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

PAGE : 1

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	10	6.4±	0.1	3.5±	0.1	1.2±	0.1	0.05±	0.01	181±	12	76±	4	75±	10
63ppm	10	6.4±	0.1	3.5±	0.1	1.2±	0.0	0.05±	0.01	172±	12	76±	6	63±	22
125ppm	10	6.3±	0.1	3.5±	0.1	1.2±	0.0	0.04±	0.01	178±	12	78±	6	72±	23
250ppm	10	6.3±	0.1	3.5±	0.1	1.2±	0.0	0.05±	0.01	175±	7	76±	6	67±	26
500ppm	10	6.3±	0.1	3.5±	0.1	1.2±	0.1	0.05±	0.01	176±	13	73±	7	68±	22
1000ppm	10	6.2±	0.1**	3.4±	0.1	1.3±	0.1	0.05±	0.01	174±	10	67±	5**	53±	14

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

PAGE : 2

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	10	132±	6	151±	60	81±	24	168±	75	360±	19	0.5±	0.2	115±	27
63ppm	10	128±	10	113±	27	61±	10	136±	38	376±	32	0.4±	0.2	108±	20
125ppm	10	132±	9	101±	36	58±	15	128±	53	365±	30	0.5±	0.2	114±	17
250ppm	10	130±	10	129±	59	66±	19	153±	74	351±	29	0.6±	0.3	107±	17
500ppm	10	125±	9	85±	15**	57±	7	93±	34*	356±	21	0.5±	0.3	107±	22
1000ppm	10	121±	7*	92±	24*	61±	12	101±	31	371±	39	0.5±	0.3	90±	7*

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

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	10	18.4±	1.2	0.35±	0.03	144±	2	3.6±	0.2	112±	2	10.4±	0.2	5.6±	1.0
63ppm	10	18.6±	1.6	0.35±	0.03	144±	1	3.5±	0.2	112±	2	10.4±	0.3	5.8±	0.8
125ppm	10	19.5±	1.2	0.35±	0.04	144±	1	3.6±	0.2	112±	2	10.3±	0.2	5.5±	0.7
250ppm	10	20.0±	1.2	0.36±	0.04	144±	1	3.7±	0.2	112±	2	10.4±	0.2	5.8±	0.5
500ppm	10	19.4±	1.5	0.35±	0.04	144±	1	3.7±	0.1	112±	2	10.2±	0.2	5.9±	0.6
1000ppm	10	19.5±	1.8	0.33±	0.03	144±	1	3.9±	0.1*	113±	2	10.1±	0.1**	5.9±	0.6

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

TABLE G 2

BIOCHEMISTRY: FEMALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

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	10	6.2±	0.2	3.5±	0.1	1.3±	0.1	0.05±	0.01	141±	13	86±	6	19±	4
63ppm	10	6.2±	0.2	3.5±	0.1	1.3±	0.1	0.05±	0.01	130±	15	83±	8	15±	6
125ppm	10	6.2±	0.1	3.5±	0.1	1.3±	0.1	0.05±	0.01	149±	12	85±	5	14±	5*
250ppm	10	6.2±	0.2	3.5±	0.1	1.3±	0.1	0.05±	0.01	144±	8	87±	9	14±	4*
500ppm	10	6.1±	0.1	3.4±	0.1*	1.3±	0.1	0.05±	0.01	148±	12	87±	7	16±	3
1000ppm	10	5.9±	0.2**	3.4±	0.1**	1.3±	0.1	0.06±	0.01*	148±	9	84±	9	18±	4

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrj [F344/DuCrj]
 MEASURE TIME : 1
 SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

PAGE : 5

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	10	157±	8	76±	9	40±	8	118±	64	307±	35	1.3±	0.2	122±	31
63ppm	10	154±	12	70±	6	33±	6	107±	47	307±	31	1.1±	0.3	112±	26
125ppm	10	155±	9	70±	9	31±	4**	102±	44	295±	26	1.3±	0.4	119±	39
250ppm	10	156±	14	69±	11	34±	11	89±	44	300±	43	1.0±	0.4	101±	26
500ppm	10	154±	11	69±	7	34±	5	82±	43	322±	31	1.1±	0.4	96±	26
1000ppm	10	149±	13	73±	8	42±	5	85±	37	379±	32**	1.7±	0.4	85±	16*

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

PAGE : 6

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	10	19.5 ±	1.8	0.35 ±	0.03	144 ±	1	3.5 ±	0.3	114 ±	3	10.1 ±	0.3	5.2 ±	0.6
63ppm	10	20.4 ±	2.1	0.37 ±	0.02	144 ±	2	3.7 ±	0.2	115 ±	2	9.9 ±	0.2	5.4 ±	0.6
125ppm	10	20.1 ±	1.5	0.36 ±	0.03	143 ±	1	3.7 ±	0.2	114 ±	3	9.9 ±	0.2	5.3 ±	0.6
250ppm	10	20.5 ±	2.0	0.38 ±	0.03	144 ±	1	3.7 ±	0.3	115 ±	2	9.9 ±	0.3	5.3 ±	1.0
500ppm	10	20.3 ±	1.5	0.35 ±	0.01	144 ±	1	3.8 ±	0.2	115 ±	2	10.0 ±	0.3	5.4 ±	0.5
1000ppm	10	21.7 ±	2.2	0.34 ±	0.02	143 ±	1	3.9 ±	0.2**	116 ±	3	9.7 ±	0.3**	5.4 ±	0.7

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

Test of Dunnett

TABLE H 1

URINALYSIS: MALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH							CHI	Protein						CHI	Glucose						CHI	Ketone body						CHI	Bilirubin				CHI
		5.0	6.0	6.5	7.0	7.5	8.0	8.5		-	±	+	2+	3+	4+		-	±	+	2+	3+	4+		-	±	+	2+	3+	4+		-	+	2+	3+	
Control	10	0	0	0	0	1	4	5		2	5	3	0	0	0		10	0	0	0	0	0		6	3	1	0	0	0		10	0	0	0	
63ppm	10	0	0	0	0	0	2	8		3	5	2	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	
125ppm	10	0	0	0	0	0	4	6		1	5	3	1	0	0		10	0	0	0	0	0		7	2	0	1	0	0		10	0	0	0	
250ppm	10	0	0	0	0	2	1	7		3	5	1	1	0	0		10	0	0	0	0	0		8	1	1	0	0	0		10	0	0	0	
500ppm	10	0	0	0	0	0	4	6		3	7	0	0	0	0		10	0	0	0	0	0		9	1	0	0	0	0		10	0	0	0	
1000ppm	10	0	0	0	0	0	4	6		3	5	2	0	0	0		10	0	0	0	0	0		9	1	0	0	0	0		10	0	0	0	

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

Test of CHI SQUARE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE. TIME : 1
 SEX : MALE

URINALYSIS

REPORT TYPE : A1

Group Name	NO. of Animals	Occult blood					CHI	Urobilinogen					CHI
		-	±	+	2+	3+		±	+	2+	3+	4+	
Control	10	10	0	0	0	0		10	0	0	0	0	
63ppm	10	10	0	0	0	0		10	0	0	0	0	
125ppm	10	10	0	0	0	0		10	0	0	0	0	
250ppm	10	10	0	0	0	0		10	0	0	0	0	
500ppm	10	10	0	0	0	0		10	0	0	0	0	
1000ppm	10	10	0	0	0	0		10	0	0	0	0	

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

Test of CHI SQUARE

TABLE H 2

URINALYSIS: FEMALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE. TIME : 1
 SEX : FEMALE

URINALYSIS

REPORT TYPE : A1

Group Name	NO. of Animals	pH							CHI	Protein					CHI	Glucose					CHI	Ketone body					CHI	Bilirubin				CHI		
		5.0	6.0	6.5	7.0	7.5	8.0	8.5		-	±	+	2+	3+		4+	-	±	+	2+		3+	4+	-	±	+		2+	3+	4+	-		+	2+
Control	10	0	0	0	0	0	3	7		8	2	0	0	0	0		10	0	0	0	0	0		9	1	0	0	0	0		10	0	0	0
63ppm	10	0	0	0	0	0	6	4		6	4	0	0	0	0		10	0	0	0	0	0		8	2	0	0	0	0		10	0	0	0
125ppm	10	0	0	0	0	0	1	9		8	2	0	0	0	0		10	0	0	0	0	0		9	1	0	0	0	0		10	0	0	0
250ppm	10	0	0	0	0	0	3	7		9	1	0	0	0	0		10	0	0	0	0	0		9	1	0	0	0	0		10	0	0	0
500ppm	10	0	0	0	0	0	2	8		8	2	0	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0
1000ppm	10	0	0	0	0	0	3	7		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0

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

Test of CHI SQUARE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 MEASURE TIME : 1
 SEX : FEMALE

URINALYSIS

REPORT TYPE : A1

Group Name	NO. of Animals	Occult blood					CHI	Urobilinogen					CHI
		-	±	+	2+	3+		±	+	2+	3+	4+	
Control	10	10	0	0	0	0		10	0	0	0	0	
63ppm	10	10	0	0	0	0		10	0	0	0	0	
125ppm	10	10	0	0	0	0		10	0	0	0	0	
250ppm	10	10	0	0	0	0		10	0	0	0	0	
500ppm	10	10	0	0	0	0		10	0	0	0	0	
1000ppm	10	10	0	0	0	0		10	0	0	0	0	

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

Test of CHI SQUARE

TABLE I 1

GROSS FINDINGS: MALE:

ALL ANIMALS

STUDY NO. : 0829
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCr1j]
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	Control							
			10	(%)	10	(%)				
lung	adhesion		0	(0)	0	(0)	1	(10)	0	(0)
lymph node	enlarged		0	(0)	1	(10)	0	(0)	0	(0)
liver	herniation		0	(0)	0	(0)	0	(0)	0	(0)

STUDY NO. : 0829
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	500ppm		1000ppm	
			10	(%)	10	(%)
lung	adhesion		0	(0)	0	(0)
lymph node	enlarged		0	(0)	0	(0)
liver	herniation		0	(0)	3	(30)

TABLE I 2

GROSS FINDINGS: FEMALE:

ALL ANIMALS

STUDY NO. : 0829
ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	Control										
			10	(%)	10	(%)							
					63ppm	10	(%)	125ppm	10	(%)	250ppm	10	(%)
liver	herniation		0	(0)	2	(20)	2	(20)	0	(0)			

(HPT080)

BAIS 5

STUDY NO. : 0829
ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrIj]
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	500ppm		1000ppm	
			10	(%)	10	(%)
liver	herniation		0	(0)	1	(10)

(HPT080)

BAIS 5

TABLE J 1

ORGAN WEIGHT, ABSOLUTE: MALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: g

ORGAN WEIGHT: ABSOLUTE (SUMMARY)
 SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	Body Weight	THYMUS		ADRENALS		TESTES		HEART		LUNGS	
Control	10	290 ± 14	0.243 ±	0.020	0.066 ±	0.010	3.153 ±	0.158	0.876 ±	0.050	0.992 ±	0.062
63ppm	10	291 ± 15	0.244 ±	0.030	0.059 ±	0.006	3.170 ±	0.137	0.886 ±	0.059	0.970 ±	0.063
125ppm	10	290 ± 11	0.235 ±	0.031	0.066 ±	0.007	3.235 ±	0.107	0.952 ±	0.238	1.004 ±	0.068
250ppm	10	287 ± 9	0.219 ±	0.028	0.062 ±	0.007	3.157 ±	0.077	0.879 ±	0.029	0.991 ±	0.035
500ppm	10	278 ± 6	0.210 ±	0.022*	0.062 ±	0.005	3.140 ±	0.108	0.871 ±	0.028	0.955 ±	0.035
1000ppm	10	251 ± 11**	0.182 ±	0.023**	0.060 ±	0.005	3.051 ±	0.100	0.769 ±	0.041**	0.874 ±	0.066**

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
 SURVIVAL ANIMALS (14W)

PAGE : 2

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	10	1.666±	0.096	0.580±	0.050	7.124±	0.489	1.923±	0.047
63ppm	10	1.703±	0.102	0.602±	0.045	7.134±	0.485	1.939±	0.049
125ppm	10	1.746±	0.052	0.608±	0.028	7.172±	0.366	1.929±	0.036
250ppm	10	1.748±	0.071	0.607±	0.020	7.127±	0.306	1.909±	0.044
500ppm	10	1.714±	0.040	0.578±	0.025	6.879±	0.171	1.902±	0.031
1000ppm	10	1.591±	0.096	0.520±	0.030**	6.070±	0.339**	1.865±	0.031*

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

Test of Dunnett

TABLE J 2

ORGAN WEIGHT, ABSOLUTE: FEMALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
 SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	Body Weight		THYMUS		ADRENALS		OVARIES		HEART		LUNGS	
Control	10	159±	9	0.171±	0.017	0.061±	0.007	0.101±	0.013	0.565±	0.027	0.678±	0.041
63ppm	10	158±	8	0.171±	0.021	0.060±	0.006	0.097±	0.013	0.562±	0.045	0.684±	0.040
125ppm	10	168±	9	0.191±	0.015*	0.064±	0.006	0.110±	0.012	0.600±	0.035	0.718±	0.034*
250ppm	10	162±	5	0.183±	0.014	0.057±	0.005	0.103±	0.012	0.587±	0.040	0.681±	0.034
500ppm	10	156±	6	0.172±	0.015	0.057±	0.004	0.101±	0.010	0.545±	0.019	0.678±	0.026
1000ppm	10	143±	6**	0.156±	0.008	0.051±	0.005**	0.085±	0.012*	0.501±	0.029**	0.618±	0.025**

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
 SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	10	1.030±	0.044	0.368±	0.024	3.753±	0.219	1.754±	0.031
63ppm	10	1.044±	0.056	0.364±	0.026	3.763±	0.216	1.761±	0.040
125ppm	10	1.115±	0.044**	0.392±	0.025	4.003±	0.246*	1.801±	0.033**
250ppm	10	1.081±	0.037	0.379±	0.020	3.974±	0.180*	1.769±	0.023
500ppm	10	1.068±	0.045	0.367±	0.024	3.780±	0.146	1.754±	0.032
1000ppm	10	1.002±	0.039	0.334±	0.025*	3.493±	0.089*	1.723±	0.027

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

Test of Dunnett

TABLE K 1

ORGAN WEIGHT, RELATIVE: MALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE
 UNIT : %

ORGAN WEIGHT:RELATIVE (SUMMARY)
 SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	290± 14	0.084± 0.008	0.023± 0.003	1.089± 0.030	0.303± 0.012	0.343± 0.020
63ppm	10	291± 15	0.084± 0.011	0.020± 0.002	1.091± 0.045	0.305± 0.013	0.333± 0.012
125ppm	10	290± 11	0.081± 0.010	0.023± 0.003	1.117± 0.058	0.328± 0.077	0.346± 0.025
250ppm	10	287± 9	0.076± 0.009	0.022± 0.003	1.100± 0.043	0.306± 0.011	0.345± 0.006
500ppm	10	278± 6	0.076± 0.008	0.022± 0.002	1.130± 0.049	0.313± 0.014	0.344± 0.016
1000ppm	10	251± 11**	0.072± 0.007*	0.024± 0.002	1.219± 0.020**	0.307± 0.013	0.349± 0.020

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

Test of Dunnett

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrIj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
 SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	0.575 ± 0.014	0.200 ± 0.009	2.460 ± 0.099	0.665 ± 0.025
63ppm	10	0.585 ± 0.017	0.207 ± 0.009	2.452 ± 0.078	0.668 ± 0.028
125ppm	10	0.603 ± 0.032**	0.210 ± 0.009	2.473 ± 0.099	0.666 ± 0.026
250ppm	10	0.609 ± 0.014**	0.212 ± 0.006	2.481 ± 0.054	0.665 ± 0.017
500ppm	10	0.616 ± 0.012**	0.208 ± 0.008	2.473 ± 0.026	0.684 ± 0.021
1000ppm	10	0.635 ± 0.022**	0.208 ± 0.010	2.423 ± 0.071	0.746 ± 0.030**

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

Test of Dunnett

TABLE K 2

ORGAN WEIGHT, RELATIVE: FEMALE

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT : %

ORGAN WEIGHT:RELATIVE (SUMMARY)
 SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	10	159± 9	0.107± 0.007	0.038± 0.004	0.064± 0.008	0.355± 0.014	0.426± 0.021
63ppm	10	158± 8	0.108± 0.012	0.038± 0.003	0.061± 0.007	0.356± 0.020	0.434± 0.023
125ppm	10	168± 9	0.114± 0.009	0.038± 0.003	0.065± 0.007	0.358± 0.020	0.429± 0.024
250ppm	10	162± 5	0.114± 0.010	0.035± 0.003	0.064± 0.007	0.364± 0.020	0.422± 0.024
500ppm	10	156± 6	0.110± 0.009	0.036± 0.003	0.065± 0.007	0.349± 0.014	0.435± 0.018
1000ppm	10	143± 6**	0.110± 0.006	0.036± 0.004	0.059± 0.009	0.351± 0.018	0.433± 0.029

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

Test of Dunnett

STUDY NO. : 0829
ANIMAL : RAT F344/DuCrI CrIj [F344/DuCrj]
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14W)

PAGE : 4

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	0.647 ± 0.031	0.231 ± 0.011	2.355 ± 0.050	1.103 ± 0.057
63ppm	10	0.662 ± 0.023	0.231 ± 0.016	2.387 ± 0.101	1.119 ± 0.052
125ppm	10	0.665 ± 0.023	0.234 ± 0.015	2.386 ± 0.070	1.076 ± 0.055
250ppm	10	0.669 ± 0.019	0.235 ± 0.014	2.461 ± 0.091*	1.096 ± 0.027
500ppm	10	0.685 ± 0.026*	0.235 ± 0.012	2.422 ± 0.076	1.125 ± 0.041
1000ppm	10	0.702 ± 0.033**	0.234 ± 0.013	2.447 ± 0.077*	1.208 ± 0.045**

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

Test of Dunnett

TABLE L 1

HISTOPATHOLOGICAL FINDINGS :
NON-NEOPLASTIC LESIONS: MALE:
ALL ANIMALS

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

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			
Grade		1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Respiratory system)																	
nasal cavit																	
		<10>				<10>				<10>				<10>			
inflammation:respiratory epithelium		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
respiratory metaplasia:gland		2	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0
		(20)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(40)	(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)
vacuolic change:olfactory epithelium		0	0	0	0	0	0	0	0	8	0	0	0	9	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(80)	(0)	(0)	(0)	(90)	(0)	(0)	(0)
lung																	
ossification		<10>				<10>				<10>				<10>			
		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(Hematopoietic system)																	
lymph node																	
hemorrhage		<10>				<10>				<10>				<10>			
		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(10)	(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
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

Organ	Findings	Group Name No. of Animals on Study Grade	500ppm				1000ppm			
			10	10	10	10	10	10	10	10
			1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)
(Respiratory system)										
nasal cavit			<10>				<10>			
	inflammation:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	respiratory metaplasia:gland		1 (10)	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)	10 (100)	0 (0)	0 (0)	0 ** (0)
	vacuolic change:olfactory epithelium		10 (100)	0 (0)	0 (0)	0 ** (0)	0 (0)	10 (100)	0 (0)	0 ** (0)
lung			<10>				<10>			
	ossification		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
(Hematopoietic system)										
lymph node			<10>				<10>			
	hemorrhage		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
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

Organ	Findings	Group Name No. of Animals on Study Grade	Control				63ppm				125ppm				250ppm			
			10				10				10				10			
			1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Circulatory system)																		
heart	myocardial fibrosis		<10>				<10>				<10>				<10>			
			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)	(10)	(0)	(0)	(0)
(Digestive system)																		
liver	herniation		<10>				<10>				<10>				<10>			
			0	0	0	0	0	0	0	0	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:focal		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:single cell		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
pancreas	atrophy:focal		<10>				<10>				<10>				<10>			
			0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(Urinary system)																		
kidney	eosinophilic body		<10>				<10>				<10>				<10>			
			10	0	0	0	10	0	0	0	10	0	0	0	10	0	0	0
			(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(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
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

Organ	Findings	500ppm				1000ppm				
		10				10				
		1+	2+	3+	4+	1+	2+	3+	4+	
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
(Circulatory system)										
heart	myocardial fibrosis	<10>				<10>				
		0	0	0	0	0	0	0	0	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(Digestive system)										
liver	herniation	<10>				<10>				
		0	0	0	0	3	0	0	0	
		(0)	(0)	(0)	(0)	(30)	(0)	(0)	(0)	
	necrosis:focal	0	0	0	0	0	0	0	0	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	necrosis:single cell	2	0	0	0	3	0	0	0	
		(20)	(0)	(0)	(0)	(30)	(0)	(0)	(0)	
pancreas	atrophy:focal	<10>				<10>				
		0	0	0	0	0	0	0	0	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(Urinary system)										
kidney	eosinophilic body	<10>				<10>				
		10	0	0	0	10	0	0	0	
		(100)	(0)	(0)	(0)	(100)	(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
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrI|CrIj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

Organ	Findings	Group Name No. of Animals on Study Grade	Control				63ppm				125ppm				250ppm			
			1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Urinary system)																		
kidney	regeneration:renal tubule		<10>				<10>				<10>				<10>			
			1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)
(Endocrine system)																		
pituitary	cyst		<10>				<10>				<10>				<10>			
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	Rathke pouch		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
			(0)	(0)	(0)	(0)	(10)	(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
 Significant difference : * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCrIcrlj [F344/DuCrj]
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

Organ	Findings	500ppm				1000ppm			
		10				10			
Grade		1+	2+	3+	4+	1+	2+	3+	4+
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

(Urinary system)

kidney	regeneration:renal tubule	<10>				<10>			
		4	0	0	0	2	0	0	0
		(40)	(0)	(0)	(0)	(20)	(0)	(0)	(0)

(Endocrine system)

pituitary	cyst	<10>				<10>			
		0	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	Rathke pouch	<10>				<10>			
		1	0	0	0	0	0	0	0
		(10)	(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

Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

TABLE L 2

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

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

Organ	Findings	Group Name No. of Animals on Study Grade	Control				63ppm				125ppm				250ppm			
			1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
(Respiratory system)																		
nasal cavit																		
	inflammation:respiratory epithelium		1 (10)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	1 (10)	1 (10)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)
	respiratory metaplasia:gland		3 (30)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	4 (40)	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)
	atrophy:olfactory epithelium		1 (10)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	5 (50)	0 (0)	0 (0)	0 (0)
	vacuolic change:olfactory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	4 (40)	0 (0)	0 (0)	0 (0)	9 (90)	0 (0)	0 (0)	0 (0) **
(Hematopoietic system)																		
bone marrow																		
	granulation		1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
(Digestive system)																		
liver																		
	herniation		0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	1 (10)	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
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

Organ	Findings	500ppm				1000ppm			
		10				10			
Group Name		1+	2+	3+	4+	1+	2+	3+	4+
No. of Animals on Study		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Grade									
(Respiratory system)									
nasal cavit									
	inflammation:respiratory epithelium	1 (10)	0 (0)	0 (0)	0 (0)	4 (40)	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)
	regeneration:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	8 (80)	0 (0)	0 (0)	0 ** (0)
	atrophy:olfactory epithelium	7 (70)	0 (0)	0 (0)	0 * (0)	1 (10)	0 (0)	0 (0)	0 (0)
	vacuolic change:olfactory epithelium	9 (90)	1 (10)	0 (0)	0 ** (0)	0 (0)	10 (100)	0 (0)	0 ** (0)
(Hematopoietic system)									
bone marrow									
	granulation	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
(Digestive system)									
liver									
	herniation	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	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
 Significant difference : * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

Organ	Findings	Group Name No. of Animals on Study Grade	Control				63ppm				125ppm				250ppm			
			1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
(Digestive system)																		
liver	granulation		<10>				<10>				<10>				<10>			
		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
pancreas	atrophy:focal		<10>				<10>				<10>				<10>			
		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(Urinary system)																		
kidney	inflammatory infiltration		<10>				<10>				<10>				<10>			
		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
			(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
(Endocrine system)																		
thyroid	ultimobranchial body remanet		<10>				<10>				<10>				<10>			
		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)	(10)	(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
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0829
 ANIMAL : RAT F344/DuCr1Cr1j [F344/DuCrj]
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0- 14W)

Organ	Findings	500ppm				1000ppm			
		No. of Animals on Study				No. of Animals on Study			
		10				10			
		1+	2+	3+	4+	1+	2+	3+	4+
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}									
liver	granulation	<10>				<10>			
		0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
pancreas	atrophy:focal	<10>				<10>			
		0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Urinary system}									
kidney	inflammatory infiltration	<10>				<10>			
		0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Endocrine system}									
thyroid	ultimobranchial body remanet	<10>				<10>			
		1	0	0	0	0	0	0	0
		(10)	(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
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square