1,3,5,7-テトラアザトリシクロ〔3.3.1.1<sup>3,7</sup>〕デカンの ラット及びマウスを用いた経口投与による がん原性予備試験(混水試験)報告書

# **APPENDIXES**

 $(B1-1\sim C2)$ 

13 週間試験:ラット/0201;マウス/0202

- APPENDIX B 1-1 CLINICAL OBSERVATION (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : MALE
- APPENDIX B 1-2 CLINICAL OBSERVATION (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : FEMALE
- APPENDIX B 1-3 CLINICAL OBSERVATION (THIRTEEN-WEEK STUDY : SUMMARY) MOUSE : MALE
- APPENDIX B 1-4 CLINICAL OBSERVATION (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : FEMALE
- APPENDIX B 2-1 BODY WEIGHT CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : MALE
- APPENDIX B 2-2 BODY WEIGHT CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : FEMALE
- APPENDIX B 2-3 BODY WEIGHT CHANGES (THIRTEEN-WEEK STUDY: SUMMARY)
  MOUSE: MALE
- APPENDIX B 2-4 BODY WEIGHT CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : FEMALE
- APPENDIX B 3-1 WATER CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY: SUMMARY)
  RAT: MALE
- APPENDIX B 3-2 WATER CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY: SUMMARY)
  RAT: FEMALE
- APPENDIX B 3-3 WATER CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY: SUMMARY)
  MOUSE: MALE
- APPENDIX B 3-4 WATER CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY: SUMMARY)
  MOUSE: FEMALE
- APPENDIX B 4-1 FOOD CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : MALE
- APPENDIX B 4-2 FOOD CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : FEMALE
- APPENDIX B 4-3 FOOD CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : MALE
- APPENDIX B 4-4 FOOD CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : FEMALE

- APPENDIX B 5-1 CHEMICAL INTAKE CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : MALE
- APPENDIX B 5-2 CHEMICAL INTAKE CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : FEMALE
- APPENDIX B 5-3 CHEMICAL INTAKE CHANGES (THIRTEEN-WEEK STUDY : SUMMARY)

  MOUSE : MALE
- APPENDIX B 5-4 CHEMICAL INTAKE CHANGES (THIRTEEN-WEEK STUDY: SUMMARY)
  MOUSE: FEMALE
- APPENDIX B 6-1 HEMATOLOGY (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : MALE
- APPENDIX B 6-2 HEMATOLOGY (THIRTEEN-WEEK STUDY: SUMMARY)
  RAT: FEMALE
- APPENDIX B 6-3 HEMATOLOGY (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : MALE
- APPENDIX B 6-4 HEMATOLOGY (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : FEMALE
- APPENDIX B 7-1 BIOCHEMISTRY (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : MALE
- APPENDIX B 7-2 BIOCHEMISTRY (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : FEMALE
- APPENDIX B 7-3 BIOCHEMISTRY (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : MALE
- APPENDIX B 7-4 BIOCHEMISTRY (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : FEMALE
- APPENDIX B 8-1 URINALYSIS (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : MALE
- APPENDIX B 8-2 URINALYSIS (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : FEMALE
- APPENDIX B 8-3 URINALYSIS (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : MALE
- APPENDIX B 8-4 URINALYSIS (THIRTEEN-WEEK STUDY : SUMMARY)
  MOUSE : FEMALE

- APPENDIX B 9-1 GROSS FINDINGS (THIRTEEN-WEEK STUDY : SUMMARY)
  RAT : MALE : SACRIFICED ANIMALS
- APPENDIX B 9-2 GROSS FINDINGS (THIRTEEN-WEEK STUDY : SUMMARY)

RAT : FEMALE : SACRIFICED ANIMALS

APPENDIX B 9-3 GROSS FINDINGS (THIRTEEN-WEEK STUDY : SUMMARY)

MOUSE: MALE: DEAD AND MORIBUND ANIMALS

APPENDIX B 9-4 GROSS FINDINGS (THIRTEEN-WEEK STUDY : SUMMARY)

MOUSE: FEMALE: DEAD AND MORIBUND ANIMALS

APPENDIX B 9-5 GROSS FINDINGS (THIRTEEN-WEEK STUDY : SUMMARY)

MOUSE : MALE : SACRIFICED ANIMALS

APPENDIX B 9-6 GROSS FINDINGS (THIRTEEN-WEEK STUDY: SUMMARY)

MOUSE: FEMALE: SACRIFICED ANIMALS

APPENDIX B 10-1 ORGAN WEIGHT (THIRTEEN-WEEK STUDY : SUMMARY), ABSOLUTE

RAT : MALE

APPENDIX B 10-2 ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), ABSOLUTE

RAT : FEMALE

APPENDIX B 10-3 ORGAN WEIGHT (THIRTEEN-WEEK STUDY : SUMMARY), ABSOLUTE

MOUSE : MALE

APPENDIX B 10-4 ORGAN WEIGHT (THIRTEEN-WEEK STUDY : SUMMARY), ABSOLUTE

MOUSE : FEMALE

APPENDIX B 11-1 ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), RELATIVE

RAT : MALE

APPENDIX B 11-2 ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), RELATIVE

RAT : FEMALE

APPENDIX B 11-3 ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), RELATIVE

MOUSE : MALE

APPENDIX B 11-4 ORGAN WEIGHT (THIRTEEN-WEEK STUDY : SUMMARY), RELATIVE

MOUSE : FEMALE

- APPENDIX B 12-1 HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS
  (THIRTEEN-WEEK STUDY: SUMMARY) RAT: MALE
  SACRIFICED ANIMALS
- APPENDIX B 12-2 HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS
  (THIRTEEN-WEEK STUDY: SUMMARY) RAT: FEMALE
  SACRIFICED ANIMALS
- APPENDIX B 12-3 HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS
  (THIRTEEN-WEEK STUDY: SUMMARY) MOUSE: MALE
  DEAD AND MORIBUND ANIMALS
- APPENDIX B 12-4 HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS
  (THIRTEEN-WEEK STUDY: SUMMARY) MOUSE: FEMALE
  DEAD AND MORIBUND ANIMALS
- APPENDIX B 12-5 HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (THIRTEEN-WEEK STUDY: SUMMARY) MOUSE: MALE SACRIFICED ANIMALS
- APPENDIX B 12-6 HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS
  (THIRTEEN-WEEK STUDY: SUMMARY) MOUSE: FEMALE
  SACRIFICED ANIMALS
- APPENDIX B 13-1 IDENTITY AND PURITY OF TATCD
  PERFORMED AT THE JAPAN BIOASSAY LABORATORY
  (THIRTEEN-WEEK STUDIES)
- APPENDIX B 13-2 STABILITY OF TATCD

  AT THE JAPAN BIOASSAY LABORATORY

  (THIRTEEN-WEEK STUDIES)
- APPENDIX B 13-3-1 ANALYSIS OF TATCD CONCENTRATION IN DRINKING WATER OF THE THIRTEEN-WEEK STUDIES
- APPENDIX B 13-3-2 STABILITY OF TATCD CONCENTRATION IN DRINKING WATER OF THE THIRTEEN-WEEK STUDIES
- APPENDIX C 1 METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALYSIS
- APPENDIX C 2 UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY

# APPENDIX B 1-1

CLINICAL OBSERVATION (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: MALE

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Admini	stration W	ek-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	
		1	1	1	1	1	1	1	1	1	1	1	1	1	
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000 ppm	0	0	0	0	0	1	1	1	4	4	4	4	6	
	40000 ppm	0	0	0	0	0	8	8	8	10	10	10	10	10	

### APPENDIX B 1-2

CLINICAL OBSERVATION (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: FEMALE

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1 13 CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE: 2

Clinical sign	Group Name	Admini	stration W	eek-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	
		1	1	1	1	1	1	1	1	1	1	1	1	1	
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000 ppm	0	0	0	0	0	3	3	3	3	4	5	6	7	
	40000 ppm	0	0	0	0	0	6	6	6	9	9	9	9	10	
DILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2500 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	
	5000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10000 ppm	0	0	0	0	0	0	0	0	0	Ô	Ô	0	0	
	20000 ppm	0	0	0	0	0	0	Ŏ	ŏ	ň	0	1	Ô	ŏ	
	40000 ppm	0	0	0	0	0	0	Ö	Ö	0	1	1	í	Ö	
MALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2500 ppm	Ô	ő	Ô	0	0	0	0	0	1	٨	0	0	0	
	5000 ppm	0	0	0	0	0	0	0	0	۸	0	0	0	^	
	10000 ppm	0	0	0	0	0	0	0	0	0	0	0	٥	0	
	20000 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	
	40000 ppm	0	0	0	0	0	0	0	0	0	0	1	0	-	
	HOOO PPIII	v	v	V	U	V	V	U	U	U	U	0	0	0	
LIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5000 ppm	0	0	0	0	0	0	Ŏ	0	0	Õ	0	Ô	0	
	10000 ppm	0	Ô	0	0	Õ	0	Ô	0	0	0	ñ	0	0	
	20000 ppm	ō	0	Õ	Ö	Ö	0	0	0	0	0	1	0	0	
	40000 ppm	0	Ö	Õ	Ö	0	0	0	0	0	0	0	0	0	
		v	v	V	v	•	v	v	v	V	V	V	v	V	

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### APPENDIX B 1-3

CLINICAL OBSERVATION (THIRTEEN—WEEK STUDY: SUMMARY)

MOUSE: MALE

STUDY NO. : 0202 ANIMAL : MOUSE BDF1 REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Admini	stration We	eek-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	
		1	1	1	1	1	1	1	1	1	1	1	1	1	
ORIBUND SACRIFICE	Control	0	0	0	0	0	0 -	0	0	0	0	0	0	0	
	5000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	40000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	,
	mqq00008	0	0	0	0	0	0	0	1	1	1	1	1	1	
UNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	40000ppm	0	0	0	0	0	Ö	0	0	Ô	0	Ö	0	Ŏ	
	mqq00008	0	0	0	0	0	0	1	Ō	Ö	0	0	0	Ö	
ILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5000ppm	0	0	0	Ö	Ö	0	0	0	0	0	Õ	ŏ	ő	
	10000ppm	0	Ô	0	Ö	0	0	0	0	٥	0	0	0	0	
	20000ppm	Ô	0	0	0	0	0	0	0	٥	0	0	0	0	
	40000ppm	Ö	Ŏ	0	0	Ö	0	0	0	0	0	0	0	Ö	
	80000pm	Ö	Ö	0	Ö	Ö	0	1	0	0	0	0	0	0	
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5000ppm	0	Ô	0	0	Ő	Õ	0	0	0	0	0	0	0	
	10000ppm	0	0	0	0	0	0	0	0	0	٥	0	0	0	
	20000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	40000ppm	0	0	Ő	0	0	0	0	0	0	0	Ņ	0	0	
	mqq00008	0	0	0	0	0	0	1	0	0	0	0	0	0	
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5000ppm	Ŏ	0	0	0	0	0	0	0	0	0	0	0	0	
	10000ppm	0	0	0	0	0	0	0	0	. 0	0	0	0	0	
	20000ppm	0	0	0	0	0	0	0	•	•	0	0.	•	•	
	2000ppm 4000ppm	0	0	0	0		0	-	0	. 0	0	0	0	0	
	40000ppm 80000ppm	0	•	0	0	0		0	0	. 0	0	0	0	. 0	
	SUUUUPPM	U	0	U	U	0	0	. 1	0	0	0	0	0	0	

STUDY NO.: 0202

ANIMAL : MOUSE BDF1 REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Admini:	stration We	eek-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	
		1	1	1	1	1	1	1	1	1	1	1	1	1	
N ICO CTOOL	Control	٥	•	٥	٥	۰			•	0		٥	•	•	,
DL1GO-STOOL	Control 5000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
		0	0	0	0	U	0	Ü	Û	Û	Û	0	0	Ü	
	10000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	40000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	mqq00008	0	0	0	0	0	1	1	0	0	0	0	0	0	
							:								

### APPENDIX B 1-4

CLINICAL OBSERVATION (THIRTEEN—WEEK STUDY: SUMMARY)

MOUSE: FEMALE

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

STUDY NO. : 0202 ANIMAL : MOUSE BDF1 REPORT TYPE : A1 13

SEX : FEMALE

PAGE: 3

Clinical sign	Group Name	Admir	nistration W	eek-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	
		1	1	1	1	1	1	1	1	1	1	1	1	1 .	
DEATH	Contro		0	0	0	0	0	0	0	0	0	0	0	0	
	5000pp		0	0	0	0	0	0	0	0	0	0	0	0	
	10000pp	om O	0	0	0	0	0	0	0	0	0	0	0	0	
	20000pp	om 0	0	0	0	. 0	0	0	0	0	0	0	0	0	
	40000pp	om O	0	0	0	0	0	0	0	0	0	0	0	0	
	80000pp	om O	0	0	0	0	0	0	0	0	0	0	1	1	
HUNCHBACK POSITION	Contro		0	0	0	0	0	0	0	0	0	0	0	0	
	5000pp	om 0	0	0	0	0	0	0	0	0	0	0	0	0	
	10000pp	om 0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000pp	om 0	0	0	0	0	0	0	0	0	0	0	0	0	
	40000pp	om 0	0	0	0	0	0	0	0	0	0	0	0	0	
	80000pp		0	0	0	1	1	1	1	1	1	1	0	0	
WASTING	Contro	ol 0	0	0	0	0	0	0	0	0	0	0	0	0	
	5000pp	om 0	0	0	0	0	0	0	0	0	0	0	0	0	
	10000pp	om O	0	0	0	0	0	0	0	0	0	0	0	0	
	20000pp		0	0	0	0	0	0	0	0	0	0	0	0	
	40000pp		0	0	Ö	Ŏ	. 0	Ŏ	0	Ŏ	0	0	Ŏ	0	
	80000pr		0	0	Ô	0	0	0	Ö	Ö	1	1	Ō	Ö	
PILOERECTION	Contro	ol 0	0	0	0	0	0	0	0	0	. 0	0	0	0	
	5000pp		0	0	0	Ö	0	Ö	Ů	0	0	0	Ö	0	
	10000pp		Ô	0	0	Ô	Ô	Ŏ	0	0	ň	0	Ö	0	:
	20000p		Ô	Ô	0	0	0	Ö	0	0	0	0	0	0	
	40000pp		0	0	0	0	0	0	0	0	0	0	0	0	
	id00008		0	0	0	0	0	0	Ő	1	1	1	0	0	
OLIGO-STOOL	Contra	ol 0	0	0	0	0	0	0	^	0	•	^	^	^	
OL160-3100L			•	0	0	0	0 .	0	0	0	0	0	0	0	
	5000pp		0	0	0	0	0	0	0	0	0	0	0	0	
	10000pp		0	0	0	0	0	0	0	0	0	0	0	0	
	20000pp		0	0	0	0	0	0	0	0	0	0	0	0	
	40000pp		0	0	0	0	0	0	0	0	. 0	0	0	0	
	90000pp	om 1	0	0	0	1	1	1	0	0	0	0	0	. 0	

(HAN190)

### APPENDIX B 2-1

BODY WEIGHT CHANGES (THIRTEEN—WEEK STUDY:SUMMARY)

RAT: MALE

STUDY NO. : 0201

ANIMAL : RAT F344

UNIT : g

REPORT TYPE : A1 13

SEX : MALE

BODY WEIGHT CHANGES ALL ANIMALS

(SUMMARY)

Group Name Administration week-day\_ 1-7 0-0 2-7 3-7 4-7 5-7 6-7 Control 134± 4 167± 6 199± 7  $225 \pm$  $243 \pm$ 261± 8 273± 10 6 8 2500 ppm  $134 \pm$ 4 166± 5 196± 7  $220\pm$ 236± 12 261± 17 9 251± 15 5000 ppm  $134 \pm$ 4 164± 5  $192 \pm$ 6 216± 8 233± 11  $247 \pm 13$ 259± 17 10000 ppm 134± 163±  $191 \pm$ 4 4 212± 8\*\* 227± 11\* 241士 14\*\* 251± 16\* 20000 ppm 134士 4  $162 \pm$ 5 190± 212± 10\*\* 227± 12\*\* 243± 13\* 253± 15\* 8\* 40000 ppm 134± 4 155± 5\*\* 180± 7\*\* 199士 10\*\* 212± 13\*\* 226± 16\*\* 237士 19\*\* Significant difference;  $*: P \leq 0.05$ \*\* :  $P \leq 0.01$ Test of Dunnett

(HAN260)

BAIS 2

STUDY NO. : 0201

'ANIMAL : RAT F344

UNIT : g

REPORT TYPE : A1 13

SEX : MALE

BODY WEIGHT CHANGES ALL ANIMALS

(SUMMARY)

(SUMMINI)

Group Name Administration week-day\_ 7-7 8-7 9-7 10-7 11-7 12-7 13-7 Control 286± 11 300± 12 310± 13 316± 14  $325 \pm 13$ 335± 14 343± 14 2500 ppm 272± 18 285± 20 292± 22 300 ± 23 308± 23  $317 \pm 22$  $324 \pm 21$ 5000 ppm 270± 17 283± 19 290± 20 298± 21 308± 23 315± 24 323± 23 10000 ppm 263生 18\* 276± 21\* 284士 22\* 291± 23\* 301± 23 310± 24 318 ± 23\* 20000 ppm 265± 16\* 276生 17\* 285± 19\* 293± 20 302± 21  $311 \pm 21$ 316± 21\* 40000 ppm 249± 23\*\* 260± 24\*\* 267± 25\*\* 275± 25\*\* 293士 24\*\* 299士 24\*\* Significant difference;  $*: P \leq 0.05$ \*\*:  $P \leq 0.01$ Test of Dunnett

(HAN260)

BAIS 2

## APPENDIX B 2-2

BODY WEIGHT CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: FEMALE

STUDY NO. : 0201 ANIMAL : RAT F344

UNIT : g
REPORT TYPE : A1 13

BODY WEIGHT CHANGES ALL ANIMALS

(SUMMARY)

SEX : FEMALE

oup Name	Admini	stration	n week-day						-					
	0-0		1-7		2-7		3-7		4-7		5-7		6-7	
Control	101±	3	118±	4	133±	4	145±	6	154±	6	161±	6	166±	9
2500 ppm	102±	3	118±	4	133±	5	144±	5	152±	6	160±	8	164±	8
5000 ppm	101±	3	117±	4	132±	5	143±	7	151±	6	159±	8	163±	7
10000 ppm	101±	3	116±	5	131±	5	140±	6	148±	6	154±	7	157±	9
20000 ppm	102±	3	116±	4	131±	3	141±	4	147±	5	154±	6	157±	7
40000 ppm	102±	3	111±	3**	124±	4**	134±	4**	141±	5**	147±	5**	151±	6**
Significant difference	e; *:P≦0	.05	**: P ≤ 0.0	1			Test of Du	innett						

(HAN260)

BAIS 2

STUDY NO. : 0201

ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES ALL ANIMALS

(SUMMARY)

Toup Name	Administratio	on week-day					
	7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	173± 12	176± 12	181± 13	186± 13	190± 13	192± 12	196± 13
2500 ppm	171± 9	175± 9	175± 9	181± 8	186± 10	189± 10	191± 8
5000 ppm	167± 11	173± 7	177± 8	181± 8	185± 9	189± 7	191± 7
10000 ppm	162± 9*	165± 10*	170± 11	172± 10**	176± 11*	180土 12*	181± 11**
mqq 0000S	163± 9	167± 8	171± 9	174± 10*	174± 14*	181± 11	183± 11*
40000 ppm	157± 6**	160土 6**	164± 6**	166± 7**	169± 9**	173± 9**	174± 8**
Significant differen	nce; *: P ≤ 0.05	**: P ≤ 0.01		Test of Dunnett			

(HAN260)

BAIS 2

### APPENDIX B 2-3

BODY WEIGHT CHANGES (THIRTEEN—WEEK STUDY:SUMMARY)

MOSUE: MALE

STUDY NO. : 0202

ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES ALL ANIMALS (SUMMARY)

up Name	Administratio	on week-day					
	0-0	1-7	2-7	3-7	4-7	5-7	6-7
				, , ,			
Control	24.1± 0.9	24.9± 1.1	26.0± 1.0	26.7± 0.8	$27.7 \pm 0.7$	28.5± 1.0	29.6± 1.2
5000ppm	24.1± 0.9	25.3± 1.1	26.4± 1.1	27.4± 1.2	28.1± 1.6	29.3± 1.3	30.3± 1.2
10000ppm	24.1± 0.9	25.1± 0.9	26.2± 1.2	27.2± 1.2	28.0± 1.5	29.1± 1.6	30.3± 1.8
Toooppin	B1.12 V.0	20.12. 0.0	20.21 1.2	41.64. 1.6	20.04 1.5	20.12 1.0	00.0± 1.0
20000ppm	24.1± 0.9	24.9± 1.1	26.3± 1.1	27.2± 1.1	28.2± 1.4	29.0± 1.3	30.1± 1.5
40000ppm	24.1± 1.0	25.2± 1.1	26.3± 0.8	27.1± 1.4	28.0± 1.2	28.9± 1.1	29.8± 1.6
80000pm	24.1± 1.0	23.2± 0.9**	24.7± 1.3*	25.2± 1.5*	26.0± 2.0*	26.5± 2.8	27.0± 3.4
Significant difference;	*: P ≤ 0.05	**: P ≤ 0.01		Test of Dunnett			
(260)							

STUDY NO.: 0202

ANIMAL : MOUSE BDF1

UNIT : g

REPORT TYPE : A1 13

SEX : MALE

BODY WEIGHT CHANGES ALL ANIMALS

(SUMMARY)

p Name	Administration	week-day			······································		<del></del>	
	7–7	8-7	9-7	10-7	11-7	12-7	13-7	
Control	30.3± 1.4	31.7± 1.5	32.7± 1.6	33.8± 1.9	34.4± 1.8	35.3± 2.0	35.9± 2.1	
5000ppm	31.0± 1.8	32.2± 1.9	33.5± 1.8	34.6± 2.0	35.4± 2.3	36.2± 2.7	36.7± 2.6	
10000ppm	30.8± 1.8	32.1± 2.1	33.0± 2.3	34.2± 2.5	34.7± 2.4	35.6± 2.5	36.3± 2.5	
20000ppm	30.6± 1.9	31.7± 2.0	32.5± 2.1	33.0± 2.0	33.8± 1.8	34.5± 1.9	35.5± 2.1	
40000ppm	30.1± 1.7	31.4± 2.1	32.0± 2.3	33.2± 2.5	33.6± 2.6	34.5± 2.7	35.4± 2.8	
Mqq00008	26.6± 4.1**	29.1± 1.2*	29.7± 1.0**	30,5± 1.3**	31.0± 1.5**	31.7± 1.6**	32.5± 1.2**	
Significant difference;	$*: P \leq 0.05$	**: P ≦ 0.01		Test of Dunnett				

BAIS 2

# APPENDIX B 2-4

BODY WEIGHT CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: FEMALE

STUDY NO.: 0202

ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES ALL ANIMALS

(SUMMARY)

Name	Administration	week-day					
	0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	18.9± 0.7	20.1± 0.9	20.6± 0.5	20.8± 0.8	21.4± 0.8	22.0± 0.8	22.4± 0.9
5000ppm	19.0± 0.6	19.2± 0.6	20.4± 0.7	20.2± 0.8	21.1± 0.7	21.6± 1.0	22.0± 0.8
10000ppm	19.0± 0.7	19.5± 1.1	20.7± 1.1	20.9± 0.7	21.2± 1.1	21.7± 1.1	22.2± 1.1
20000ppm	19.0± 0.7	19.6± 0.9	20.2± 0.9	20.3± 0.8	20.9± 0.7	21.9± 1.1	21.8± 0.8
40000ppm	19.0± 0.7	19.5± 0.5	20.2± 0.5	20.6± 1.4	20.9± 1.1	21.5± 0.6	22.0± 0.9
mqq00008	19.0± 0.7	17.3± 1.5**	19.4± 1.0**	19.4± 0.7**	19.9± 1.2**	20.2± 2.3	20.0± 2.6**
Significant difference ;	*: P ≤ 0.05	**: P ≤ 0.01		Test of Dunnett			

(HAN260)

BAIS 2

STUDY NO.: 0202

ANIMAL : MOUSE BDF1

UNIT : g REPORT TYPE : A1 13

SEX : FEMALE

BODY WEIGHT CHANGES ALL ANIMALS

(SUMMARY)

oup Name	Administrati	on week-day					
	7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	22.4± 1.0	23.2± 0.4	23.7± 0.9	23.3± 0.7	23.8± 0.4	23.7± 1.6	24.6± 1.3
5000ppm	21.8± 0.9	22.8± 0.8	23.7± 1.5	23.2± 1.1	23.4± 1.2	23.8± 1.1	24.1± 1.3
10000ppm	22.1± 1.2	23.2± 1.2	23.1± 1.1	23.7± 1.4	23.4± 1.6	23.9± 1.5	23.6± 1.7
20000ppm	21.9± 1.1	23.3± 0.8	22.9± 0.5	22.8± 0.9	23.7± 1.3	23.8± 1.0	23.9± 1.3
40000ppm	22.1± 1.0	22.8± 0.8	23.2± 0.8	22.9± 0.8	23.0± 1.1	23.6± 1.0	23.3± 0.7
80000pm	20.4± 2.9	21.4生 2.7	21.7± 2.8	21.5± 2.9	22.0± 3.4	23.2± 1.4	22.9± 1.0
Significant difference;	*: P ≤ 0.05	**: P ≤ 0.01		Test of Dunnett			
1260)							. B.

### APPENDIX B 3-1

WATER CONSUMPTION CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: MALE

STUDY NO. : 0201

WATER CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

ANIMAL : RAT F344

UNIT : g
REPORT TYPE : A1 13

SEX : MALE

PAGE: 1

iroup Name	Administration 1-7(4)	week-day(effective) 2-7(4)	3-7(4)	4-7(4)	5-7(4)	6-7(4)	7-7(4)
Control	18.3± 1.0	20.4± 1.8	21.1± 1.4	21.7± 1.7	20.7± 1.3	20.1± 1.5	19.6± 1.6
2500 ppm	19.4± 1.2	21.3± 1.3	21.1± 1.1	21.6± 1.7	20.4± 2.1	19.7± 2.3	19.5± 2.6
5000 ppm	19.2± 1.2	21.1± 0.9	21.2± 0.7	22.0± 1.2	20.5± 1.0	20.5± 1.7	20.1± 1.8
10000 ppm	19.8± 1.4	22.2± 1.7	21.9± 1.6	21.7± 2.2	19.9± 1.9	19.2± 1.6	18.8± 1.8
20000 ppm	21.5± 1.6**	22.9± 2.5*	22.8± 2.4	23.6± 4.2	23.2± 3.7	21.4± 1.9	21.2± 1.5
40000 ppm	17.6± 2.0	18.6± 0.9	19.3± 1.9	18.7± 2.0*	18.3± 2.6	17.4± 2.1**	17.9± 2.7
Significant difference	; *: P ≤ 0.05	**: P ≤ 0.01		Test of Dunnett			

(HAN260)

BAIS 2

STUDY NO.: 0201 ANIMAL : RAT F344 WATER CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

UNIT : g
REPORT TYPE : A1 13

SEX : MALE

PAGE: 2

Group Name	Administratio	n week-day(effective)_					
	8-7(4)	9-7(4)	10-7(4)	11-7(4)	12-7(4)	13-7(4)	
Control	19.8± 2.2	19.4± 1.4	18.5± 1.3	18.2± 1.3	18.2± 1.3	18.7± 1.4	
2500 ppm	19.7± 2.3	19.2± 2.2	19.0± 2.6	18.6± 2.2	18.4± 2.2	18.5± 2.1	
5000 ppm	20.4± 2.0	19.4± 1.9	19.3± 2.0	19.3± 1.9	18.4± 1.8	18.9± 1.8	
10000 ppm	19.3± 2.0	18.4± 1.8	18.3± 1.4	18.2± 1.5	18.3± 1.8	18.6± 1.5	
20000 ppm	21.0± 1.9	21.1± 2.9	20.6± 2.4	20.9± 1.8**	20.0± 2.6	20.0± 2.3	
40000 ppm	18.5± 1.8	17.5± 2.1	17.1± 1.8	18.6± 1.8	17.7± 1.4	18.1± 1.9	
Significant differenc	e; *:P≦0.05	**: P ≤ 0.01		Test of Dunnett			
(HANSEO)	· · · · · · · · · · · · · · · · · · ·	· 1 = V.VI		Test of pullett	· ····		DAT

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BAIS 2

# APPENDIX B 3-2

WATER CONSUMPTION CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: FEMALE

STUDY NO. : 0201

ANIMAL : RAT F344

UNIT : g
REPORT TYPE : A1 13

SEX : FEMALE

WATER CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

PAGE: 3

Group Name	Administration 1-7(4)	week-day(effective) 2-7(4)	3-7(4)	4-7(4)	5-7(4)	6-7 (4)	7-7(4)	
Control	15.9± 0.7	16.8± 0.9	17.0± 0.9	16.7± 1.1	16.8± 1.6	19.1± 8.7	17.2± 2.8	
2500 ppm	18.5± 5.9	17.1± 1.2	17.7± 2.0	18.6± 5.2	18.5± 6.0	19.0± 6.7	21.8± 11.4	
5000 ppm	16.5± 1.5	17.7± 1.8	17.3± 1.6	17.3± 1.5	17.5± 1.6	18.6± 6.0	19.3± 8.6	
10000 ppm	17.2± 1.4	18.0± 2.1	19.1± 6.7	17.4± 2.6	17.2± 2.5	16.5± 2.6	16.2± 2.3	
20000 ppm	18.0± 1.0*	18.7± 1.5*	17.9± 1.3	17.4± 1.6	17.0± 1.6	16.2± 1.9	16.7± 2.4	
40000 ppm	15.0± 1.4	15.3± 1.2	24.0± 17.8	20.4± 9.6	14.8± 2.1	14.4± 3.0	14.6土 2.4	
Significant difference;	* : P ≤ 0.05	**: P ≤ 0.01		Test of Dunnett				

(HAN260)

BAIS 2

STUDY NO. : 0201 ANIMAL : RAT F344

UNIT : g
REPORT TYPE : A1 13

SEX : FEMALE

WATER CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 4

roup Name	Administration	n week-day(effective)_					
	8-7(4)	9-7(4)	10-7(4)	11-7(4)	12-7(4)	13-7(4)	
Control	18.1± 4.5	18.5± 5.5	18.4± 5.0	18.8± 7.7	17.3± 3.9	16.9± 3.8	
2500 ppm	22.4± 12.0	15.3± 8.2	17.3± 3.4	18.4± 7.9	17.4± 5.4	20.4± 8.8	
5000 ppm	19.6± 8.8	18.5± 7.4	19.1± 9.6	18.5± 5.1	18.0± 7.3	18.4± 5.9	
10000 ppm	16.5± 2.5	17.1± 3.3	16.8± 3.5	19.1± 6.5	18.0± 4.3	18.1± 6.3	
20000 ppm	16.7± 1.4	16.2± 1.7	15.8± 1.5	19.0± 10.1	18.0± 5.9	22.1± 18.1	
40000 ppm	15.1± 2.9	13.9± 2.9*	13.4± 3.5**	13.8± 2.9	13.3± 3.1	13.4± 2.3	
Significant differer	nce; *: P ≦ 0.05	**: P ≤ 0.01		Test of Dunnett	<u></u>		

(HAN260)

BAIS 2

# APPENDIX B 3-3

WATER CONSUMPTION CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: MALE

STUDY NO.: 0202

ANIMAL : MOUSE BDF1

UNIT : g
REPORT TYPE : A1 13
SEX : MALE

WATER CONSUMPTION CHANGES (SUMMARY)

ALL ANIMALS

PAGE: 1

oup Name	Administration week-day(effective)							
	1-7(4)	2-7(4)	3-7(4)	4-7(4)	5-7(4)	6-7(4)	7-7(4)	
Control	5.1± 1.4	4.9± 1.0	4.6± 0.8	4.4± 0.8	4.6± 1.3	4.3± 1.0	4.3± 1.1	
5000ppm	5.2± 0.8	4.7± 0.8	4.7± 0.7	4.7± 1.1	4.8± 1.4	4.6± 1.0	4.7± 0.9	
10000ppm	5.2± 0.7	5.0± 0.7	4.8± 0.5	4.7± 0.5	4.5± 0.5	4.7± 0.4	4.6± 0.6	
20000ppm	5.5± 0.8	5.2± 0.8	5.2± 1.0	5.0± 0.8	4.9± 0.8	4.7± 0.6	4.8± 0.9	
40000ppm	6.4± 0.9**	5.7± 0.7*	5.6± 0.8*	5.3± 0.6*	5.1± 0.5	5.3± 0.3*	5.2± 0.4*	
80000ppm	7.9± 2.0**	6.7± 2.4*	7.5± 3.2**	7,5± 3.3**	7.5± 3.7**	7.4± 3.7**	7.1± 2.0**	
Significant difference	; *: P ≤ 0.05	**: P ≤ 0.01		Test of Dunnett			· · · · · · · · · · · · · · · · · · ·	

(HAN260)

BAIS 2

STUDY NO. : 0202

ANIMAL : MOUSE BDF1

UNIT : g
REPORT TYPE : A1 13

SEX : MALE

WATER CONSUMPTION CHANGES (SUMMARY)

ALL ANIMALS

PAGE: 2

Group Name	Administration w 8-7(4)	eek-day(effective) 9-7(4)	10-7(4)	11-7(4)	12-7(4)	13-7(4)	
Control	4.3± 0.9	4.0± 0.6	3.9± 0.7	3.7± 0.5	3.6± 0.4	3.6± 0.5	
5000ppm	4.4± 1.0	4.1± 0.4	4.2± 0.5	4.0± 0.6	3.9± 0.4	3.8± 0.3	
10000pm	4.6± 0.5	4.2± 0.5	4.3± 0.5	4.1± 0.6	4.0± 0.4	3.9± 0.5	
20000ppm	5.1± 1.5	4.6± 1.1	4.4± 0.7	4.3± 0.8	4.3± 0.7	4.2± 0.6	
40000ppm	5.1± 0.4	4.9± 0.3*	4.9± 0.5**	4.6± 0.4*	4.6± 0.3**	4.5± 0.2**	
mqq00008	6.3± 2.0**	6.0± 1.8**	6.2± 2.1**	6.0± 1.8**	5.8± 1.7**	5.6± 1.4**	
Significant difference	e; *:P≦0.05 **	$: P \leq 0.01$		Test of Dunnett			

(HAN260)

BAIS 2

#### APPENDIX B 3-4

WATER CONSUMPTION CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: FEMALE

ANIMAL : MOUSE BDF1

UNIT : g
REPORT TYPE : A1 13

SEX : FEMALE

WATER CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 3

ID Name	Administration 1-7(4)	week-day(effective) 2-7(4)	3-7(4)	4-7(4)	5-7(4)	6-7(4)	7-7(4)
Control	4.9± 0.8	4.7± 0.5	4.6± 0.6	5.0± 1.1	5.5± 1.8	5.2± 1.5	5.5± 1.5
5000ppm	5.0± 0.7	5.2± 0.8	5.0± 1.1	5.2± 1.0	5.5± 1.3	5.5± 1.5	5.5± 0.9
10000ppm	5.0± 0.7	5.2± 0.9	4.8± 0.5	4.9± 0.3	4.5± 0.3	4.8± 0.5	5.0± 0.5
20000ppm	5.4± 0.5	5.3± 0.9	6.0± 2.7	5.7± 1.1	5.9± 2.2	5.6± 1.5	6.3± 1.3
40000ppm	5.7± 0.3*	5.6生 0.6	6.0± 1.0**	6.0± 1.1*	6.6± 2.2	5.9± 1.0	6.2± 1.0
80000ppm	7.2± 2.4**	7.3± 1.0**	9.2± 2.7**	9.6± 3.3**	9.9± 1.9**	9.7± 2.8**	9.7± 2.3**

(HAN260)

ANIMAL : MOUSE BDF1

UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

WATER CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 4

D Name	Administration 8-7(4)	week-day(effective)_ 9-7(4)	10-7(4)	11-7(4)	12-7(4)	13-7(4)
Control	5.8± 2.6	6.8± 2.9	6.1± 2.8	6.7± 3.1	6.6± 3.5	5.9± 2.5
5000ppm	5.5± 1.2	5.3± 0.6	4.8± 0.5	4.8± 0.6	4.7± 0.5	4.8± 0.6
10000ppm	4.9± 0.6	4.8± 0.5	4.7± 0.3	4.8± 0.6	4.7± 0.7	5.1± 1.7
20000ppm	5.9± 1.5	6.5± 3.8	5.9± 1.5	5.9± 1.9	5.7± 1.7	5.9± 2.0
40000ppm	6.0± 0.8	5.6± 0.5	5.7± 0.8	5.7± 1.2	5.5± 1.1	5.5± 0.9
80000ppm	9.5± 3.5**	10.1± 4.6*	10.3± 4.6**	10.7± 7.0*	8.6± 2.2	7.3± 0.7*
ignificant differenc	e; *: P ≤ 0.05	** : P ≤ 0.01		Test of Dunnett		

(HAN260)

## APPENDIX B 4-1

FOOD CONSUMPTION CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: MALE

STUDY NO. : 0201 ANIMAL : RAT F344

UNIT : g REPORT TYPE : A1 13

SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 1

roup 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	15.0± 1.1	16.3± 1.0	17.1± 0.8	17.3± 1.0	17.1± 0.6	16.6± 0.8	16.5± 1.0
2500 ppm	14.9± 0.5	16.1± 0.7	16.7± 0.9	16.6± 0.8	16.0± 1.2	15.3± 1.1	15.5± 1.3
5000 ppm	14.9± 0.7	15.6± 0.8	16.0± 0.9	16.6± 1.4	16.0± 1.2	15.5± 1.4	15.3± 1.6
10000 ppm	14.5± 0.5	16.0± 0.9	16.0± 1.1	16.4± 1.6	15.4± 1.4*	14.8± 1.6*	15.1± 1.8
20000 ppm	14.5± 0.8	15.7± 0.8	16.2± 1.1	16.4± 1.2	16.0± 1.4	15.2± 1.2	15.7± 1.1
40000 ppm	12.7± 0.9**	14.7± 0.8**	15.0± 1.2**	14.9± 1.1**	14.3± 1.5**	14.0± 1.5**	14.4± 1.7
Significant differe	ence; *: P ≤ 0.05	**: P ≤ 0.01		Test of Dunnett			
HAN260)							

STUDY NO. : 0201 ANIMAL : RAT F344 FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

UNIT : g
REPORT TYPE : A1 13

SEX : MALE

PAGE: 2

roup Name	Administration	week-day(effective)_					
	8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)	
Control	16.4± 0.9	16.5± 1.0	16.3± 1.1	16.6± 0.6	16.3± 1.0	16.4± 0.9	
2500 ppm	15.3± 1.3	15.1± 1.4	15.2± 1.4	15.5± 1.2	14.7± 1.1	15.4± 0.6	
5000 ppm	15.4± 1.6	15.0± 1.6	15.2± 1.6	15.4± 1.4	14.7± 1.8	15.1± 1.5	
10000 ppm	14.8± 1.8	14.7± 1.8	14.7± 1.4	15.1± 1.4*	14.6± 1.4*	15.2± 1.3	
20000 ppm	15.4± 1.2	15.3± 1.2	15.4± 1.4	15.8± 1.2	15.2± 1.5	15.5± 1.2	
40000 ppm	14.1± 1.8**	14.5± 1.9	14.0± 1.4**	14.6± 1.3**	14.4± 1.2*	14.9± 1.1	
			· .				
Significant difference	e; *: P ≦ 0.05	** : P ≤ 0.01		Test of Dunnett			

(HAN260)

### APPENDIX B 4-2

FOOD CONSUMPTION CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: FEMALE

STUDY NO. : 0201 ANIMAL : RAT F344

UNIT : g
REPORT TYPE : A1 13

SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 3

roup Name		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	12.0± 0.7	12.8± 0.8	12.9± 0.9	12.7± 0.5	12.3± 0.8	11.6± 1.4	12.2± 1.5
2500 ppm	11.4± 0.7	12.1± 0.8	12.4± 1.0	12.3± 0.9	11.8± 1.0	11.3± 1.1	11.9± 1.0
5000 ppm	11.4± 0.6	12.4± 0.9	12.2± 0.8	12.2± 0.8	11.9± 0.8	11.3± 0.7	11.4± 0.9
10000 ppm	11.0± 0.5**	11.8± 1.0*	11.5± 0.8**	11.6± 1.0*	11.1± 0.9*	10.5± 1.3	10.7± 1.1*
20000 ppm	11.1± 0.3**	11.9± 0.4*	11.8± 0.7*	11.4± 0.7**	11.2± 0.8	10.4± 1.1	10.7± 1.1*
40000 ppm	10.1± 0.7**	11.2± 0.7**	11.2± 0.7**	11.2± 1.0**	10.9± 1.2**	10.1± 1.2*	10.6± 1.2*
Significant difference;	*: P ≤ 0.05 *	*: P ≤ 0.01		Test of Dunnett			

(HAN260)

ANIMAL : RAT F344

UNIT : g
REPORT TYPE : A1 13

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

SEX : FEMALE

PAGE: 4

TOUR Name	Administration	week-day(effective)					
	8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)	
Contral	11.6± 1.2	11.5± 1.0	11.7± 1.4	11.7± 1.0	11.5± 0.9	11.5± 0.9	
2500 ppm	11.3± 1.0	10.6± 1.4	11.1± 1.1	11.5± 1.3	11.3± 1.1	10.9± 0.7	
5000 ppm	11.4± 0.9	11.0± 0.9	11.1± 0.8	11.4± 1.0	11.2± 0.9	11.0± 0.8	
10000 ppm	10.4± 0.9*	10.2± 1.1*	10.0± 0.9**	10.3± 1.1	10.4± 1.1	10.0± 0.9**	
20000 ppm	10.7± 0.9	10.2± 1.0*	10.2± 1.1*	10.0± 1.6*	10.6± 1.0	10.4± 1.0*	
40000 ppm	10.3± 1.0*	9.9± 1.2**	9.7± 1.4**	10.1生 1.1*	9.9± 1.0**	9.6± 1.0**	
Significant difference;	*: P ≤ 0.05	** : P ≤ 0.01		Test of Dunnett			

(HAN260)

# APPENDIX B 4-3

FOOD CONSUMPTION CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: MALE

ANIMAL : MOUSE BDF1

UNIT : g

REPORT TYPE : A1 13

SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)

ALL ANIMALS

PAGE: 1

ine	Administration 1–7(7)	week-day(effective) 2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
Control	3.9± 0.3	3.9± 0.3	3.9± 0.3	4.0± 0.3	3.9± 0.3	4.0± 0.3	3.9± 0.3
5000ppm	4.0± 0.3	4.0± 0.2	3.9± 0.2	4.0± 0.2	3.9± 0.2	4.1± 0.2	4.1± 0.3
mqq0000	3.9± 0.1	4.0± 0.2	3.9± 0.2	4.0± 0.2	4.0± 0.2	4.2± 0.2	4.0± 0.2
:0000pm	4.1± 0.3	4.1± 0.4	4.0± 0.4	4.2± 0.4	4.1± 0.3	4.2± 0.3	4.1± 0.3
mqq0000	4.1± 0.2	4.0± 0.2	3.9± 0.2	4.1± 0.1	4.0± 0.2	4.1± 0.2	1.0± 0.2
mqq0000	3.4± 0.3**	4.0± 0.3	3.8± 0.3	3.9± 0.3	3.8± 0.4	3.8± 0.4	3.6± 0.5
nificant difference;	*: P ≦ 0.05	**: P ≤ 0.01		Test of Dunnett			

(HAN260)

ANIMAL : MOUSE BDF1

UNIT : g
REPORT TYPE : A1 13

SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 2

DUP Name	Administration	week-day(effective)_					
	8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)	
Control	4.2± 0.3	4.1± 0.4	4.2± 0.3	4.1± 0.2	4.2± 0.2	4.0± 0.3	g 11.
5000ppm	4.2± 0.2	4.3± 0.3	4.4± 0.3	4.2± 0.3	4.3± 0.3	4.1± 0.2	
10000ppm	4.2± 0.3	4.2± 0.2	4.3± 0.2	4.2± 0.2	4.2± 0.2	4.1± 0.2	
20000ppm	4.2± 0.2	4.2± 0.3	4.2± 0.2	4.1± 0.2	4.2± 0.2	4.2± 0.3	
40000ppm	4.2± 0.2	4.1± 0.1	4.3± 0.2	4.1± 0.2	4.2± 0.2	4.2± 0.2	
80000pm	4.0± 0.2	4.0± 0.3	4.1± 0.4	3.9± 0.3	4.1± 0.3	4.0± 0.3	!
Significant difference	e; *:P≦0.05	**: P ≤ 0.01		Test of Dunnett			

(HAN260)

### APPENDIX B 4-4

FOOD CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY: SUMMARY)

MOSUE: FEMALE

ANIMAL : MOUSE BDF1
UNIT : g

REPORT TYPE : A1 13

SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 3

oup 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	3.6± 0.1	3.4± 0.2	3.5± 0.2	3.7± 0.2	3.8± 0.3	3.8± 0.2	3.8± 0.3	
5000ppm	3.4± 0.2	3.5± 0.2	3.5± 0.2	3.7± 0.2	3.8± 0.2	3.7± 0.2	3.8± 0.2	
10000ppm	3.5± 0.2	3.5± 0.2	3.4± 0.2	3.6± 0.2	3.7± 0.2	3.7± 0.2	3.8± 0.3	
20000ppm	3.4± 0.3	3.4± 0.2	3.4± 0.2	3.6± 0.2	3.8± 0.3	3.7± 0.2	3.9± 0.3	
40000ppm	3.4± 0.2	3.5± 0.2	3.5± 0.2	3.7± 0.2	3.8± 0.2	3.7± 0.3	3.9± 0.2	
mqq00008	3.0± 0.3**	3.4± 0.1	3.4± 0.2	3.6± 0.2	3.6± 0.4	3.5± 0.3	3.6± 0.4	
Significant difference	ce; $*: P \leq 0.05$	$*: P \leq 0.01$		Test of Dunnett				

(HAN260)

ANIMAL : MOUSE BDF1
UNIT : g

REPORT TYPE : A1 13

SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 4

coup Name	Administratio	n week-day(effective)					
	8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)	
Control	4.0± 0.2	4.1± 0.3	3.9± 0.2	3.9± 0.2	3.9± 0.3	4.0± 0.3	
5000ppm	4.1± 0.2	4.1± 0.3	3.9± 0.2	3.9± 0.2	4.0± 0.2	3.9± 0.3	
10000ppm	3.9± 0.2	3.9± 0.3	4.0± 0.3	3.8± 0.3	3.9± 0.3	3.7± 0.2	
20000ppm	4.0± 0.3	3.9± 0.3	3.8± 0.3	3.9± 0.3	3.9± 0.3	3.9± 0.3	
40000ppm	4.0± 0.3	4.0± 0.2	3.9± 0.2	3.8± 0.2	4.0± 0.2	3.8± 0.1	
80000pm	3.7± 0.4	3.7± 0.5	3.7± 0.4	3.5± 0.8	3.6± 0.7	3.6± 0.3**	
	· · · · · · · · · · · · · · · · · · ·						
Significant difference;	*: $P \leq 0.05$	**: P ≤ 0.01		Test of Dunnett			

(HAN260)

## APPENDIX B 5-1

CHEMICAL INTAKE CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: MALE

ANIMAL : RAT F344

UNIT : g/kg/day REPORT TYPE: Al 13

SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY) ALL ANIMALS

PAGE: 1

Group Name	Administration	(weeks)					
	1	2	3	4	5	6	7
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
2500 ppm	0.292± 0.013	0.271± 0.013	0.240± 0.008	0.229± 0.013	0.203± 0.014	0.191± 0.018	0.179± 0.018
5000 ppm	0.584± 0.033	0.548± 0.019	0.491± 0.021	0.474± 0.015	0.415± 0.014	0.396± 0.025	0.373± 0.029
10000 ppm	1.211± 0.067	1.158± 0.061	1.031± 0.047	0.952± 0.065	0.825± 0.039	0.765± 0.049	0.713± 0.042
20000 ppm	2.648± 0.129	2.411± 0.267	2.153± 0.220	2.083± 0.372	1.912± 0.304	1.697± 0.129	1.606± 0.083
40000 ppm	4.559± 0.428	4.149± 0.195	3.891± 0.316	3.540± 0.277	3.228± 0.297	2.945± 0.269	2.873± 0.277

(HAN300)

ANIMAL : RAT F344

UNIT : g/kg/day

REPORT TYPE : A1 13

SEX : MALE

20000 ppm

40000 ppm

1.518± 0.122

2.848± 0.112

1.482± 0.191

2.622± 0.205

CHEMICAL INTAKE CHENGES (SUMMARY)

ALL ANIMALS

Group Name Administration (weeks)\_ 10 11 12 13 8 Control 0.000 ± 0.000 0.000 ± 0.000  $0.000 \pm 0.000$  $0.000 \pm 0.000$  $0.000 \pm 0.000$ 0.000 ± 0.000 2500 ppm 0.173± 0.015 0.164± 0.015 0.151± 0.016 0.143± 0.015 0.159± 0.019 0.146± 0.017 5000 ppm  $0.360 \pm 0.018$ 0.313± 0.020  $0.292 \pm 0.017$ 0.292± 0.018  $0.335 \pm 0.019$  $0.323 \pm 0.018$ 10000 ppm  $0.700 \pm 0.038$  $0.650 \pm 0.031$  $0.628 \pm 0.032$  $0.605 \pm 0.023$ 0.589± 0.028 0.585± 0.026

PAGE: 2

(HAN300) BAIS 2

1.386± 0.068

 $2.624 \pm 0.227$ 

1.284± 0.123

 $2.427 \pm 0.190$ 

1.264± 0.105

2.427± 0.197

1.406± 0.131

2.494± 0.221

# APPENDIX B 5-2

CHEMICAL INTAKE CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: FEMALE

ANIMAL : RAT F344

UNIT : g/kg/day REPORT TYPE : A1 13

SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)

ALL ANIMALS

PAGE: 3

7	7
± 0.000 0.000	0.000 ±
± 0.099 0.321	1± 0.174
± 0.202 0.590	0± 0.325
± 0.127 0.996	6± 0.111
± 0.165 2.051:	1± 0.218
± 0.678 3.717	7± 0.488
<b>5</b> :	8± 0.678 3.71

(HAN300)

CHEMICAL INTAKE CHENGES (SUMMARY) ALL ANIMALS

ANIMAL : RAT F344
UNIT : g/kg/day
REPORT TYPE : A1 13
SEX : FEMALE

PAGE: 4

Group Name	Administration	(weeks)					
	8	9	10	11	12	13	
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	
2500 ppm	0.324± 0.182	0.215± 0.109	0.240± 0.046	0.247± 0.102	0.231± 0.073	0.270± 0.126	
5000 ppm	0.570± 0.272	0.524± 0.224	0.533± 0.294	0.506± 0.173	0.476± 0.197	0.481± 0.158	
10000 ppm	0.997± 0.106	1.000± 0.178	0.971± 0.176	1.080± 0.329	0.999± 0.200	0.989± 0.283	
20000 ppm	2.000± 0.118	1.896± 0.154	1.818± 0.134	2.246± 1.478	1.973± 0.542	2.407± 1.939	
40000 ppm	3.746± 0.599	3.390± 0.587	3.210± 0.700	3.228± 0.528	3.050± 0.540	3.067± 0.412	

(HAN300)

## APPENDIX B 5-3

CHEMICAL INTAKE CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: MALE

ANIMAL : MOUSE BDF1

UNIT : g/kg/day
REPORT TYPE : A1 13

CHEMICAL INTAKE CHENGES (SUMMARY)

ALL ANIMALS

SEX : MALE

PAGE: 1

oup Name	Administration	(weeks)						
	1	2	3	4	5	6	7	
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	
5000ppm	1.034± 0.219	0.892± 0.190	0.869± 0.155	0.851± 0.256	0.825± 0.279	0.754± 0.180	0.766± 0.184	
10000ppm	2.085± 0.344	1.890± 0.257	1.764± 0.188	1.677± 0.201	1.558± 0.196	1.546± 0.158	1.482± 0.209	
20000ppm	4.442± 0.729	3.963± 0.609	3.807± 0.751	3.529± 0.595	3.369± 0.647	3.097± 0.425	3.174± 0.734	
40000ppm	10.240± 1.591	8.696± 1.096	8.311± 1.034	7.633± 0.982	7.139± 0.791	7.091± 0.623	6.969± 0.716	
80000ppm	27.286± 7.411	19.163± 3.776	24.202± 12.555	23.671± 13.492	24.209± 17.569	23.824± 18.905	22.788± 12.294	

(HAN300)

ANIMAL : MOUSE BDF1

UNIT : g/kg/day
REPORT TYPE : A1 13
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)

ALL ANIMALS

PAGE: 2

	(weeks)					
8	9	10	11	12	13	
0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	
0.684± 0.180	0.611± 0.097	0.610± 0.102	0.569± 0.125	0.541± 0.097	0.525± 0.081	
1.439± 0.178	1.289± 0.172	1.268± 0.173	1.184± 0.181	1.127± 0.133	1.073± 0.165	
3.281± 1.108	2.855± 0.773	2.672± 0.511	2.570± 0.614	2.507± 0.553	2.365± 0.458	
6.518± 0.716	6.118± 0.658	5.884± 0.796	5.449± 0.702	5.330± 0.715	5.150± 0.472	
17.353± 5.888	16.276± 5.005	16.258± 5.772	15.461± 4.650	14.750± 4.633	13.689± 3.439	
•	0.000± 0.000 0.684± 0.180 1.439± 0.178 3.281± 1.108 6.518± 0.716	0.000± 0.000 0.000± 0.000 0.684± 0.180 0.611± 0.097 1.439± 0.178 1.289± 0.172 3.281± 1.108 2.855± 0.773 6.518± 0.716 6.118± 0.658	$0.000\pm 0.000$ $0.000\pm 0.000$ $0.000\pm 0.000$ $0.000\pm 0.000$ $0.684\pm 0.180$ $0.611\pm 0.097$ $0.610\pm 0.102$ $1.439\pm 0.178$ $1.289\pm 0.172$ $1.268\pm 0.173$ $3.281\pm 1.108$ $2.855\pm 0.773$ $2.672\pm 0.511$ $6.518\pm 0.716$ $6.118\pm 0.658$ $5.884\pm 0.796$	$0.000\pm \ 0.000$ $0.684\pm \ 0.180$ $0.611\pm \ 0.097$ $0.610\pm \ 0.102$ $0.569\pm \ 0.125$ $1.439\pm \ 0.178$ $1.289\pm \ 0.172$ $1.268\pm \ 0.173$ $1.184\pm \ 0.181$ $3.281\pm \ 1.108$ $2.855\pm \ 0.773$ $2.672\pm \ 0.511$ $2.570\pm \ 0.614$ $6.518\pm \ 0.716$ $6.118\pm \ 0.658$ $5.884\pm \ 0.796$ $5.449\pm \ 0.702$	$0.000\pm \ 0.000$ $0.684\pm \ 0.180$ $0.611\pm \ 0.097$ $0.610\pm \ 0.102$ $0.569\pm \ 0.125$ $0.541\pm \ 0.097$ $1.439\pm \ 0.178$ $1.289\pm \ 0.172$ $1.268\pm \ 0.173$ $1.184\pm \ 0.181$ $1.127\pm \ 0.133$ $3.281\pm \ 1.108$ $2.855\pm \ 0.773$ $2.672\pm \ 0.511$ $2.570\pm \ 0.614$ $2.507\pm \ 0.553$ $6.518\pm \ 0.716$ $6.118\pm \ 0.658$ $5.884\pm \ 0.796$ $5.449\pm \ 0.702$ $5.330\pm \ 0.715$	$0.000\pm\ 0.000$ $0.000\pm\ 0.00$

(HAN300)

# APPENDIX B 5-4

CHEMICAL INTAKE CHANGES (THIRTEEN—WEEK STUDY: SUMMARY)

MOUSE: FEMALE

ANIMAL : MOUSE BDF1

UNIT : g/kg/day
REPORT TYPE : A1 13

SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)

ALL ANIMALS

PAGE: 3

Administration	(weeks)					
1	2	3	4	5	6	7
0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
1.291± 0.157	1.286± 0.192	1.243± 0.303	1.223± 0.231	1.286± 0.323	1.264± 0.365	1.262± 0.253
2.577± 0.469	2.530± 0.522	2.295± 0.241	2.294± 0.215	2.098± 0.178	2.171± 0.309	2.249± 0.273
5.571± 0.520	5.264± 0.667	5.849± 2.543	5.456± 1.078	5.420± 1.905	5.187± 1.409	5.798± 1.473
11.757± 0.697	11.155± 1.251	11.792± 2.732	11.490± 2.605	12.257± 4.362	10.693± 1.971	11.228± 2.201
32.638± 10.770	30.110± 4.729	38.096± 12.501	39.285± 16.258	40.298± 12.745	41.062± 21.053	40.398± 20.548
	$ \begin{array}{cccc} 1 & & & & & \\ 0.000 \pm & 0.000 & & \\ 1.291 \pm & 0.157 & & \\ 2.577 \pm & 0.469 & & \\ 5.571 \pm & 0.520 & & \\ 11.757 \pm & 0.697 & & \\ \end{array} $	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1 2 3  0.000 $\pm$ 0.000 0.000 $\pm$ 0.000 0.000 $\pm$ 0.000  1.291 $\pm$ 0.157 1.286 $\pm$ 0.192 1.243 $\pm$ 0.303  2.577 $\pm$ 0.469 2.530 $\pm$ 0.522 2.295 $\pm$ 0.241  5.571 $\pm$ 0.520 5.264 $\pm$ 0.667 5.849 $\pm$ 2.543  11.757 $\pm$ 0.697 11.155 $\pm$ 1.251 11.792 $\pm$ 2.732	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

(HAN300)

ANIMAL : MOUSE BDF1
UNIT : g/kg/day
REPORT TYPE : A1 13
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)

ALL ANIMALS

Group Name	Administration	(weeks)					
	8	9	10	11	12	13	
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	
5000ppm	1.198± 0.291	1.119± 0.175	1.036± 0.156	1.031± 0.166	0.994± 0.128	0.998± 0.163	
10000ppm	2.093± 0.252	2.081± 0.220	1.994± 0.145	2.062± 0.379	1.972± 0.341	$2.214 \pm 0.862$	
20000ppm	5.052± 1.222	5.686± 3.273	5.178± 1.347	4.946± 1.434	4.748± 1.353	4.848± 1.281	
40000ppm	10.459± 1.380	9.723± 0.940	9.896± 1.372	9.969± 2.372	9.353± 1.678	9.413± 1.563	
maq00008	37.972± 24.174	40.835± 31.308	42.301± 32.944	45.871± 51.738	27.377± 3.328	25,517± 2.819	

(HAN300)

BAIS 2

PAGE: 4

# APPENDIX B 6-1

HEMATOLOGY (THIRTEEN-WEEK STUDY: SUMMARY)

RAT: MALE

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1 SEX : MALE

HEMATOLOGY(1) (SUMMARY) SURVIVAL ANIMALS ( 14)

PAGE: 1

Group Name	NO. of Animals	RED BLOOD CELL 1 O <sup>6</sup> /μl	HEMOGLOBIN g∕dl	HEMATOCRIT %	MCV f @	MCH Pg	MCHC g∕dl	PLATELET 1 O³ / με
Control	10	9.85± 0.15	16.6± 0.2	47.1± 0.8	47.8± 0.4	16.9± 0.2	35.3± 0.4	738± 36
2500 ppm	10	9.75± 0.15	16.7± 0.3	46.7± 0.8	47.9± 0.5	17.2± 0.2	35.8± 0.4	731± 36
5000 ppm	10	9.66± 0.40	16.4± 0.7	46.2± 1.8	47.9± 0.8	17.0± 0.3	35.5± 0.6	741± 46
10000 ppm	10	9.74± 0.21	16.6± 0.3	46.7± 1.1	48.0± 0.8	17.1± 0.3	35.6± 0.5	725± 45
20000 ppm	10	9.83± 0.18	16.6± 0.3	46.6± 0.9	47.4± 0.7	16.9± 0.3	35.5± 0.6	736± 35
40000 ppm	10	9.74± 0.31	16.7± 0.3	46.8± 1.1	48.1± 0.8	17.1± 0.4	35.7± 0.5	726± 35
Significant	difference;	*: P ≤ 0.05	**: P ≤ 0.01		Test of Dunnett			

(HCL070)

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1

SEX : MALE

HEMATOLOGY(2) (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 1

iroup Name	NO. of Animals	WBC 1 03/	WBC 1 О³∕µ₽		Differential WBC N-BAND				EOSINO	)	BASO		MONO	MONO		LYMPHO		
Control	10	5.14±	1.61	0±	0	30±	. 8	2±	1	0±	0	4±	1	65±	8	0±	0	
2500 ppm	10	4.91±	1.10	0±	0	29±	7	2±	1	0±	0	4±	2	65±	8	0±	0	
5000 ppm	10	4.84±	1.40	0±	1	28±	5	2±	1	0±	0	5±	1	65±	4	0±	0	
10000 ppm	10	4.93±	1,38	0±	0	34±	7	1±	1	0±	0	4±	1	60±	7	0±	0	
20000 ppm	10	4.36±	1.14	0±	0	30±	10	1±	1	0±	0	4±	2	64±	8	0±	0	
40000 ppm	10	5.92±	1.60	0±	0	28±	6	1±	1	0±	0	4±	1	68±	5	0±	0	
Significan	nt difference;	*: P ≦	0.05	**: P ≦	0.01				Test of	Dunnett								
(JCL71A)																		

## APPENDIX B 6-2

HEMATOLOGY (THIRTEEN-WEEK STUDY: SUMMARY)

RAT: FEMALE

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1 SEX : FEMALE

HEMATOLOGY(1) (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 2

roup Name	NO. of Animals	RED BLOOD CELL 1 O <sup>6</sup> /µl		HEMOGL g∕dl	OBIN	HEMATO %	OCRIT	MCV f l		MCH Pg		MCHC g∕dl		PLATELET 1 Ο³ / μl	
Control	9	9.19±	0.17	16.9±	0.3	47.2±	1.1	51.4±	0.4	18.3±	0.2	35.7±	0.4	822±	41
2500 ppm	10	8,96±	0.37	16.6±	0.5	45.8±	2.0	51.1±	0.3	18.6±	0.7	36.3±	1.6	812±	47
5000 ppm	10	9.04±	0.35	16.7±	0.4	46.3±	1.8	51.2±	0.5	18.5±	0.6	36.1±	1.2	799±	33
10000 ppm	10	9.05±	0.30	16.5±	0.6	45.9±	1.5	50.7±	0.5*	18.3±	0.3	36.0±	0.4	813±	61
20000 ppm	10	9.11±	0.20	16.6±	0.3	46.4±	1.1	50.9±	0.5	18.3±	0.2	35.9±	0.5	805±	63
40000 ppm	10	8.86±	0.22	16.1±	0.5**	45.0±	0.9**	50.8±	0.7*	18.2±	0.2	35.9±	0.8	787±	42
Significant	difference;	*: P ≤ (	0.05	**: P ≤ 0.0	)1			Test of Dur	nnett					<u> </u>	
HCL070)															

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1

HEMATOLOGY(2) (SUMMARY) SURVIVAL ANIMALS (14)

SEX: FEMALE

Group Name NO. of WBC (%) Differential WBC Animals 1 03/µl N-BAND N-SEG **EOSINO** BASO MONO LYMPHO OTHER Control 9  $3.55 \pm 0.78$  $0\pm$ 0  $25\pm$ 6  $2\pm$ 0土 0  $4\pm$ 69± 6 0± 0 2500 ppm 10 3.56± 1.28 0± 0  $28\pm$ 8  $2\pm$ 2 0± 0  $65\pm$ 9 0± 0  $4\pm$ 5000 ppm 2.66± 0.61 10  $1\pm$ 1 28± 2± 2 0± 0 4土 2 65± 8 0± 0 10000 ppm 10 3.15± 1.09 0± 0  $25\pm$ 0 4  $2\pm$ 1 0土 5土 1  $68 \pm$ 4 0± 0 20000 ppm 10  $3.13 \pm 0.97$  $1\pm$  $28\pm$ 6  $2\pm$ 1 0± 0 7  $0\pm$  $4\pm$ 66± 0 40000 ppm 10 3.05± 0.52 0±  $25\pm$  $2\pm$ 0土  $5\pm$ 2 69± 0± 0 Significant difference;  $*: P \le 0.05$   $**: P \le 0.01$ Test of Dunnett (JCL71A)

BAIS 2

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## APPENDIX B 6-3

HEMATOLOGY (THIRTEEN-WEEK STUDY: SUMMARY)

MOSUE: MALE

STUDY NO. : 0202 ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 1

NO. of Animals		LOOD CELL	g ∕al	HEMOGLOBIN HEMATO		CRIT	MCV f ℓ		MCH Pg		MCHC g∕dl			ET &
10	10.41±	0.24	15.5±	0.4	45.5±	1.1	43.8±	0.8	14.9±	0.2	34.0±	0.8	1342±	89
10	10.61±	0.47	15.7±	0.7	46.6±	2.8	43.9±	1.1	14.8±	0.2	33.8±	0.7	1371±	165
10	10.55±	0.41	15.7±	0.4	46.1±	2.0	43.7±	0.6	14.9±	0.3	34.1±	1.0	1372±	112
10	10.63±	0.36	15.7±	0.6	46.3±	2.2	43.5±	0.9	14.8±	0.3	34.1±	0.7	1386±	117
10	10.59±	0,25	15.7±	0.3	45.8±	0.8	43.2±	0.4	14.9±	0.3	34.4±	0.4	1442±	89
9	10.47±	0.35	15.6±	0.3	45.2±	1.6	43.2±	0.5	14.9±	0.5	34.6±	1.1	1386±	106
	10 10 10 10 10 10	10 10.41± 10 10.61± 10 10.55± 10 10.63± 10 10.59±	10 10.41± 0.24  10 10.61± 0.47  10 10.55± 0.41  10 10.63± 0.36  10 10.59± 0.25	Animals $10^{6}/\mu$ g/d $\ell$ 10 $10.41\pm 0.24$ $15.5\pm$ 10 $10.61\pm 0.47$ $15.7\pm$ 10 $10.55\pm 0.41$ $15.7\pm$ 10 $10.63\pm 0.36$ $15.7\pm$ 10 $10.59\pm 0.25$ $15.7\pm$	Animals $10^{6}/\mu$ g/de $10.41\pm 0.24$ $15.5\pm 0.4$ $10$ $10.61\pm 0.47$ $15.7\pm 0.7$ $10$ $10.55\pm 0.41$ $15.7\pm 0.4$ $10$ $10.63\pm 0.36$ $15.7\pm 0.6$ $10$ $10.59\pm 0.25$ $15.7\pm 0.3$	Animals $10^{6}/\mu$ $g/d$ %  10 $10.41\pm 0.24$ $15.5\pm 0.4$ $45.5\pm$ 10 $10.61\pm 0.47$ $15.7\pm 0.7$ $46.6\pm$ 10 $10.55\pm 0.41$ $15.7\pm 0.4$ $46.1\pm$ 10 $10.63\pm 0.36$ $15.7\pm 0.6$ $46.3\pm$ 10 $10.59\pm 0.25$ $15.7\pm 0.3$ $45.8\pm$	Animals $10^{6}/\mu\ell$ g/d $\ell$ %  10 $10.41\pm 0.24$ $15.5\pm 0.4$ $45.5\pm 1.1$ 10 $10.61\pm 0.47$ $15.7\pm 0.7$ $46.6\pm 2.8$ 10 $10.55\pm 0.41$ $15.7\pm 0.4$ $46.1\pm 2.0$ 10 $10.63\pm 0.36$ $15.7\pm 0.6$ $46.3\pm 2.2$ 10 $10.59\pm 0.25$ $15.7\pm 0.3$ $45.8\pm 0.8$	Animals $10^{6}/\mu$ $g/d$ % $f \ell$ $10$ $10.41 \pm 0.24$ $15.5 \pm 0.4$ $45.5 \pm 1.1$ $43.8 \pm$ $10$ $10.61 \pm 0.47$ $15.7 \pm 0.7$ $46.6 \pm 2.8$ $43.9 \pm$ $10$ $10.55 \pm 0.41$ $15.7 \pm 0.4$ $46.1 \pm 2.0$ $43.7 \pm$ $10$ $10.63 \pm 0.36$ $15.7 \pm 0.6$ $46.3 \pm 2.2$ $43.5 \pm$ $10$ $10.59 \pm 0.25$ $15.7 \pm 0.3$ $45.8 \pm 0.8$ $43.2 \pm$	Animals $10^{6}/\mu$ g/d $\ell$ % f $\ell$ $10$ $10.41\pm 0.24$ $15.5\pm 0.4$ $45.5\pm 1.1$ $43.8\pm 0.8$ $10$ $10.61\pm 0.47$ $15.7\pm 0.7$ $46.6\pm 2.8$ $43.9\pm 1.1$ $10$ $10.55\pm 0.41$ $15.7\pm 0.4$ $46.1\pm 2.0$ $43.7\pm 0.6$ $10$ $10.63\pm 0.36$ $15.7\pm 0.6$ $46.3\pm 2.2$ $43.5\pm 0.9$ $10$ $10.59\pm 0.25$ $15.7\pm 0.3$ $45.8\pm 0.8$ $43.2\pm 0.4$	Animals $10^{6}/\mu$ $g/d$ % $f \ell$ $p g$ 10 $10.41\pm 0.24$ $15.5\pm 0.4$ $45.5\pm 1.1$ $43.8\pm 0.8$ $14.9\pm$ 10 $10.61\pm 0.47$ $15.7\pm 0.7$ $46.6\pm 2.8$ $43.9\pm 1.1$ $14.8\pm$ 10 $10.55\pm 0.41$ $15.7\pm 0.4$ $46.1\pm 2.0$ $43.7\pm 0.6$ $14.9\pm$ 10 $10.63\pm 0.36$ $15.7\pm 0.6$ $46.3\pm 2.2$ $43.5\pm 0.9$ $14.8\pm$ 10 $10.59\pm 0.25$ $15.7\pm 0.3$ $45.8\pm 0.8$ $43.2\pm 0.4$ $14.9\pm$	Animals $1\ 0^6/\mu^2$ $g/d^2$ % $f\ell$ $pg$ 10 $10.41\pm 0.24$ $15.5\pm 0.4$ $45.5\pm 1.1$ $43.8\pm 0.8$ $14.9\pm 0.2$ 10 $10.61\pm 0.47$ $15.7\pm 0.7$ $46.6\pm 2.8$ $43.9\pm 1.1$ $14.8\pm 0.2$ 10 $10.55\pm 0.41$ $15.7\pm 0.4$ $46.1\pm 2.0$ $43.7\pm 0.6$ $14.9\pm 0.3$ 10 $10.63\pm 0.36$ $15.7\pm 0.6$ $46.3\pm 2.2$ $43.5\pm 0.9$ $14.8\pm 0.3$ 10 $10.59\pm 0.25$ $15.7\pm 0.3$ $45.8\pm 0.8$ $43.2\pm 0.4$ $14.9\pm 0.3$	Animals $1.0^{6}/\mu\ell$ $g/d\ell$ % $f \ell$ $p g$ $g/d\ell$ 10 $10.41\pm$ 0.24 $15.5\pm$ 0.4 $45.5\pm$ 1.1 $43.8\pm$ 0.8 $14.9\pm$ 0.2 $34.0\pm$ 10 $10.61\pm$ 0.47 $15.7\pm$ 0.7 $46.6\pm$ 2.8 $43.9\pm$ 1.1 $14.8\pm$ 0.2 $33.8\pm$ 10 $10.55\pm$ 0.41 $15.7\pm$ 0.4 $46.1\pm$ 2.0 $43.7\pm$ 0.6 $14.9\pm$ 0.3 $34.1\pm$ 10 $10.63\pm$ 0.36 $15.7\pm$ 0.6 $46.3\pm$ 2.2 $43.5\pm$ 0.9 $14.8\pm$ 0.3 $34.1\pm$ 10 $10.59\pm$ 0.25 $15.7\pm$ 0.3 $45.8\pm$ 0.8 $43.2\pm$ 0.4 $14.9\pm$ 0.3 $34.4\pm$	Animals 1 06/με g/dε % f e pg g/dε  10 10.41± 0.24 15.5± 0.4 45.5± 1.1 43.8± 0.8 14.9± 0.2 34.0± 0.8  10 10.61± 0.47 15.7± 0.7 46.6± 2.8 43.9± 1.1 14.8± 0.2 33.8± 0.7  10 10.55± 0.41 15.7± 0.4 46.1± 2.0 43.7± 0.6 14.9± 0.3 34.1± 1.0  10 10.63± 0.36 15.7± 0.6 46.3± 2.2 43.5± 0.9 14.8± 0.3 34.1± 0.7  10 10.59± 0.25 15.7± 0.3 45.8± 0.8 43.2± 0.4 14.9± 0.3 34.4± 0.4	Animals 10 <sup>6</sup> /με g/dε % f e pg g/dε 10 <sup>3</sup> /με  10 10.41± 0.24 15.5± 0.4 45.5± 1.1 43.8± 0.8 14.9± 0.2 34.0± 0.8 1342±  10 10.61± 0.47 15.7± 0.7 46.6± 2.8 43.9± 1.1 14.8± 0.2 33.8± 0.7 1371±  10 10.55± 0.41 15.7± 0.4 46.1± 2.0 43.7± 0.6 14.9± 0.3 34.1± 1.0 1372±  10 10.63± 0.36 15.7± 0.6 46.3± 2.2 43.5± 0.9 14.8± 0.3 34.1± 0.7 1386±  10 10.59± 0.25 15.7± 0.3 45.8± 0.8 43.2± 0.4 14.9± 0.3 34.4± 0.4 1442±

ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 1

oup Name	NO. of Animals	WBC 1 O³/	μዩ	Different N-BAND		(%) N-SEG		EOSING	)	BASO		MONO		<b>ГА</b> МЬНО	)	OTHER		
Control	10	1.30±	0.72	1±	1	14±	4	2±	1	ο±	0	4±	1	80±	5	0±	0	
5000ppm	10	1.47±	0.94	1±	1	17±	5	1±	1	0±	0	4±	2	76±	6	0±	0	
10000ppm	10	1.79±	0.95	1±	1	13±	4	1±	1	0±	0	4±	1	81±	3	0±	0	
20000ppm	10	1.49±	0.73	1±	1	13±	3	2±	1	0±	0	4±	2	80±	4	0±	0	
40000ppm	10	1.20±	0.51	0±	0	14士	3	2±	1	0±	0	4±	2	80±	3	0±	0	
80000pm	9	1.18±	0.40	1±	1	14±	3	1土	1	0±	0	3±	1	80±	3	0±	0	
Significant	difference;	*: P ≦	0.05	**: P ≦	0.01				Test of	Dunnett			-					
L71A)																		BA

## APPENDIX B 6-4

HEMATOLOGY (THIRTEEN-WEEK STUDY: SUMMARY )

MOSUE: FEMALE

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE HEMATOLOGY(1) (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 2

oup Name	NO. of Animals	RED BLOOD CELL 1 O <sup>6</sup> /µ <sup>2</sup>	HEMOGLOBIN g∕dl	HEMATOCRIT %	MCV f e	MCH pg	MCHC g / dl	PLATELET 1 O³ / μℓ
Control	10	10.62± 0.40	15.8± 0.7	45.5± 2.1	42.9± 0.9	14.9± 0.5	34.8± 1.0	1212± 75
5000ppm	10	10.45± 0.47	15.6± 0.6	45.3± 2.2	43.4± 0.4	15.0± 0.2	34.5± 0.6	1198± 138
10000ppm	10	10.51± 0.45	15.8± 0.7	45.7± 2.2	43.4± 0.4	15.0± 0.3	34.6± 0.6	1219± 124
20000ppm	9	10.62± 0.43	15.9± 0.7	46.1± 1.6	43.4± 0.7	15.0± 0.2	34.5± 0.7	· 1227± 83
40000ppm	10	10.46± 0.38	15.7± 0.5	45.5± 1.9	43.5± 0.4	15.0± 0.3	34.6± 0.9	1185± 101
80000ppm	9	10.54± 0.43	15.8± 0.6	45.5± 2.0	43.2± 0.5	15.0± 0.3	34.8± 0.6	1195± 135
Significant o	difference;	*: P ≤ 0.05 *	* : P ≤ 0.01		Test of Dunnett			
CL070)					:		· · · · · · · · · · · · · · · · · · ·	

(HCL070)

ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 2

oup Name	NO. of Animals	WBC 1 03/	μl	Different N-BANI		(%) N-SEG		EOSIN	)	BASO		момо		LYMPH	0	OTHER	
Control	10	0.97±	0.67	0±	1	15±	5	1±	1	0±	0	3±	1	81±	4	0±	0
5000ppm	10	1.48±	2.04	1±	1	16±	6	1±	1	0±	0	3±	1	79±	5	0±	0
10000pm	10	1.28±	1.38	1±	1	16±	5	1±	I	0±	0	3±	0	80±	6	0±	0
20000ppm	9	1.42±	0.98	1±	1	14±	5	1±	1	0±	0	3±	1	82±	5	0±	0
40000ppm	10	1.22±	0.88	1±	2	16±	10	1±	1	0±	0	3±	1	79±	13	0±	0
mqq00008	9	0.84±	0.42	0±	1	17±	8	0±	0	0±	0	3±	1 .	79±	8	0±	0
Significant	difference;	*: P ≦	0.05	** ; P ≦	0.01				Test of	Dunnett							
L71A)																	

# APPENDIX B 7-1

BIOCHEMISTRY (THIRTEEN-WEEK STUDY: SUMMARY)

RAT: MALE

STUDY NO. : 0201 ANIMAL : RAT F344

REPORT TYPE : A1 SEX : MALE BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 1

NO. of Animals	g/dl 101ML P	ROTEIN	g∕dl ALBUMIN		A/G RAT	10	T-BILI mg/dl		GLUCOSE mg/dl		T-CHOLES	STEROL	TRIGLYCI mg/dl	ERIDE
10	6.8±	0.2	3.8±	0.1	1.2±	0.1	0.21±	0.03	199±	11	60±	3	76±	26
10	6.8±	0.3	3.8±	0.1	1.2±	0.1	0.22±	0.03	197±	17	61±	5	93±	29
10	6.7±	0.2	3.7±	0.1	1.2±	0.1	0.21±	0.04	195±	22	60±	6	85±	35
10	6.7±	0.2	3.7±	0.1	1.2±	0.1	0.22±	0.03	191±	19	58±	6	81±	31
10	6.6±	0.3*	3.6±	0.1	1.3±	0.1	0.21±	0.05	201±	21	59±	3	72±	22
10	6.5±	0.2**	3.7±	0.1	1.3±	0.0	0.21±	0.04	204±	13	61±	4	88±	20
	10 10 10 10	10 6.8± 10 6.8± 10 6.7± 10 6.7± 10 6.6±	10 6.8± 0.2  10 6.8± 0.3  10 6.7± 0.2  10 6.7± 0.2  10 6.6± 0.3*	10 6.8± 0.2 3.8±  10 6.8± 0.3 3.8±  10 6.7± 0.2 3.7±  10 6.7± 0.2 3.7±  10 6.6± 0.3* 3.6±	10 6.8± 0.2 3.8± 0.1  10 6.8± 0.3 3.8± 0.1  10 6.7± 0.2 3.7± 0.1  10 6.7± 0.2 3.7± 0.1  10 6.6± 0.3* 3.6± 0.1	10 6.8± 0.2 3.8± 0.1 1.2±  10 6.8± 0.3 3.8± 0.1 1.2±  10 6.7± 0.2 3.7± 0.1 1.2±  10 6.7± 0.2 3.7± 0.1 1.2±  10 6.6± 0.3* 3.6± 0.1 1.3±	10 6.8± 0.2 3.8± 0.1 1.2± 0.1  10 6.8± 0.3 3.8± 0.1 1.2± 0.1  10 6.7± 0.2 3.7± 0.1 1.2± 0.1  10 6.7± 0.2 3.7± 0.1 1.2± 0.1  10 6.6± 0.3* 3.6± 0.1 1.3± 0.1	10 6.8 $\pm$ 0.2 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 10 6.8 $\pm$ 0.3 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 10 6.6 $\pm$ 0.3 $\pm$ 3.6 $\pm$ 0.1 1.3 $\pm$ 0.1 0.21 $\pm$	10 6.8 $\pm$ 0.2 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.03 10 6.8 $\pm$ 0.3 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.04 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 10 6.6 $\pm$ 0.3 $\star$ 3.6 $\pm$ 0.1 1.3 $\pm$ 0.1 0.21 $\pm$ 0.05	10 6.8 $\pm$ 0.2 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.03 199 $\pm$ 10 6.8 $\pm$ 0.3 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 197 $\pm$ 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.04 195 $\pm$ 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 191 $\pm$ 10 6.6 $\pm$ 0.3 $\star$ 3.6 $\pm$ 0.1 1.3 $\pm$ 0.1 0.21 $\pm$ 0.05 201 $\pm$	10 6.8 $\pm$ 0.2 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.03 199 $\pm$ 11  10 6.8 $\pm$ 0.3 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 197 $\pm$ 17  10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.04 195 $\pm$ 22  10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 191 $\pm$ 19  10 6.6 $\pm$ 0.3 $\star$ 3.6 $\pm$ 0.1 1.3 $\pm$ 0.1 0.21 $\pm$ 0.05 201 $\pm$ 21	10 6.8 $\pm$ 0.2 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.03 199 $\pm$ 11 60 $\pm$ 10 6.8 $\pm$ 0.3 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 197 $\pm$ 17 61 $\pm$ 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.04 195 $\pm$ 22 60 $\pm$ 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 191 $\pm$ 19 58 $\pm$ 10 6.6 $\pm$ 0.3* 3.6 $\pm$ 0.1 1.3 $\pm$ 0.1 0.21 $\pm$ 0.05 201 $\pm$ 21 59 $\pm$	10 6.8 $\pm$ 0.2 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.03 199 $\pm$ 11 60 $\pm$ 3 10 6.8 $\pm$ 0.3 3.8 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 197 $\pm$ 17 61 $\pm$ 5 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.21 $\pm$ 0.04 195 $\pm$ 22 60 $\pm$ 6 10 6.7 $\pm$ 0.2 3.7 $\pm$ 0.1 1.2 $\pm$ 0.1 0.22 $\pm$ 0.03 191 $\pm$ 19 58 $\pm$ 6 10 6.6 $\pm$ 0.3 $\star$ 3.6 $\pm$ 0.1 1.3 $\pm$ 0.1 0.21 $\pm$ 0.05 201 $\pm$ 21 59 $\pm$ 3	10 6.8± 0.2 3.8± 0.1 1.2± 0.1 0.21± 0.03 199± 11 60± 3 76±  10 6.8± 0.3 3.8± 0.1 1.2± 0.1 0.22± 0.03 197± 17 61± 5 93±  10 6.7± 0.2 3.7± 0.1 1.2± 0.1 0.21± 0.04 195± 22 60± 6 85±  10 6.7± 0.2 3.7± 0.1 1.2± 0.1 0.22± 0.03 191± 19 58± 6 81±  10 6.6± 0.3* 3.6± 0.1 1.3± 0.1 0.21± 0.05 201± 21 59± 3 72±

(HCL074)

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1 BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS (14)

SEX : MALE

PAGE: 2

roup Name	NO. of Animals	PHOSPHOI mg∕dl	LIPID	GOT IU/e		GPT IU∕ℓ		LDH IU/0		ALP I U / 4		G−GTP IU∕ℓ		CPK IU∕ℓ	
Control	10	106±	6	75±	12	25±	2	159±	37	288±	22	Ι±	1	84±	7
2500 ppm	10	113±	11	72±	11	24±	4	163±	26	294±	22	1±	1	89±	13
5000 ppm	10	108±	10	79±	15	26±	5	162±	35	307±	26	1±	1	80±	5
10000 ppm	10	106±	14	67±	10	23±	4	152±	18	297±	26	1±	1	82±	5
20000 ppm	10	109±	9	73±	16	26±	5	161±	42	291±	27	1±	1	84±	11
40000 ppm	10	115±	7	78±	18	25±	4	164±	43	287±	31	1±	1	83±	12

(HCL074)

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS ( 14)

SEX : MALE

Group Name	NO. of Animals	UREA N mg∕dl	ITROGEN	CREATIA mg/dl		SODIUM mEq∕ℓ		POTASS: mEq/		CIILORI DI mEq/l		mg/dl	ſ	INORGAN mg/dl	VIC PHOSPHORUS
Control	10	17.6±	0.9	0.5±	0.1	143±	1	3.1±	0.1	106生	1	10.4±	0.2	5.1±	0.7
2500 ppm	10	17.8±	1.2	0.5±	0.1	143±	1	3.1±	0.2	106±	1	10.4±	0.3	5.4±	0.9
5000 ppm	10	16.9±	1.2	0.5±	0.1	143±	1	3.1±	0.2	106士	1	10.4±	0.2	5.1±	0.8
10000 ppm	10	17.5±	0.8	0.5±	0.1	143士	2	3.2±	0.2	106±	2	10.3±	0.2	5.0±	0.7
20000 ppm	10	18.0±	1.3	0.5±	0.1	142±	1	3.2±	0.2	105±	2	10.2±	0.4	5.1±	0.6
40000 ppm	10	20.7±	1.6**	0.5±	0.1	141±	1**	3.2±	0.1	104土	1*	10.2±	0.2	4.9±	0.7
Significant	t difference;	*: P ≦ (	).05 *	*: P ≤ 0.0	1			Test of Dur	nnett						
(HCL074)															BAIS 2

## APPENDIX B 7-2

BIOCHEMISTRY(THIRTEEN-WEEK STUDY: SUMMARY)

RAT: FEMALE

STUDY NO.: 0201 ANIMAL : RAT F344 REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS ( 14)

Group Name	NO. of Animals	g/dl g/dl		g∕dl g∕dl		A/G RAT	010	T-BILI		GLUCOSE mg/dl		T-CHOLES	TEROL	TRIGLYCE ng/dl	RIDE
Control	9	6.6±	0.1	3.7±	0.1	1.2±	0.1	0.23±	0.02	150±	15	82±	7	34±	4
2500 ppm	10	6.6±	0.2	3.6±	0.1	1.2±	0.1	0.24±	0.03	150±	17	79±	5	35±	5
5000 ppm	10	6.5±	0.3	3.6±	0.2	1.3±	0.1	0.26±	0.04	152±	28	78±	7	35±	6
10000 ppm	10	6.4±	0.3	3.6±	0.1	1.3±	0.1	0.25±	0.03	151±	18	76±	9	32±	4
20000 ppm	10	6.5±	0.2	3.6±	0.1	1.2±	0.1	0.28±	0.08	138±	19	78±	9	32±	3
40000 ppm	10	6.0±	0.2**	3.4±	0.1**	1.3±	0.1	0.26±	0.05	147±	17	70±	4**	28±	3*
Significant	t difference;	*: P ≦ (	).05	**: P ≤ 0.0	01		·	Test of Du	nnett		<del></del>				
HCL074)															ВА

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS (14)

SEX : FEMALE

Group Name NO. of PHOSPHOLIPID GOT GPT LDH ALP G-GTP CPK Animals mg/dl IU/e IU/l IU/l IU/l IU/l IU/l Control 9  $143 \pm$ 9 66± 10  $21\pm$ 5  $201\pm$ 46  $195\pm$ 21  $2\pm$ 1  $100 \pm$ 13 2500 ppm 10  $138 \pm$ 8  $78\pm$ 29  $25\pm$ 11  $222\pm$ 62 199± 25  $1\pm$ 1 99± 16 5000 ppm 10 134± 12 71± 16  $23\pm$ 8 217± 64  $207 \pm$ 27  $2\pm$ 98± 17 10000 ppm 10 130± 14  $78 \pm$ 14  $24\pm$ 5  $245\,\pm\,$ 56  $205\pm$ 23  $2\pm$ 1 104士 16 20000 ppm 10 133± 13  $75\pm$ 16 22土 7 222± 78  $224\pm$ 32 1  $2\pm$  $103 \pm$ 28 40000 ppm 10 119± 7\*\* 66± 6  $18\pm$ 4 216± 62  $200 \pm$ 19  $2\pm$ 1  $97 \pm$ 17 Significant difference;  $*:P \leq 0.05$ \*\* :  $P \leq 0.01$ Test of Dunnett

PAGE: 5

(HCL074) BAIS 2

STUDY NO.: 0201 ANIMAL : RAT F344 REPORT TYPE : AI SEX : FEMALE

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS ( 14)

PAGE: 6

Group Name	NO. of Animals	UREA N mg/dl		CREATIN mg/dl	INE	SODIUM mEq/l		POTASSI mEq/		CHLORIDE mEq/l		CALCIUM mg/dl	[	INORGAN mg/dl	IC PHOSPHORUS
Control	9	19.6±	1.7	0.5±	0.1	143±	1	3.0±	0.2	108±	2	10.0±	0.4	4.9±	0.9
2500 ppm	10	19.6±	2.8	0.5±	0.1	142±	2	3.1±	0.2	107±	2	10.1±	0.2	4.7±	1.1
5000 ppm	10	19.9±	1.4	0.5±	0.1	142±	1	3.0±	0.2	108±	1	10.0±	0.3	4.7±	1.1
10000 ppm	10	20.8±	1.6	0.5±	0.1	143±	2	3.1±	0.2	108±	2	9.9±	0.3	4.6±	1.2
20000 ppm	10	20.3±	1.8	0.5±	0.1	142±	2	3.2±	0.3	108±	2	9.9±	0.3	5.0±	1.1
40000 ppm	10	22.3±	2.4*	0.5±	0.1	141±	2	3.3±	0.2	108±	1	9.6±	0.2**	4.8±	1.3
Significant	difference;	*: P ≦ (	).05 :	**: P ≤ 0.0	1			Test of Dur	nett					. , , , , , , , , , , , , , , , , , , ,	
(HCL074)											•				BAIS

## APPENDIX B 7-3

BIOCHEMISTRY (THIRTEEN-WEEK STUDY: SUMMARY)

MOSUE: MALE

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : MALE

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 1

up Name	NO. of Animals	g∕dl TOTAL F	PROTEIN	g∕dø ATBUMIN		A/G RAT	010	T-BILI mg/dl		GLUCOSE mg/dl		T-CHOLES	STEROL	TRIGLYC mg/dl	ERIDE
Control	10	5.3±	0.1	2.8±	0.1	1.2±	0.1	0.32±	0.08	227±	50	89±	5	79±	14
5000ppm	10	5.3±	0.4	2.8±	0.2	1.1±	0.0	0.34±	0.11	233±	41	90±	9	81±	8
10000ppm	10	5.3±	0.2	2.8±	0.1	1.1±	0.1	0.32±	0.10	241±	29	91±	6	75±	15
20000ppm	10	5.3±	0.2	2.8±	0.1	1.1±	0.1	0.34±	0.20	229±	53	88±	9	75±	17
40000ppm	10	5.2±	0.2	2.7±	0.1	1.1±	0.0	0.28±	0.12	240±	31	84±	5	73±	20
80000ppm	9	5.0±	0.2	2.7±	0.1*	1.1±	0.1	0.38±	0.20	242±	34	88±	4	72±	12
Significant o	difference;	* : P ≤ (	).05	**: P ≤ 0.0	1			Test of Du	nnett						
.074)									- <del></del>						

ANIMAL : MOUSE BDF1
REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS (14)

SEX : MALE PAGE: 2

p Name	NO. of Animals	GOT IU∕ℓ		GPT IU∕ℓ		LDH IU/4	?	ALP IU/l		CPK IU/l		UREA NI mg/dl	TROGEN	SODIUM mEq∕ℓ	
Control	10	46±	6	11±	2	231±	35	180±	20	55±	19	25.4±	1.9	154±	2
5000ppm	10	43±	5	13±	2	237±	56	176±	19	63±	25	25.0±	1.4	154±	2
10000ppm	10	40±	8	14土	5	242±	79	177±	8	67±	54	24.6±	4.1	154±	2
20000ppm	10	42±	5	14±	3	$227\pm$	46	168±	16	55±	21	25.4±	2.2	154±	2
40000ppm	10	39±	5	12±	3	229±	49	169±	16	55±	17	26.1±	1.5	154±	1
80000ppm	9	40±	6	13±	4	279±	154	158±	40	59±	19	25.5±	2.7	153±	2

ANIMAL : MOUSE BDF1

REPORT TYPE : A1

SEX : MALE

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 3 Group Name NO. of POTASSIUM CHLORIDE CALCIUM INORGANIC PHOSPHORUS Animals mEq∕ℓ mEq∕ℓ mg/dl mg/dlControl 10  $122\pm$ 2  $3.9 \pm$ 0.4 8.7± 0.3  $7.2 \pm 0.8$ 5000ppm 10  $4.3 \pm$ 0.5  $122 \pm$ 3  $8.8 \pm$ 0.5 8.3± 1.7 10000ppm 10  $4.2 \pm$ 0.4 121± 2 8.6± 0.2  $7.1\pm$ 1.3 20000ppm 10 4.1± 0.4 121土 2 8.8± 0.3  $7.8 \pm$ 1.9 40000ppm 10 4.0± 0.3  $122 \pm$ 2  $8.7\pm$ 0.2 7.5± 1.0 80000ppm 9 3.9± 0.4 120± 2 7.6± 1.1  $8.6 \pm$ 0.3 Significant difference :  $*: P \leq 0.05$ \*\*:  $P \leq 0.01$ Test of Dunnett

(HCL074)

### APPENDIX B 7-4

BIOCHEMISTRY (THIRTEEN-WEEK STUDY: SUMMARY)

MOSUE: FEMALE

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 4

p Name	NO. of Animals	g∕dl		g∕q <sub>l</sub> VTBNWIN		A/G RAT	.10	T-BILI mg/dl		GLUCOSE mg∕dl		T-CHOLES	TEROL	TRIGLYC mg/dl	ERIDE
Control	10	5.5±	0.2	3.1±	0.1	1.3±	0.0	0.39±	0.09	189±	22	76±	4	49±	10
5000ppm	10	5.4±	0.3	3.1±	0.1	1.3±	0.1	0.37±	0.07	167±	23	74±	10	49±	18
10000ppm	10	5.3±	0.3	3.0±	0.2	1.3±	0.0	0.39±	0.12	178±	28	74±	7	44±	9
20000ppm	9	5.3±	0.2	3.1±	0.1	1.4±	0.1	0.34±	0.05	178±	20	78±	9	51±	15
40000ppm	10	5.3±	0.3	3.0±	0.1	1.3±	0.1	0.42±	0.09	183±	22	72±	11	43±	13
mqq00008	9	5.0±	0.2**	2.9±	0.1**	1.4±	0.1	0.39±	0.17	185±	25	73±	7	44±	9

ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS (14)

oup Name	NO. of Animals	GOT I U / 4	?	GPT IU/e		LDH IU/	?	ALP IU/4		CPK I U/	?	UREA NI mg/dl	TROGEN	SODIUM mEq/e	
Control	10	60±	14	14±	3	274±	67	281±	38	73±	30	21.8±	1.9	154±	3
5000ppm	10	64±	15	14±	4	290±	75	298±	31	82±	25	22.8±	2.0	153±	2
10000ppm	10	53±	9	13±	2	252±	40	277±	30	76±	14	23.3±	2.6	154±	2
20000ppm	9	52±	7	14±	5	246±	42	272±	24	74±	23	22.4±	1.9	154±	3
40000ppm	10	58±	12	16±	4	368±	145	292±	33	134±	127	24.0±	2.5	154±	3
80000ppm	9	53±	14	13±	5	319±	92	304±	29	113±	102	22.5±	2.4	155±	3
Significant o	difference;	*: P ≤ 0	.05	**: P ≤ 0.01				Test of Dun	nett						
CL074)														·	

STUDY NO. : 0202 ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 6

roup Name	NO. of Animals	POTASSI mEq/		CHLORIDE mEq∕ℓ		mg/dl mg/dl		I NORGAN mg/dl	PHOSPHORUS	
Control	10	3.9±	0.6	121±	3	8.8±	0.2	6.8±	0.9	
5000ppm	10	3.5±	0.4	123±	3	8.7±	0.3	6.5±	1.0	
10000ppm	10	3.7±	0.4	124±	3	8.6±	0.4	6.6±	1.7	
20000ppm	9	3.8±	0.4	120±	2	8.6±	0.3	6.3±	1.4	
40000ppm	10	3.7±	0.4	122±	3	8.6±	0.4	6.4±	1.1	
80000ppm	9	3.6±	0.4	121±	3	8.5±	0.4	7.1±	1.1	
Significant c	lifference;	*: P ≦ (	).05	**: P ≤ 0.01			·	Test of Dunr	tt	
HCI 074)	<del></del> .									

(HCL074)

## APPENDIX B 8-1

URINALYSIS (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: MALE

URINALYSIS

ANIMAL : RAT F344 SAMPLING DATE : 013-4

SEX : MALE

REPORT TYPE : A1

PAGE: 1

roup Name	NO. of	Hq								Pri	otei	in					GI	.uco	se				Ke	etor	ne b	ody_				Bi	Lirub	in	
	Animals	5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI				2+	3+ 4	+	CHI					3+ 4	+ CH1				2+		4+	CHI				CIII
G. 3. 1	10	•	•	•			_					_										_									_		
Control	10	0	0	0	0	3	7	0		0	0	7	3	0	0		. 10	) ()	0	0	0	0	C	) 10	) ()	0	0	0		10	0	0 0	
2500 ppm	10	0	0	0	1	2	7	0		0	0	5	5	0	0		10	0	0	0	0	0	1	. 9	9 0	0	0	0		10	0	0 0	
5000 ppm	10	0	0	0	0	5	5	0		0	0	3	7	0	0		10	0	0	0	0	0	2	2 7	7 1	. 0	0	0		10	0	0 0	
10000 ppm	10	0	0	0	0	8	2	0	*	0	0	2	5	3	0	*	10	0	0	0	0	0	7	' 3	3 0	0	0	0	**	10	0	0 0	
20000 ppm	10	0	0	0	0	7	3	0		0	0	0	5	5	0	**	10	0	0	0	0	0	8	) 1	L 0	0	0	0	**	10	0	0 0	
40000 ppm	10	0	0	1	6	3	0	0	**	0	0	0	0	2	8	**	10	0	0	0	0	0	10	) (	0	0	0	0	**	10	0	0 0	
																						<del></del> -											
Significent	: difference	; *:	: P <b>≤</b>	0.05		**:	P <b>≦</b>	0.01								Test	of (	HI	SQU/	ARE													

(JCL101)

URINALYSIS

ANIMAL : RAT F344 SAMPLING DATE: 013-4

SEX : MALE

REPORT TYPE : A1

Group Name NO. of Occult blood Urobilinogen  $-\pm + 2 + 3 + CHI$ Animals ± + 2+ 3+ 4+ CHI Control 10 10 0 0 0 0 10 0 0 0 0 2500 ppm 10 9 1 0 0 0 10 0 0 0 0 5000 ppm 10 10 0 0 0 0 10 0 0 0 0 10000 ppm 10 10 0 0 0 0 10 0 0 0 0 20000 ppm 10 10 0 0 0 0 10 0 0 0 0 40000 ppm 10 10 0 0 0 0 10 0 0 0 0 Significent difference ;  $*: P \leq 0.05$ \*\*:  $P \leq 0.01$ Test of CHI SQUARE (JCL101)

BAIS 2

### APPENDIX B 8-2

URINALYSIS (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: FEMALE

URINALYSIS

ANIMAL : RAT F344 SAMPLING DATE: 013-4

SEX: FEMALE REPORT TYPE : A1 PAGE: 3

roup Name	NO. of	Hq					-		-	Pr	ote	in					GL	LICO:	se					Ket	one	bady	,			Bi	irub	in		
	Animals	5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI				2+	3+ 4	1+	CHI				2+	3+ 4	+ CH	II				3+ 4	4+	CHI		+ 2		CHI	
																	,																	
Control	10	0	0	0	1	1	7	1		0	0	9	1	0	0		10	0	0	0	0	0		9	1	0 0	0	0		10	0	0 0		
2500 ppm	10	0	0	0	0	1	8	1		0	0	9	1	0	0		10	0	0	0	0	0		10	0	0 0	0	0		10	0	0 0		
5000 ppm	10	0	0	0	0	0	9	1		C	0	8	2	0	0		10	0	0	0	0	0		10	0	0 0	0	0		10	0	0 0		
10000 ppm	10	0	0	1	0	2	6	1		C	0	7	3	0	0		10	0	0	0	0	0		10	0	0 0	0	0		10	0	0 0		
20000 ppm	10	0	0	0	1	2	6	I		C	) 0	0	8	2	0	**	10	0	0	0	0	0		10	0	0 0	0	0		10	0	0 0		
40000 ppm	10	0	0	0	1	8	1	0	*	C	0	0	0	5	5	**	10	0	0	0	0	0		10	0	0 0	0	0		10	0	0 0		
Significent	difference	; *	: P ≦	≦ 0.0	5	**	: P ≦	≦ 0.01								Test	of C	ΗI	SQU.	ARE														
(CL101)															-																			 BA

URINALYSIS

ANIMAL : RAT F344 SAMPLING DATE: 013-4

SEX : FEMALE

REPORT TYPE : A1

Group Name	NO. of Animals	0ccult blood — ± + 2+ 3+ CHI	Urobilinogen ± + 2+ 3+ 4+ CHI		
Contral	10	10 0 0 0 0	10 0 0 0 0		
2500 ppm	10	10 0 0 0 0	10 0 0 0 0		
5000 ppm	10	10 0 0 0 0	10 0 0 0 0		
10000 ppm	10	10 0 0 0 0	10 0 0 0 0		
20000 ppm	10	10 0 0 0 0	10 0 0 0 0		
40000 ppm	10	10 0 0 0 0	10 0 0 0 0		
Significen	t difference	; *: P ≤ 0.05 **	: P ≤ 0.01	Test of CHI SQUARE	
(JCL101)					BAIS 2

### APPENDIX B 8-3

URINALYSIS (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: MALE

URINALYSIS

ANIMAL : MOUSE BDF1

SAMPLING DATE: 013-4

SEX : MALE

REPORT TYPE : A1

0 0 0

3

Group Name NO. of Protein\_ Glucose\_ Ketane body Occult blood Animals 5.0 6.0 6.5 7.0 7.5 8.0 8.5 CHI  $-\pm + 2 + 3 + 4 + CHI$ - ± + 2+ 3+ 4+ CHI - ± + 2+ 3+ 4+ CHI  $-\pm + 2+ 3+$  CHI Control 10 0 0 1 3 6 0 0 7 3 0 0 10 0 0 0 0 0 1 6 3 0 0 0 10 0 0 0 0 5000ppm 10 0 0 5 5 0 0 5 5 0 0 10 0 0 0 0 0 1 9 0 0 0 0 10 0 0 0 0 10000ppm 10 0 0 0 6 3 1 0 0 2 7 1 0 10 0 0 0 0 10 0 0 0 0 0 7 3 0 0 0 0 \* 20000ppm 10 0 0 4 6 0 0 0 5 4 1 \*\* 10 0 0 0 0 0 10 0 0 0 0 0 \*\* 10 0 0 0 0 40000ppm 10 0 0 0 0 0 3 2 5 \*\* 10 0 0 0 0 0 10 0 0 0 0 0 \*\* 10 0 0 0 0 80000ppm 9

9 0 0 0 0 0

9 0 0 0 0 0 \*\*

9 0 0 0 0

PAGE: 1

BAIS 2

Significent difference ;  $*: P \leq 0.05$ \*\*:  $P \leq 0.01$ Test of CHI SQUARE

0

(JCL101)

0 0 0 0 0 9 \*\*

URINALYSIS

ANIMAL : MOUSE BDF1 SAMPLING DATE: 013-4

SEX : MALE

REPORT TYPE : A1

Group Name Urabilinagen NO. of ± + 2+ 3+ 4+ CHI Animals Control 10 10 0 0 0 0 5000ppm 10 10 0 0 0 0 10000ppm 10 10 0 0 0 0 20000ppm 10 10 0 0 0 0 40000ppm 10 10 0 0 0 0 mqq00008 9 9 0 0 0 0 Significent difference ;  $*: P \leq 0.05$ \*\* :  $P \leq 0.01$ Test of CHI SQUARE (JCL101)

BAIS 2

### APPENDIX B 8-4

URINALYSIS (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: FEMALE

URINALYSIS

ANIMAL : MOUSE BDF1
SAMPLING DATE : 013-4
SEX : FEMALE R

REPORT TYPE : A1

PAGE: 3

₽ Name	NO. of	pН							Pro	tei	n					GL	1005	e.			 (etr	nna	bad	v				000	ult	blor	nd		
	Animals	5.0	6.0	6.5	7.0	7.5	8.0	8.5 CHI				2+	3+ 4	+	CHI				2+ 3	3+ 4+ C					+ 4+		CHI		± ·			CI	II
Control	10	0	1	0	1	4	4	0	0	1	8	1	0	0		10	0	0	0	0 0	5	5	0	0	0 0			10	0	0 (	) (	)	
5000ppm	10	0	0	2	1	6	1	0	0	0	8	2	0	0		10	0	0	0	0 0	6	3	1	0	0 0			10	0	0 (	) (	)	
10000ppm	10	0	0	0	1	2	7	0	0	0	4	5	0	1		10	0	0	0	0 0	8	2	0	0	0 0			10	0	0 (	0 0	)	
20000ppm	10	0	0	0	0	8	2	0	0	0	4	3	3	0		10	0	0	0	0 0	10	0	0	0	0 0	3	**	10	0	0	0 (	)	
40000ppm	10	0	0	0	2	7	1	0	0	0	0	0	4	6	**	10	0	0	0	0 0	10	0	0	0	0 0	,	<b>*</b> *	10	0	0	0 (	)	
80000ppm	9	0	0	0	5	4	0	0	0	0	0	0	2	7	**	9	0	0	0	0 0	9	0	0	0	0 0	,	ĸ	9	0	0	0 (	)	

(JCL101)

URINALYSIS

ANIMAL : MOUSE BDF1 SAMPLING DATE: 013-4

SEX : FEMALE

REPORT TYPE : A1

Group Name	NO. of Animals	Urobilinogen ± + 2+ 3+ 4+ CHI		
Control	10	10 0 0 0 0		
5000ppm	10	10 0 0 0 0		
10000ppm	. 10	10 0 0 0 0		
20000ppm	10	10 0 0 0 0		
40000ppm	10	10 0 0 0 0		
mqq00008	9	9 0 0 0 0		
Significent	difference	; *: P ≤ 0.05 **: P ≤ 0.01	Test of CHI SQUARE	
(JCL101)				BAIS 2

#### APPENDIX B 9-1

GROSS FINDINGS (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: MALE: SACRIFICED ANIMALS

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1 SEX : MALE

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

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	2500 ppm 10 (%)	5000 ppm 10 (%)	10000 ppm 10 (%)
ather	hair:colored		0 ( 0)	0 ( 0)	0 ( 0)	0 (0)
(HPT080)						BAIS

STUDY NO. : 0201 ANIMAL : RAT F344 GROSS FINDINGS (SUMMARY) ALL ANIMALS (0- 14W)

REPORT TYPE : A1
SEX : MALE

Organ	Findings	Group Name NO. of Animals	20000 ppm 10 (%)	40000 ppm 10 (%)	
other	hair:colored		6 (60)	10 (100)	
HPT080)					RATS

BAIS 2

#### APPENDIX B 9-2

GROSS FINDINGS (THIRTEEN—WEEK STUDY: SUMMARY)

RAT: FEMALE: SACRIFICED ANIMALS

ANIMAL : RAT F344 REPORT TYPE : A1 SEX : FEMALE

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

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	2500 ppm 10 (%)	5000 ppm 10 (%)	10000 ppm 10 (%)
iver.	herniation		0 ( 0)	0 ( 0)	1 (10)	1 (10)
ther	hair:colored		0 ( 0)	0 ( 0)	0 ( 0)	0 ( 0)

ANIMAL : RAT F344

REPORT TYPE : A1 SEX : FEMALE GROSS FINDINGS (SUMMARY) ALL ANIMALS (0- 14W)

rgan	Findings	Group Name 2 NO. of Animals 1	0000 ppm 0 (%)	4000 ppm 10 (%)	
ver	herniation		0 ( 0)	0 ( 0)	
her	hair:colored		7 (70)	10 (100)	

### APPENDIX B 9-3

GROSS FINDINGS (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: MALE DEAD AND MORIBUND ANIMALS

ANIMAL : MOUSE BDF1
REPORT TYPE : A1

: MALE SEX

GROSS FINDINGS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

SEX	: MALE					PAGE: 1
Organ	Findings	Group Name NO. of Animals	Control 0 (%)	5000ppm 0 (%)	10000ppm 0 (%)	20000ppm 0 (%)
thymus	atrophic		- ( -)	- ( -)	- ( -)	- ( -)
(HPT080)						BAIS 2

Δ

STUDY NO. : 0202

ANIMAL : MOUSE BDF1

GROSS FINDINGS (SUMMARY)

REPORT TYPE : A1
SEX : MALE

DEAD AND MORIBUND ANIMALS (0- 14W)

					PAGE: 2
Organ F	indings	Group Name NO. of Animals	40000ppm 0 (%)	80000ppm 1 (%)	
thymus a	traphic		- ( -)	1 (100)	
(HPT080)					BAIS 2

### APPENDIX B 9-4

GROSS FINDINGS (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: FEMALE DEAD AND MORIBUND ANIMALS

STUDY NO. : 0202 ANIMAL

: MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE

GROSS FINDINGS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

5000ppm 10000ppm Group Name Control 20000ppm Findings\_ 0rgan\_ NO. of Animals 0 (%) 0 (%) 0 (%) 0 (%) whale body wasting - ( -) - ( -) - ( -) - ( -) (HPT080) BAIS 2

STUDY NO. : 0202 ANIMAL : MOUSE BDF1

REPORT TYPE : A1 : FEMALE SEX

GROSS FINDINGS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

PAGE: 4 Group Name 40000ppm mqq00008 Organ\_\_ Findings\_ NO. of Animals 0 (%) 1 (%) whole body - ( -) wasting 1 (100) (HPT080) BAIS 2

## APPENDIX B 9-5

GROSS FINDINGS (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: MALE: SACRIFICED ANIMALS

...

STUDY NO. : 0202

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : MALE GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (14W)

L5 ( 14%)

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	5000ppm 10 (%)	10000ppm 10 (%)	20000ppm 10 (%)
spleen	black zone		0 ( 0)	1 (10)	0 ( 0)	1 (10)
dney	white zone		0 ( 0)	2 (20)	0 ( 0)	0 ( 0)

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : MALE GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS ( 14W)

PAGE: 2

Organ	Findings	Group Name NO. of Animals	10	40000ppm (%)	9	80000pm (%)	
spleen	black zone		0	( 0)	0	( 0)	
kidney	white zone		0	( 0)	0	( 0)	
(HPT080)							

### APPENDIX B 9-6

GROSS FINDINGS (THIRTEEN—WEEK STUDY: SUMMARY)

MOSUE: FEMALE: SACRIFICED ANIMALS

ANIMAL : MOUSE BDF1

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS ( 14W)

REPORT TYPE : A1

SEX : FEMALE

Organ	Findings	Group Name NO. of Animals	Contral 10 (%)	5000ppm 10 (%)	10000ppm 10 (%)	20000ppm 10 (%)
spleen	black zone		1 (10)	2 (20)	0 ( 0)	0 (0)
(HPT080)						ВАІ

ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS ( 14W)

 Organ\_\_\_
 Findings\_\_
 Group Name NO. of Animals 10 (%)
 40000ppm 9 (%)

 spleen
 black zone
 0 (0)
 0 (0)

(HPT080)

## APPENDIX B 10-1

ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), ABSOLUTE

RAT: MALE

STUDY NO.: 0201 ANIMAL : RAT F344 REPORT TYPE : A1

SEX : MALE UNIT: g

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

PAGE: 1

Group Name	NO. of Animals	Body Weight	ТНҮ	MUS	ADRE	NALS	TEST	ES	HEAR	r	LUNG	S	
Control	10	321± 14	0.255±	0.026	0.048±	0.007	2.876±	0.129	0.923±	0.038	1.009±	0.059	
2500 ppm	10	303± 21	0.225±	0.019*	0.049±	0.012	2.806±	0,127	0.885±	0.036	0.993±	0.057	
5000 ppm	10	304± 22	0.230±	0.031	0.047±	0.005	2.737±	0.131	0.876±	0.047	0.976±	0.059	
10000 ppm	10	299± 22	0.238±	0.025	0.047±	0.008	2.852±	0.096	0.886±	0.051	0.959±	0.042	
20000 ppm	10	299± 19	0.225±	0.017*	0.046±	0.008	2.847±	0.127	0.916±	0.054	0.985±	0.040	
40000 ppm	10	284± 22**	0.207±	0.021**	0.045±	0.004	2.827±	0.120	0.865±	0.047*	0.964±	0.077	
Significan	t difference;	*: P ≤ 0.05	**: P ≤ 0.01			Tes	t of Dunnett						
(HCL040)			<del></del>					<del></del>			-		В

STUDY NO. : 0201 ANIMAL : RAT F344

REPORT TYPE : A1 SEX : MALE

UNIT: g

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

PAGE: 2

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN	
Control	10	1.913± 0.091	0.551± 0.031	8.008± 0.454	1.901± 0.034	
2500 ppm	10	1.814± 0.102	0.517± 0.029	7.545± 0.390	1.865± 0.032	
5000 ppm	10	1.812± 0.148	0.493± 0.035**	7.492± 0.773	1.864± 0.047	
10000 ppm	10	1.839± 0.108	0.517± 0.042	7.486± 0.579	1.874± 0.040	•
20000 ppm	10	1.890± 0.112	0.516± 0.033	7.574± 0.552	1.866± 0.066	
40000 ppm	10	1.895± 0.099	0.497± 0.032**	7.530± 0.769	1.869± 0.036	

(HCL040)

# APPENDIX B 10-2

ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), ABSOLUTE

RAT: FEMALE

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1
SEX : FEMALE

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

UNIT: g

PAGE: 3

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS	
Control	10	182± 12	0.196± 0.020	0.053± 0.004	0.103± 0.016	0.613± 0.042	0.734± 0.057	
2500 ppm	10	178± 9	0.185± 0.016	0.054± 0.005	0.095± 0.017	0.603± 0.023	0.731± 0.032	
5000 ppm	10	179± 7	0.198± 0.024	0.050± 0.004	0.098± 0.018	0.608± 0.021	0.741± 0.032	
10000 ppm	10	170± 11*	0.191± 0.012	0.054± 0.007	0.090± 0.017	0.587± 0.031	0.726± 0.055	
20000 ppm	10	172± 10	0.196± 0.019	0.055± 0.006	0.088± 0.018	0.607± 0.043	0.744± 0.041	
40000 ppm	10	166士 8**	0.174± 0.015*	0.053± 0.008	0.082± 0.020	0.578± 0.037	0.719± 0.033	
Significan	nt difference;	*: P ≤ 0.05 **	: P ≤ 0.01	Tes	t of Dunnett			
(HCL040)								ВАІ

STUDY NO.: 0201 ANIMAL : RAT F344 REPORT TYPE : A1

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

SEX : FEMALE UNIT: g

Group Name NO. of KIDNEYS SPLEEN LIVER BRAIN Animals Control 10 1.220± 0.116 0.371± 0.044 4.377± 0.500 1.732± 0.033 2500 ppm 10 1.179± 0.038  $0.359 \pm 0.036$ 4.170± 0.289 1.729± 0.032  $0.356 \pm$ 0.032 4.179± 0.188 1.716± 0.055 1.180± 0.054 5000 ppm 10 10000 ppm 10 1.162± 0.059  $0.351 \pm 0.029$  $3.977 \pm 0.291$ 1.699± 0.052  $4.038 \pm 0.365$ 1.738± 0.025 20000 ppm 10  $1.201 \pm 0.057$  $0.357 \pm 0.019$ 40000 ppm 10  $1.267 \pm 0.057$ 0.363± 0.031  $3.974 \pm 0.225$ 1.681± 0.056 \*\*:  $P \leq 0.01$ Test of Dunnett Significant difference :  $*: P \leq 0.05$ (HCL040) BAIS 2

## APPENDIX B 10-3

ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), ABSOLUTE

MOUSE: MALE

ANIMAL : MOUSE BDF1

REPORT TYPE: A1 SEX: MALE UNIT: g ORGAN WEIGHT: ABSOLUTE (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 1

oup Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	32.5± 2.0	0.046± 0.009	0.009± 0.002	0.197± 0.025	0.145± 0.007	0.144± 0.004
5000ppm	10	33.7± 2.5	0.044± 0.008	0.009± 0.002	0.208± 0.030	0.149± 0.011	0.150± 0.013
10000ppm	. 10	33.2± 2.6	0.048± 0.012	0.010± 0.002	0.206± 0.022	0.147± 0.010	0.148± 0.008
20000ppm	10	32.2± 1.9	0.045± 0.007	0.010± 0.002	0.223± 0.030	0.148± 0.009	0.153± 0.010
40000ppm	10	31.9± 2.7	0.047± 0.009	0.010± 0.002	0.211± 0.019	0.149± 0.009	0.145± 0.010
80000ppm	9	29.6± 1.2*	0.038± 0.004	0.010± 0.002	0.227± 0.021	0.146± 0.011	0.147± 0.010
Significant	difference;	*: P ≤ 0.05 **	: P ≤ 0.01	Test	of Dunnett		

(HCL040)

ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : MALE
UNIT: g

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

PAGE: 2

up Name	NO. of Animals	KIDNEYS	SPI	LEEN	LIV	ER	BRA		
Control	10	0.433± 0.0	5 0.045±	0.005	1.144±	0.061	0.447±	010	
5000ppm	10	0.440± 0.03	0.048±	0.005	1.165±	0.057	0.444±	011	
10000ppm	10	0.445± 0.02	3 0.049±	0.007	1.152±	0.052	0.445±	010	
20000ppm	10	0.445± 0.03	0.052±	0.008	1.164±	0.049	0.442±	009	
40000ppm	10	0.455± 0.0	5 0.047±	0.006	1.162±	0.042	0.446±	008	
80000ppm	9	0.468± 0.03	9 0.047±	0.003	1.127±	0.052	0.436±	016	

(HCL040)

# APPENDIX B 10-4

ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), ABSOLUTE

MOUSE: FEMALE

STUDY NO.: 0202 ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE UNIT: g

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

PAGE: 3

oup Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS	
Control	10	21.7± 1.0	0.045± 0.006	0.012± 0.002	0.029± 0.006	0.119± 0.006	0.143± 0.013	
5000ppm	10	20.9± 1.2	0.043± 0.007	0.011± 0.002	0.032± 0.008	0.118± 0.007	0.143± 0.009	
10000ppm	10	20.9± 1.2	0.041± 0.005	0.010± 0.001	0.028± 0.007	0.121± 0.009	0.140± 0.010	
20000ppm	10	21.3± 1.0	0.043± 0.005	0.011± 0.002	0.030± 0.006	0.117± 0.006	0.145± 0.010	
40000ppm	10	20.4± 0.8*	0.039± 0.004	0.010± 0.002	0.027± 0.004	0.117± 0.007	0.142± 0.016	
mqq00008	9	20.4± 0.9*	0.038± 0.006*	0.010± 0.002	0.027± 0.005	0.114± 0.005	0.137± 0.011	
Significant	difference;	* : P ≤ 0.05 **	: P ≤ 0.01	Test	of Dunnett			
L040)								В

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE UNIT: g

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

PAGE: 4

up Name	NO. of Animals	KIDNEYS	SPLE	EN	LIV	ER	BRA		
Control	10	0.292± 0.012	0.054±	0.007	0.907±	0.069	0.458±	021	
5000ppm	10	0.298± 0.014	0.049±	0.007	0.857±	0.062	0.457±	.018	
10000ppm	10	0.285± 0.018	0.051±	0.007	0.860±	0.042	0.450±	.017	
20000ppm	10	0.294± 0.021	0.051±	0.009	0.897±	0.045	0.450±	.019	
40000ppm	10	0.292± 0.015	0.043±	0.005**	0.847±	0.040	0.455±	.013	
80000ppm	9	0.306± 0.022	0.042±	0.004**	0.844±	0.045*	0.440±	.013	

# APPENDIX B 11-1

ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), RELATIVE

RAT: MALE

STUDY NO. : 0201 ANIMAL : RAT F344

REPORT TYPE : A1

SEX : MALE UNIT: %

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

PAGE: 1

roup Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS	
Control	10	321± 14	0.079± 0.007	0.015± 0.002	0.896± 0.045	0.287± 0.014	0.314± 0.016	
2500 ppm	10	303± 21	0.074± 0.004	0.016± 0.003	0.928± 0.049	0.293± 0.017	0.328± 0.010	
5000 ppm	10	304± 22	0.076± 0.008	0.016± 0.001	0.905± 0.075	0.289± 0.012	0.323± 0.025	
10000 ppm	10	299± 22	0.079± 0.005	0.016± 0.003	0.957± 0.062	0.297± 0.012	0.321± 0.013	
20000 ppm	10	299± 19	0.075± 0.005	0.016± 0.003	0.956± 0.077	0.306± 0.010*	0.330± 0.020	
40000 ppm	10	284± 22**	0.073± 0.008	0.016± 0.002	1.000± 0.056**	0.306± 0.021*	0.340± 0.013**	

(HCL042)

STUDY NO. : 0201 ANIMAL : RAT F344

REPORT TYPE : A1 SEX : MALE UNIT: % ORGAN WEIGHT: RELATIVE (SUMMARY) SURVIVAL ANIMALS (14)

PAGE: 2

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN	
Control	10	0.595± 0.016	0.171± 0.007	2.491± 0.073	0.592± 0.027	
2500 ppm	10	0.599± 0.015	0.171± 0.009	2.491± 0.065	0.618± 0.048	
5000 ppm	10	0.596± 0.021	0.163± 0.009	2.461± 0.122	0.616± 0.041	
10000 ppm	10	0.615± 0.023	0.173± 0.007	2.502± 0.069	0.629± 0.044	
20000 ppm	10	0.632± 0.016**	0.173± 0.008	2.532± 0.079	0.625± 0.032	
40000 ppm	10	0.670± 0.025**	0.176± 0.010	2.652± 0.096**	0.663± 0.050**	

(HCL042)

# APPENDIX B 11-2

ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), RELATIVE

RAT: FEMALE

STUDY NO. : 0201 ANIMAL : RAT F344

REPORT TYPE : A1 SEX : FEMALE UNIT: %

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

PAGE: 3

Group Name	NO. of Animals	Bady Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS	
Contral	10	182± 12	0.107± 0.007	0.029± 0.003	0.057± 0.008	0.337± 0.022	0.403± 0.015	
2500 ppm	10	178± 9	0.104± 0.009	0.030± 0.003	0.054± 0.010	0.339± 0.020	0.411± 0.023	
5000 ppm	10	179± 7	0.111± 0.011	0.028± 0.002	0.055± 0.010	0.340± 0.014	0.414± 0.012	
10000 ppm	10	170土 11*	0.113± 0.006	0.032± 0.004	0.054± 0.011	0.347± 0.017	0.428± 0.017*	
20000 ppm	10	172± 10	0.115± 0.012	0.032± 0.003	0.052± 0.010	0.354± 0.018	0.434± 0.021**	
40000 ppm	10	166生 8**	0.105± 0.011	0.032± 0.004	0.049± 0.012	0.349± 0.018	0.434± 0.020**	
Significan	t difference;	*: P ≤ 0.05 **	: P ≤ 0.01	Tes	st of Dunnett			

(HCL042)

STUDY NO. : 0201 ANIMAL : RAT F344 REPORT TYPE : A1

REPORT TYPE:
SEX: FEMALE
UNIT: %

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

PAGE: 4

roup Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN		
Control	10	0.669± 0.041	0.203± 0.016	2.400± 0.190	0.954± 0.063		
2500 ppm	10	0.663± 0.034	0.201± 0.014	2.340± 0.102	0.973± 0.056		
5000 ppm	10	0.660± 0.022	0.199± 0.013	2.337± 0.066	0.960± 0.036		
10000 ppm	10	0.687± 0.032	0.207± 0.007	2.347± 0.073	1.007± 0.081		
20000 ppm	10	0.700± 0.021	0.208± 0.008	2.350± 0.094	1.016± 0.059		
40000 ppm	10	0.764± 0.022**	0.219± 0.018*	2.398± 0.109	1.015± 0.036		

(HCL042)

## APPENDIX B 11-3

ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), RELATIVE

MOUSE: MALE

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : MALE

UNIT: %

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

oup Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS	
Contral	10	32.5± 2.0	0.141± 0.026	0.028± 0.007	0.608± 0.091	0.448± 0.029	0.444± 0.027	
5000ppm	10	33.7± 2.5	0.131± 0.018	0.026± 0.006	0.619± 0.096	0.444± 0.041	0.446± 0.036	
10000ppm	10	33.2± 2.6	0.145± 0.030	0.031± 0.008	0.624± 0.095	0.443± 0.032	0.447± 0.024	
20000ppm	10	32.2± 1.9	0.139± 0.016	0.031± 0.008	0.691± 0.079	0.462± 0.046	0.476± 0.027	
40000ppm	10	31.9± 2.7	0.148± 0.022	0.030± 0.004	0.665± 0.083	0.470± 0.035	0.457± 0.054	
80000ppm	9	29.6± 1.2*	0.129± 0.008	0.032± 0.007	0.766± 0.064**	0.495± 0.031*	0.498士 0.039**	
Significant	difference;	*: P ≤ 0.05 **	: P ≤ 0.01	Tes	st of Dunnett			
CL042)						•		BA

ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : MALE
UNIT: %

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

PAGE: 2

up Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN	
Control	10	1.338± 0.094	0.137± 0.010	3.526± 0.189	1.379± 0.087	
5000ppm	10	1.311± 0.113	0.143± 0.020	3.468± 0.188	1.326± 0.130	
10000ppm	10	1.342± 0.082	0.147± 0.020	3.480± 0.225	1.347± 0.109	
20000ppm	10	1.385± 0.086	0.161± 0.025	3.625± 0.210	1.376± 0.075	
40000ppm	10	1.433± 0.115	0.148± 0.023	3.657± 0.218	1.406± 0.123	
80000ppm	9	1.580± 0.070**	0.160± 0.011	3.808± 0.132*	1.473± 0.033	

(IICL042)

## APPENDIX B 11-4

ORGAN WEIGHT (THIRTEEN-WEEK STUDY: SUMMARY), RELATIVE

MOUSE: FEMALE

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE UNIT: %

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

Group Name	NO. of Animals	Bady Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS	
Control	10	21.7± 1.0	0.206± 0.024	0.055± 0.009	0.131± 0.025	0.548± 0.030	0.658± 0.063	
5000ppm	10	20.9± 1.2	0.206± 0.025	0.053± 0.011	0.151± 0.034	0.566± 0.023	0.685± 0.033	
10000ppm	10	20.9± 1.2	0.198± 0.017	0.048± 0.006	0.133± 0.034	0.581± 0.030	0.673± 0.041	
20000ppm	10	21.3± 1.0	0.203± 0.022	0.052± 0.006	0.141± 0.026	0.548± 0.024	0.681± 0.051	
40000ppm	10	20.4± 0.8*	0.190± 0.018	0.051± 0.011	0.131± 0.021	0.577± 0.045	0.698土 0.079	
80000ppm	9	20.4± 0.9*	0.185± 0.027	0.050± 0.008	0.132± 0.025	0.559± 0.033	0.674± 0.040	
Significant	difference;	*: P ≤ 0.05 **	: P ≤ 0.01	Tes	at of Dunnett			
(HCL042)								BAI

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE UNIT: %

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

roup Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN		
Control	10	1.346± 0.075	0.249± 0.025	4.172± 0.201	2.113± 0.157		
5000ppm	10	1.425± 0.073	0.235± 0.024	4.094± 0.149	2.187± 0.087		
10000ppm	10	1.369± 0.077	0.244± 0.027	4.127± 0.169	2.161± 0.075		
20000ppm	10	1.379± 0.083	0.236± 0.033	4.214± 0.106	2.118± 0.111		
40000ppm	10	1.437± 0.095	0.209± 0.020**	4.167± 0.184	2.237± 0.122		
80000pm	9	1.504± 0.106**	0.207± 0.017**	4.148± 0.150	2.164± 0.097		
Significant	difference;	*: P ≤ 0.05 **:	P ≤ 0.01	Tes	st of Dunnett		
CL042)		<del></del>		· · · · · · · · · · · · · · · · · · ·		•	BA

## APPENDIX B 12-1

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS

(THIRTEEN-WEEK STUDY: SUMMARY)

RAT: MALE: SACRIFICED ANIMALS

ANIMAL : RAT F344

REPORT TYPE : A1 SEX : MALE HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 14W)

Organ	Findings	Group Name Control  No. of Animals 10  <1> <2> <3> <4>	2500 ppm 10 <1> <2> <3> <4> (%) (%) (%) (%)	5000 ppm 10 <1> <2> <3> <4> (%) (%) (%) (%)	10000 ppm 10 <1> <2> <3> <4> (%) (%) (%) (%)
Respirator	y system]				
arynx	inflammation	1 0 0 0 0 (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 0 0
ung	granulation	0 0 0 0 0 ( 0) ( 0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	1 0 0 0 (10) (0) (0) (0)
	osseous metaplasia	0 0 0 0 0 ( 0) ( 0)	1 0 0 0 0 (10) (10) (10)	0 0 0 0 0 (0) (0)	0 0 0 0 0 ( 0) ( 0)
Hematopoie	tic system]				
oleen	deposit of hemosiderin	0 10 0 0 ( 0) (100) ( 0) ( 0)	0 10 0 0 ( 0) (100) ( 0) ( 0)	0 10 0 0 ( 0) (100) ( 0) ( 0)	0 10 0 0 0 ( 0) ( 100) ( 0) ( 0)
Circulator	y system]				
eart	granulation	3 0 0 0 0 (30) (30) (0) (0) (0)	2 0 0 0 0 (20) ( 0) ( 0) ( 0)	3 0 0 0 0 (30) (0) (0) (0)	4 0 0 0 0 0 (40) ( 0) ( 0)
Digestive :	system]				
tomach	erosion:glandular stomach	0 0 0 0 0 (0) (0) (0)	0 0 0 0	0 0 0 0 0 ( 0) ( 0)	0 0 0 0 0
	increase in superficial layer of fundus	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)
iver	necrosis:focal	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
Urinary sy	stem]				
idney	cyst	0 0 0 0 0 (0) (0) (0)	0 0 0 0 0 (0) (0) (0)	0 0 0 0 0 (0) (0) (0)	1 0 0 0 0 (10) (0) (0)

ANIMAL : RAT F344

REPORT TYPE : A1 SEX : MALE HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

PAGE: 2

ALL ANIMALS (0- 14W)

Group Name 20000 ppm 40000 ppm No. of Animals 10 10 〈2〉 〈3〉 <1> 〈2〉 〈3〉 〈4〉 (4) (%) (%) 0rgan\_\_ Findings\_ (%) (%) (%) (%) (%) [Respiratory system] larynx inflammation (0)(0)(0)(0) (0)(0)(0)(0) lung granulation (0)(0)(0)(0) (0)(0)(0)(0) osseous metaplasia 0 0 (0)(0)(0)(0) (0)(0)(0)(0) [Hematopoietic system] spleen deposit of hemosiderin 0 10 0 10 0 0 (0)(100)(0)(0) (0)(100)(0)(0) [Circulatory system] heart granulation 0 0 0 2 0 (30) (0) (0) (0) (20) (0) (0) (0) [Digestive system] stomach erosion:glandular stomach (0)(0)(0)(0) (0)(10)(0)(0) increase in superficial layer of fundus 0 0 0 0 (0)(0)(0)(0) (40) (0) (0) (0) Liver necrosis:focal 0 0 (0)(0)(0)(0) (10) (0) (0) (0) [Urinary system] kidney 0 0 0 0 cyst 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) Significant difference;  $*: P \le 0.05$   $**: P \le 0.01$ Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

Δ:

STUDY NO. : 0201 : RAT F344 ANIMAL REPORT TYPE : A1

(HPT150)

: MALE

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 14W)

Group Name Control 2500 ppm 5000 ppm 10000 ppm No. of Animals 10 10 10 10 〈2〉 〈3〉 <1> <4> <2> <3> <4> <2> <3> (4) 〈2〉 〈3〉 〈4〉 <1> (1) <1> Organ\_ Findings\_ (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) [Urinary system] kidney basophilic change 0 0 0 0 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (10) (0) (0) (0) (0)(0)(0)(0) easinophilic body 1 9 0 0 10 0 0 0 10 0 0 0 10 0 (10) (90) (0) (0) (0)(100)(0)(0) ( 0) (100) ( 0) ( 0) (0)(100)(0)(0) [Endocrine system] pituitary 0 0 0 1 0 0 0 0 0 0 0 0 cyst (0)(0)(0)(0) (10) (0) (0) (0) (0)(0)(0)(0) (0)(0)(0)(0) Rathke pouch 1 (0)(0)(0)(0) (0)(0)(0)(0) (-10) (0) (0) (0)(0)(0)(0)(0) 0 thyroid ultimibranchial body remanet 0 0 0 0 0 2 0 0 0 0 (0)(0)(0)(0) (10) (0) (0) (0) (20) (0) (0) (0) (0)(0)(0)(0) [Reproductive system] prostate inflammation 0 0 1 1 0 0 (0)(0)(0)(0) (10) (10) (0) (0) (10) (0) (0) (0) (0)(0)(0)(0) [Special sense organs/appandage] Harder gl inflammation 1 0 0 0 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) Significant difference :  $*: P \le 0.05$   $**: P \le 0.01$  Test of Chi Square <1>:Slight <2>: Moderate <3>:Marked <1>:Severe

PAGE: 3

BAIS2

ANIMAL : RAT F344

REPORT TYPE : A1 SEX : MALE HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 14W)

Group Name 20000 ppm 40000 ppm No. of Animals 10 10 〈2〉 〈3〉 〈4〉 <1> <2> <3> <4> Organ\_ Findings (%) (%) (%) (%) (%) (%) (%) (%) [Urinary system] kidney basophilic change 0 0 0 0 (0)(0)(0)(0) ( 0) ( 0) ( 0) ( 0) easinaphilic body 0 10 0 0 1 9 0 0 ( 0) (100) ( 0) ( 0) (10) (90) (0) (0) [Endocrine system] pituitary cyst 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) (10) (0) (0) (0) thyroid ultimibranchial body remanet (0)(0)(0)(0) (0)(0)(0)(0) [Reproductive system] prostate inflammation 0 0 0 0 1 0 0 0 (0)(0)(0)(0) (10) (0) (0) (0) [Special sense organs/appandage] Harder gl inflammation 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) Significant difference;  $*:P \le 0.05$   $**:P \le 0.01$  Test of Chi Square <1>:Slight <2>:Moderate <3>: Marked <4>:Severe (HPT150)

BAIS2

## APPENDIX B 12-2

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS

(THIRTEEN-WEEK STUDY: SUMMARY)

RAT: FEMALE: SACRIFICED ANIMALS

: RAT F344

REPORT TYPE : A1
SEX : FEMALE

ANIMAL

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 14W)

PAGE: 5 Group Name Control 2500 ppm 5000 ppm 10000 ppm No. of Animals 10 10 10 10 <1> 〈2〉 〈3〉 <4> <1> <2> <3> <4> <2> <3> <2> <3> <4> <4> Findings (%) 0rgan\_ (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) [Respiratory system] nasal cavit inflammation:squamous epithelium 1 0 0 0 0 0 0 1 0 0 (10) (0) (0) (0) (20) (0) (0) (0) (10) (0) (0) (0) (10) (0) (0) (0) [Hematopoietic system] bone marrow granulation 3 0 0 2 0 0 0 0 0 1 0 0 (30) (0) (0) (0) (20) (0) (0) (0) (30) (0) (0) (0) (30) (10) (0) (0) lymph node granulation 0 0 1 0 0 0 0 0 (0)(10)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) (10) (10) (0) (0) deposit of hemosiderin spleen 0 10 10 0 10 0 10 0 0 (0)(100)(0)(0) (0)(100)(0)(0) (0)(100)(0)(0) (0)(100)(0)(0) [Digestive system] tongue inflammation 0 0 0 0 0 0 0 0 (10) (0) (0) (0) (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) stomach erosion:glandular stomach 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) decrease in middle layer of fundus (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) liver herniation 0 0 0 0 0 0 0 1 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (10) (0) (0) (0) (10) (0) (0) (0) vacuolic change 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) granulation 0 0 0 2 0 0 (10) (0) (0) (0) (10) (10) (0) (0) (10) (0) (0) (0) (20) (0) (0) (0) Significant difference ; \* :  $P \le 0.05$  \*\* :  $P \le 0.01$  Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

(HPT150)

BAIS2

: RAT F344

REPORT TYPE : A1

ANIMAL

SEX : FEMALE HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 14W)

PAGE: 6 Group Name 20000 ppm 40000 ppm No. of Animals 10 10 (1) <2> <3> <4> <2> <3> <4> Organ\_\_\_ Findings\_ (%) (%) (%) (%) (%) (%) [Respiratory system] nasal cauit inflammation:squamous epithelium 2 0 0 0 (20) (0) (0) (0) (0)(0)(0)(0) [Hematopoietic system] bone marrow granulation 3 0 0 0 (40) (0) (0) (0) (30) (0) (0) (0) lymph node granulation 0 0 0 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) spleen deposit of hemosiderin 0 10 0 10 0 0 (0)(100)(0)(0) ( 0) (100) ( 0) ( 0) [Digestive system] tongue inflammation 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) erosion:glandular stomach stomach (0)(0)(0)(0) (10) (0) (0) (0) decrease in middle layer of fundus (0)(0)(0)(0) (10) (0) (0) (0) Liver herniation 1 0 0 0 0 0 0 0 (10) (0) (0) (0) (0)(0)(0)(0) vacuatic change 0 0 0 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) granulation 2 0 1 0 0 0 (20) (0) (0) (0) (10) (0) (0) (0) Significant difference; \*:  $P \le 0.05$  \*\*:  $P \le 0.01$  Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

(HPT150)

BAIS2

ANIMAL : RAT F344

REPORT TYPE : A1 SEX : FEMALE HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 14W)

Group Name Control 2500 ppm 5000 ppm 10000 ppm No. of Animals 10 10 10 10 ⟨1⟩ 〈2〉 〈3〉 〈2〉 〈3〉 〈4〉 <4> <1> <1> ⟨2⟩ ⟨3⟩ (4) <1> 〈2〉 〈3〉 〈4〉 Findings (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) [Digestive system] pancreas atrophy 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) [Urinary system] kidney basophilic change 0 0 0 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) mineralization:cortico-medullary junction 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) [Endocrine system] pituitary Rathke pouch 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (10) (0) (0) (0) (0)(0)(0)(0) thyroid ultimibranchial body remanet 0 0 0 0 0 0 0 1 0 0 0 1 0 0 0 (0)(0)(0)(0) (10) (0) (0) (0) (10) (0) (0) (0) (10) (0) (0) (0) [Special sense organs/appandage] Harder gl inflammation 2 0 3 0 0 0 (10) (0) (0) (0) (10) (0) (0) (0) (20) (0) (0) (0) (30) (0) (0) (0) Significant difference; \* : P  $\leq$  0.05 \*\* : P  $\leq$  0.01 Test of Chi Square <1>:Slight <3>:Marked <4>:Severe <2>:Moderate (HPT150)

 $\Delta$ 

ANIMAL : RAT F344

REPORT TYPE : A1
SEX : FEMALE

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

PAGE: 8

ALL ANIMALS (0- 14W)

Group Name 20000 ppm 40000 ppm No. of Animals 10 10 <1> <2> <3> <4> <1> 〈2〉 〈3〉 〈4〉 (%) (%) (%) Organ\_\_\_\_ Findings\_ (%) (%) (%) (%) [Digestive system] pancreas atrophy 0 0 0 0 (10) (0) (0) (0) (0)(0)(0)(0) [Urinary system] kidney basophilic change ( 0) ( 0) ( 0) ( 0) (10) (0) (0) (0) mineralization:cortico-medullary junction 10 0 0 0 9 1 0 0 (100) ( 0) ( 0) ( 0) (90) (10) (0) (0) [Endocrine system] pituitary Rathke pouch (0)(0)(0)(0) (10) (0) (0) (0) thyroid ultimibranchial body remanet 2 0 0 0 2 0 0 0 (20) (0) (0) (0) (20) (0) (0) (0) [Special sense organs/appandage] Harder gl inflammation (20) (10) (0) (0) (10) (0) (0) (0) Significant difference;  $*:P \le 0.05$   $**:P \le 0.01$  Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe (HPT150) BAIS2

 $\Delta$ 

## APPENDIX B 12-3

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS

(THIRTEEN-WEEK STUDY: SUMMARY)

MOUSE: MALE: DEAD AND MORIBUND ANIMALS

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 : MALE SEX

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

		Group Name Control No. of Animals 0	5000ppm	10000ppm	20000ppm 0
rgan	Findings	(%) (%) (%) (%)	<1> <2> <3> <4> (%) (%) (%) (%)	<1> <2> <3> <4> (%) (%) (%) (%)	<1> <2> <3> <4> <4> <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6
Hematopoie	otic system]				
hymus	atrophy	( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -)	
pleen	atrophy	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)
	deposit of hemosiderin	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -)
Digestive	system]				
iver	necrosis:single cell	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)
Urinary sy	vstem]				
idney	vacuolization of proximal tubule	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)
Reproducti	ive system]				
estis	degeneration:seminiferous epithelium	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)	( -) ( -) ( -) ( -)
<	(1>:Slight <2>:Moderate <3>:Marke	d <4>:Severe			
(HPT150)					

STUDY NO. : 0202 ANIMAL

: MOUSE BDF1

REPORT TYPE : A1 SEX : MALE HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 14W)

Group Name 40000ppm mqq00008 No. of Animals 0 1 <2> 〈3〉 〈4〉 (1) (2) (3) (4) <1> (%) (%) (%) (%) (%) (%) (%) Findings\_ [Hematopoietic system] thymus atrophy ( -) ( -) ( -) ( -) (0)(0)(100)(0) spleen atrophy ( -) ( -) ( -) ( -) ( 0) (100) ( 0) ( 0) deposit of hemosiderin 1 0 0 0 ( -) ( -) ( -) ( -) (100) ( 0) ( 0) ( 0) [Digestive system] liver necrosis:single cell ( -) ( -) ( -) ( 0) (100) ( 0) ( 0) [Urinary system] kidney vacuolization of proximal tubule ( -) ( -) ( -) ( -) (100) ( 0) ( 0) ( 0) [Reproductive system] testis degeneration:seminiferous epithelium 1 0 0 0 ( -) ( -) ( -) ( -) (100) ( 0) ( 0) ( 0) <1>:Slight <2>:Moderate <3>:Marked <4>:Severe (HPT150)

BAIS2

## APPENDIX B 12-4

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS

(THIRTEEN-WEEK STUDY: SUMMARY)

MOUSE: FEMALE: DEAD AND MORIBUND ANIMALS

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

PAGE: 3

DEAD AND MORIBUND ANIMALS (0- 14W)

		Group Name No. of Animals <1>	Contr () <2> <3>	ol <4>	<1> <2>	5000ppm 0 <3> <4>	⟨1⟩	10000p 0 <2> <3>	opm <4>	<1> <2	
)rgan	Findings	(%)	(%) (%)	(%)	(%) (%)	(%) (%)	(%)	(%) (%)	(%)	(%) (%)	(%) (%)
(Hematopoie	tic system]										
thymus	atrophy	- ( -)	( -) ( -)	- ( -)	 ( -) ( -)	( -) ( -)	- ( <del>-</del> ) (	 -) ( -)	- ( -)	( -) ( -)	
spleen	atrophy	( -)	( -) ( -)	- ( -)	( -) ( -)	( -) ( -)	( -) (		- ( · -)	( -) ( -)	
Circulator	y system]										
neart	necrosis	( -)		- ( -)	 ( -) ( -)		( -) (	 -) ( -)	- ( -)	( -) ( -	
<	1>:Slight <2>:Moderate	<3>:Marked <4>:Severe									
(HPT150)											-

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 14W)

)rgan	Findings		Group Name 4 No. of Animals 0 <1> <2> (%) (%)	0000ppm <3> <4> (%) (%)	80000ppm 1 <1> <2> <3> <4> (%) (%) (%) (%)	
[Hematopoie	rtic system]		·			
thymus	atrophy		 ( -) ( -) (		0 0 1 0 (0) (0) (100) (0)	
spleen	atrophy		( -) ( -) (		1 0 0 0 (100) ( 0) ( 0) ( 0)	
Circulator	ry system]					
peart	necrosis		( -) ( -) (	-) ( -)	1 0 0 0 0 (100) ( 0) ( 0) ( 0)	
<	(1>:Slight <2>:	:Moderate <3>:Marked	<4>:Severe			
(HPT150)				··· · · · · · · · · · · · · · · · · ·		

## APPENDIX B 12-3

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS

(THIRTEEN-WEEK STUDY: SUMMARY)

MOUSE: MALE: SACRIFICED ANIMALS

ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS ( 14W)

PAGE: 1

		Group Name Control No. of Animals 10	5000ppm 10	10000ppm 10	20000ppm 10
rgan	Findings	<1>       <2>       <3>       <4>         (%)       (%)       (%)       (%)	<1> <2> <3> <4> (%) (%) (%) (%)	<1> <2> <3> <4> (%) (%) (%) (%)	<1> <2> <3> <4> (%) (%) (%) (%) (%)
Respiratory	system]				
nasal cavit	eosinophilic change: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 0 (0) (0) (0)	0 0 0 0 0 (0) (0)	1 0 0 0 (10) (0) (0) (0)	1 0 0 0 (10) (0) (0) (0)
	duct ectasia:olfactory gland	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)
[Hematopoieti	c system]				
spleen	deposit of hemosiderin	5 0 0 0 (50)(0)(0)(0)	4 0 0 0 (40)(0)(0)(0)	7 0 0 0 (70) (0) (0) (0)	5 0 0 0 (50) ( 0) ( 0) ( 0)
	deposit of melanin	0 0 0 0 0 (0) (0)	1 0 0 0 (10) (0) (0) (0)	0 0 0 0 0 ( 0) ( 0)	1 0 0 0 (10) (0) (0) (0)
[Circulatory	system]				
neart	arthritis	0 0 0 0 0 ( 0) ( 0)	1 0 0 0 (10) (0) (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)
Digestive sy	rstem]				
stomach	increase in superficial layer of fundus	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)
	decrease in middle layer of fundus	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)
	decrease in deep layer of fundus	0 0 0 0 0 (0) (0)	1 0 0 0 (10) (0) (0) (0)	0 0 0 0 0 (0) (0) (0)	1 0 0 0 (10) (10) (10) (10)
Significant d	lifference; *: P ≤ 0.05 **: P ≤ 0.01	Test of Chi Square <1>:Slight	t <2>:Moderate <	3>:Marked <4>:Severe	
(HPT150)					

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : MALE

(HPT150)

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

SACRIFICED ANIMALS ( 14W)

Group Name 40000ppm 80000ppm No. of Animals <1> (2> <3> <4> <2> <3> <4> Findings (%) (%) (%) (%) (%) (%) (%) (%) [Respiratory system] nasal cavit eosinophilic change:olfactory epithelium 0 0 0 (0)(0)(0)(0) (11) (0) (0) (0) 0 0 (0)(0)(0)(0) (0)(0)(0)(0) duct ectasia:olfactory gland 6 0 0 (10) (0) (0) (0) (67) (0) (0) (0) [Hematopoietic system] spleen deposit of hemosiderin (44) (0) (0) (0) (50) (0) (0) (0) deposit of melanin 0 0 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) [Circulatory system] heart arthritis (0)(0)(0)(0) (0)(0)(0)(0) [Digestive system] stomach increase in superficial layer of fundus 0 0 () \*\* (0)(0)(0)(0) (89) (0) (0) (0) decrease in middle layer of fundus 0 \* (50) (0) (0) (0) (56) (0) (0) (0) decrease in deep layer of fundus 0 0 0 6 0 0 0 \*\* (0)(0)(0)(0) (67) (0) (0) (0) Significant difference; \* : P  $\leq$  0.05 \*\* : P  $\leq$  0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

Δ

STUDY NO. : 0202

ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

PAGE: 3

SACRIFICED ANIMALS ( 14W)

Group Name Control 5000ppm 10000ppm 20000ppm No. of Animals 10 10 10 <1> (2) <3> <4> ⟨2⟩ ⟨3⟩ <1> <2> 〈3〉 〈4〉 <2> <3> <4> <1> <1> Organ\_ Findings\_ (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) [Digestive system] Liver granulation 0 0 0 3 0 0 0 (40) (0) (0) (0) (30) (0) (0) (0) (30) (0) (0) (0) (40) (0) (0) (0) [Urinary system] kidney basophilic change 1 0 0 0 0 0 0 2 0 (0)(0)(0)(0) (10) (0) (0) (0) (0)(0)(0)(0) (20) (0) (0) (0) vacuolization of proximal tubule 8 0 0 0 0 0 9 10 0 0 (80) (0) (0) (0) (70) (0) (0) (0) (90) (0) (0) (0) (100) ( 0) ( 0) ( 0) [Endocrine system] adrenal accesory cortical nodule 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) Significant difference; \* :  $P \le 0.05$  \*\* :  $P \le 0.01$  Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe (HPT150) BAIS2

ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS ( 14W)

Organ	Findings	Group Name 40000ppm No. of Animals 10 <1> <2> <3> <4>         (%) (%) (%) (%)	80000ppm 9 <1> <2> <3> <4> (%) (%) (%) (%)	
[Digestive :	system]			
liver	granulation	3 0 0 0 (30) ( 0) ( 0) ( 0)	2 0 0 0 ( 22) ( 0) ( 0) ( 0)	
[Urinary sy:	stem]			
kidney	basophilic change	0 0 0 0 0 (0) (0)	1 0 0 0 (11) (0) (0) (0)	
	vacuolization of proximal tubule	9 0. 0 0	8 0 0 0 (89) (0) (0) (0)	
(Endocrine :	system]			
adrenal	accesory cortical nodule	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)	
Significant	difference; $*: P \leq 0.05$ $**: P \leq 0$	0.01 Test of Chi Square <1>:Sligh	t <2>:Moderate <3>:Marked	(4):Severe
(HPT150)			,	BAI

## APPENDIX B 12-4

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS

(THIRTEEN-WEEK STUDY: SUMMARY)

MOUSE: FEMALE: SACRIFICED ANIMALS

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS ( 14W)

0rgan	Findings	Group Name Control No. of Animals 10	5000ppm 10 <1> <2> <3> <4> (%) (%) (%) (%)	10000ppm 10 <1> <2> <3> <4> (%) (%) (%) (%)	20000ppm 10 <1> <2> <3> <4> (%) (%) (%) (%)
				(6) (6) (6)	(b) (b) (b)
[Respiratory	system]				
nasal cavit	eosinophilic change: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)
	eosinophilic change:respiratory epithelium	0 1 0 0 (0) (10) (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: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)
	duct ectasia:olfactory gland	( 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)
[Hematopoiet	ic system]				
spleen	deposit of hemosiderin	10 0 0 0 (100) ( 0) ( 0) ( 0)	10 0 0 0 (100) ( 0) ( 0) ( 0)	10 0 0 0 (100) ( 0) ( 0) ( 0)	10 0 0 0 (100) ( 0) ( 0) ( 0)
	deposit of melanin	1 0 0 0 (10) ( 0) ( 0) ( 0)	2 0 0 0 0 (20) (0) (0)	0 0 0 0 0 ( 0) ( 0) ( 0)	0 0 0 0 0 ( 0) ( 0)
	extramedullary hematopoiesis	1 0 0 0 (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)
[Digestive s	/stem]				
stomach	increase in superficial layer of fundus	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)
liver	granulation	4 0 0 0 0 (40) (0) (0)	2 0 0 0 0 (20) (0) (0)	4 0 0 0 0 (40) (0) (0) (0)	6 0 0 0 0 (60) (60) (0) (0)
[Endocrine s	vstem]				
adrena l	accesory cortical nodule	1 0 0 0 (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)

STUDY NO. : 0202 ANIMAL : MOUSE BDF1

REPORT TYPE : A1
SEX : FEMALE

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS ( 14W)

Organ	Findings	Group Name 40000ppm  No. of Animals 10	80000ppm 9 <1> <2> <3> <4> (%) (%) (%) (%)	
[Respiratory	system]			
nasal cavit	eosinophilic change:olfactory epithelium	1 0 0 0 (10) (0) (0) (0)	1 0 0 0 (11) (0) (0) (0)	
	eosinophilic change:respiratory epithelium	0 0 0 0 0 (0) (0) (0)	2 0 0 0 (22) (0) (0) (0)	
	respiratory metaplasia:olfactory epithelium	0 0 0 0 0 (0) (0) (0)	1 0 0 0 (11) (0) (0) (0)	
	duct ectasia:olfactory gland	0 0 0 0 0 (0) (0)	9 0 0 0 *** (100) ( 0) ( 0) ( 0)	
Hematopoiet	ic system]			
spleen	deposit of hemosiderin	10 0 0 0 (100) ( 0) ( 0) ( 0)	9 0 0 0 (100) ( 0) ( 0) ( 0)	
	deposit of melanin	0 0 0 0 0 (0) (0) (0)	0 0 0 0 0 (0) (0) (0)	
	extramedullary hematopoiesis	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 s	ystem]			
stomach	increase in superficial layer of fundus	0 0 0 0 0 (0) (0) (0)	1 0 0 0 (11) (0) (0) (0)	
iver.	granulation	3 0 0 0 0 (30) ( 0) ( 0)	2 0 0 0 ( 22) ( 0) ( 0) ( 0)	
Endocrine s	ystem]			
adrena l	accesory comtical nodule	1 0 0 0 (10) (0) (0) (0)	1 0 0 0 (11) (0) (0) (0)	

SEX

: MOUSE BDF1

: FEMALE

ANIMAL : MOUS
REPORT TYPE : A1

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

PAGE: 7

SACRIFICED ANIMALS ( 14W)

Group Name Cantral 5000ppm 10000ppm 20000ppm No. of Animals 10 10 10 10 <1> <2> <3> <4> <2> <3> <4> 〈2〉 〈3〉 〈4〉 <1> <2> <3> <4> <1> <1> (%) (%) (%) (%) (%) (%) Organ\_\_\_\_ Findings\_ (%) (%) (%) (%) (%) (%) (%) (%) (%) [Special sense organs/appandage] Harder gl inflammation 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) Significant difference; \* : P  $\leq$  0.05 \*\* : P  $\leq$  0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>: Marked <4>:Se∪ere (HPT150) BAIS2

ANIMAL : MOUSE BDF1

REPORT TYPE : A1 SEX : FEMALE HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS (SUMMARY)

PAGE: 8

SACRIFICED ANIMALS ( 14W)

Organ	Findings	Group Name  No. of Animals  <1> <2  (%) (%)		80000ppm 9 <1> <2> <3> <4 (%) (%) (%) (%)		
[Special ser	nse organs/appandage]					
Harder gl	inflammation	0 (0)		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Significant	difference; *: $P \le 0.05$ **: $P \le 0.01$	Test of Chi Square	<1>:Slight	<2>:Moderate	<3>:Marked <4>:Severe	
(HPT150)						BAIS2

## APPENDIX B 13-1

# IDENTITY AND PURITY OF BIPHENYL PERFORMED AT THE JAPAN BIOASSAY LABORATORY (THIRTEEN-WEEK STUDY)

IDENTITY OF 1,3,5,7-TETRAAZATRICYCLO[3.3.1.13,7]DECANE PERFORMED AT THE JAPAN BIOASSAY LABORATORY (THIRTEEN-WEEK STUDIES)

Lot no. TWQ4880

#### 1. Spectral data

#### Mass Spectrometry

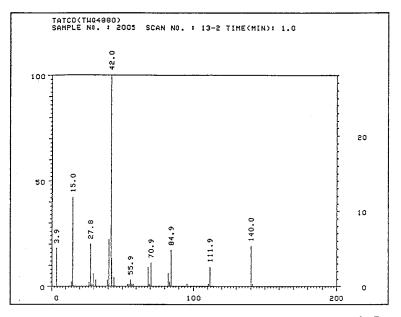
Instrument

: Hitachi M-80B

Ionization

: EI(Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of 1,3,5,7-Tetraazatricyclo[3.3.1.13.7]decane

Result:

Molecular Weight

Theoretical Value

140.1 (Calculated)

Determined

140.0

#### Infrared Spectrum

Instrument

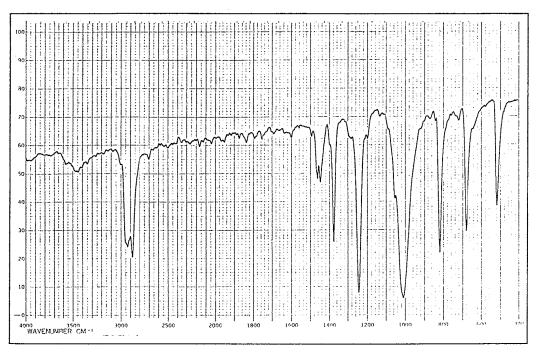
: Hitachi 270-30

Cell

: KBr

Slit

: Medium



Infrared Spectrum of 1,3,5,7-Tetraazatricyclo[3.3.1.1 $^{3,7}$ ]decane

#### Results:

Wave Number (CM<sup>-1</sup>)

Determined	Literature Value
480~ 530	480~ 530
640~ 700	640~ 700
780∼ 830	780~ 830
910~1100	910~1100
$1200 \sim 1270$	$1200 \sim 1270$
$1350 \sim 1420$	$1350 \sim 1420$
$1420 \sim 1490$	$1420 \sim 1490$
2800~3000	2800~3000
	(Performed by the WAKO PURE CHEMICAL INDUSTRIES, LTD.)

2. Conclusions: The result of the mass spectrum agreed with the theoretical value and the infrared spectrum agreed with the literature value.

# APPENDIX B 13-2

STABILITY OF BIPHENYL AT THE JAPAN BIOASSAY LABORATORY (THIRTEEN-WEEK STUDY)

STABILITY OF 1,3,5,7-TETRAAZATRICYCLO[3.3.1.1 $^{3,7}$ ] DECANE AT THE JAPAN BIOASSAY LABORATORY (THIRTEEN-WEEK STUDIES)

Lot no. TWQ4880

1. Sample storage: 1,3,5,7-Tetraazatricyclo[3.3.1.1 $^{3,7}$ ]decane was stored for about 15 weeks at 5 $^{\circ}$ C.

#### 2. Infrared Spectrum

Instrument

: Hitachi 270-30

Cell

: KBr

Slit

: Medium

Results:

Wave Number (CM<sup>-1</sup>)

03/06/92	06/17/92
480~ 530	480~ 530
640~ 700	640~ 700
780∼ 830	780∼ 830
910~1100	910~1100
$1200 \sim 1270$	$1200 \sim 1270$
$1350 \sim 1420$	$1350 \sim 1420$
$1420 \sim 1490$	$1420 \sim 1490$
2800~3000	2800~3000

3. Conclusions: No notable differrence was observed between infrared spectrums of pre- and post-examination of the study.

Consequently, 1,3,5,7-tetraazatricyclo[3.3.1.1 $^{3}$ ,7]decane was stable as the chemical when stored for about 15 weeks at 5°C.

## APPENDIX B 13-3-1

# ANALYSIS OF TATCD CONCENTRATION IN DRINKING WATER OF THE THIRTEEN —WEEK STUDIES

ANALYSIS OF 1,3,5,7-TETRAAZATRICYCLO[3.3.1.13,7]DECANE CONCENTRATION IN DRINKING WATER OF THE THIRTEEN-WEEK STUDIES

(Rat)

Concentration of 1,3,5,7-Tetraazatricyclo[3.3.1.1 <sup>3,7</sup> ]decane in Drinking Water for Target Concentration(ppm)						
2500 ( a )	5000 ( a )	10000 ( a )	20000 (a)	40000 ( a )		
2687.2(107.5)	5352.0(107.0)	10585.9(105.9)	20804.6(104.0)	40204.5(100.5)		

#### (Mouse)

Concentration of 1,3,5,7-Tetraazatricyclo[3.3.1.1 <sup>3,7</sup> ]decane in Drinking Water for Target Concentration(ppm)						
5000 ( a )	10000 ( a )	20000 ( a )	40000 ( a )	80000 ( a )		
5352.0(107.0)	10585.9(105.9)	20804.6(104.0)	40204.5(100.5)	80738.5(100.9)		

#### (a) Percent of target concentration

Analytical method: The sample were analyzed by the Gas Chromatography.

Instrument

: Hewlett Packard 5890A

Flow Rate

: 34.5ml/min

Column

: 4% Carbowax 20M / 0.8% KOH

Detector

: FID(Hydrogen Flame Ionization)

/ 60/80 Carbopack B  $(2mm\phi \times 2m)$ 

Injection Volume

 $: 1 \mu 1$ 

Column Temperature: 215°C

## APPENDIX B 31-3-2

# STABILITY OF TATCD CONCENTRATION IN DRINKING WATER OF THE THIRTEEN - WEEK STUDIES

STABILITY OF 1,3,5,7-TETRAAZATRICYCLO[3.3.1.13.7] DECANE IN DRINKING WATER OF THE THIRTEEN-WEEK STUDIES (Rat)

	Concentration of 1,3,5,7-Tetraazatricyclo[3.3.1.1 $^{3.7}$ ]decane in Drinking Water for Target Concentration(ppm)			
Date	2500 ( b )	40000 ( b )		
03/19/92(a)	2687.2(100)	40204.5(100)		
03/23/92	2666.1( 99.2)	40131.5( 99.8)		
(Mouse)				
	Concentration of 1,3,5,7-Tetraazatricyclo[3.3.1.1 $^{3.7}$ ]decane in Drinking Water for Target Concentration(ppm)			
Date	5000 ( b )	80000 ( b )		
03/19/92(a)	5352.0(100)	80738.5(100)		
03/23/92	5357.6(100.1)	80487.0(99.7)		

<sup>(</sup>a) Date of preparation

Analytical method: The sample were analyzed by the Gas Chromatography.

Instrument

: Hewlett Packard 5890A

Flow Rate

: 34.5ml/min

Column

: 4% Carbowax 20M / 0.8% KOH

Detector

: FID(Hydrogen Flame Ionization)

/ 60/80 Carbopack B  $(2mm\phi \times 2m)$ 

Injection Volume

:  $1 \mu 1$ 

Column Temperature: 215℃

<sup>(</sup>b) Percent of concentration on preparation day

# APPENDIX C 1

METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALSYS

# METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALYSIS

I t e m	Method	Unit
Hematology		
Red blood cell (RBC)	Light scattering method <sup>1)</sup>	$\times 10^6 / \mu$ l
Hemoglobin (Hgb)	Cyanmethemoglobin method 1)	g/dl
Hematocrit (Hct)	Calculated as RBC×MCV/10 1)	%
Mean corpuscular volume (MCV)	Light scattering method 1)	fl
Mean corpuscular hemoglobin (MCH)	Calculated as Hgb/RBC×10 1)	pg
Mean corpuscular hemoglobin		
concentration (MCHC)	Calculated as Hgb/Hct×100 1)	g/dl
Platelet	Light scattering method <sup>1)</sup>	$\times 10^3 / \mu$ l
White blood cell (WBC)	Light scattering method 1)	$\times 10^3 / \mu$ l
Differential WBC	Pattern recognition method <sup>2)</sup>	%
	(May-Grunwald-Giemsa staining)	
Biochemistry		
Total protein (TP)	Biuret method <sup>3)</sup>	g/dl
Albumin (Alb)	BCG method <sup>3)</sup>	g/dl
A/G ratio	Calculated as Alb/ (TP-Alb) 3)	
T-bilirubin	Michaelson method <sup>3)</sup>	mg/d1
Glucose	Enzymatic method (HK+G-6-PDH) 3)	mg/dl
T-cholesterol	Enzymatic method (CEH•COD•POD) 3)	mg/dl
Triglyceride	Enzymatic method (GK+GPO+POD) 3)	mg/dl
Phospholipid	Enzymatic method (PLD+COD+POD) 3)	mg/dl
Glutamic oxaloacetic transaminase (GOT)	Karmen method <sup>3)</sup>	10/1
Glutamic pyruvic transaminase (GPT)	Karmen method <sup>3)</sup>	10/1
Lactate dehydrogenase (LDH)	Wroblewski-LaDue method <sup>3)</sup>	10/1
Alkaline phosphatase (ALP)	GSCC method <sup>3)</sup>	10/1
$\gamma$ -Glutamyl transpeptidase (G-GTP)	L- $\gamma$ -Glutamyl-p-nitroanilide substrate	10/1
	method <sup>3)</sup>	
Creatine phosphokinase (CPK)	GSCC method <sup>3)</sup>	10/1
Urea nitrogen	Enzymatic method (Urease•GLDH) <sup>3)</sup>	mg/d1
Creatinine	Jaffe method <sup>3)</sup>	mg/d1
Sodium	Flame photometry 4)	mEq/1
Potassium	Flame photometry 4)	mEq/1
Chloride	Coulometric titration 4)	mEq/1
Calcium	OCPC method 3)	mg/dl
Inorganic phosphorus	Enzymatic method (SPL•PGM•G-6-PDH) 3)	mg/d1
Urinalysis pH, Protein, Glucose, Ketone body, Bilirubin, Occult blood, Urobilinogen	Urinalysis reagent paper method <sup>5)</sup>	

- 1) Automatic blood cell analyzer (Technicon H·1: Technicon Instruments Corporation, USA)
- 2) Automatic blood cell differential analyzer (Hitachi 8200 : Hitachi, Ltd., Japan)
- 3) Automatic analyzer (Hitachi 705 : Hitachi, Ltd., Japan)
- 4) Flame photometer (Hitachi 750 : Hitachi, Ltd., Japan)
- 5) Ames reagent strips for urinalysis (Multistix, Uro-Labstix: Miles Sankyo Co., Ltd., Japan)

# APPENDIX C 2

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY

UNITS AND DECIMNAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY

	TEST ITEM	DECIMAL PLACE	UNIT
HEMATOLOGY	Red blood cell	2	×10 <sup>6</sup> /μ1
	Hemoglobin	1	g/dl
	Hematocrit	1	%
	MCV	1	f1
	мсн	1	pg
	мснс	1	g/dl
	Platelet	0	$\times$ 10 <sup>3</sup> / $\mu$ 1
	White blood cell	2	$\times$ 10 <sup>3</sup> / $\mu$ 1
	Differntial WBC	0	%
BIOCHEMISTRY	Total protein	. 1	g/d1
~	Albumin	1	g/dl
	A/G ratio	1	
	T-bilirubin	2	mg/dl
	Glucose	0	mg/dl
	T-cholesterol	0	mg/dl
	Triglyceride	0	mg/dl
	Phospholipid	0 .	mg/dl
	GOT	0	IU/1
	GPT	0	IU/I
	LDH	0	IU/I
	ALP	0	IU/1
	$\gamma$ -GTP	0	IU/1
	CPK	0	IU/1
	Urea nitrogen	1	mg/dl
	Creatinine	1	mg/dl
	Sodium	0	mEq/1
	Potassium	1	mEq/1
	Chloride	0	mEq/1
	Calcium	1	mg/dl
	Inorganic phosphorus	1	mg/dl

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