

2,4-ジクロロ-1-ニトロベンゼンのマウスを用いた  
経口投与による 2 週間毒性試験(混餌試験)報告書

試験番号：0395

## APPENDIXES

## APPENDIXES

APPENDIX A 1	CLINICAL OBSERVATION: SUMMARY, MOUSE: MALE ( 2-WEEK STUDY )
APPENDIX A 2	CLINICAL OBSERVATION: SUMMARY, MOUSE : FEMALE ( 2-WEEK STUDY )
APPENDIX B 1	BODY WEIGHT CHANGES: SUMMARY, MOUSE: MALE ( 2-WEEK STUDY )
APPENDIX B 2	BODY WEIGHT CHANGES: SUMMARY, MOUSE: FEMALE ( 2-WEEK STUDY )
APPENDIX C 1	FOOD CONSUMPTION CHANGES: SUMMARY, MOUSE: MALE ( 2-WEEK STUDY )
APPENDIX C 2	FOOD CONSUMPTION CHANGES: SUMMARY, MOUSE: FEMALE ( 2-WEEK STUDY )
APPENDIX D 1	CHEMICAL INTAKE CHANGES: SUMMARY, MOUSE: MALE ( 2-WEEK STUDY )
APPENDIX D 2	CHEMICAL INTAKE CHANGES: SUMMARY, MOUSE: FEMALE ( 2-WEEK STUDY )
APPENDIX E 1	HEMATOLOGY: SUMMARY, MOUSE: MALE ( 2-WEEK STUDY )
APPENDIX E 2	HEMATOLOGY: SUMMARY, MOUSE: FEMALE ( 2-WEEK STUDY )
APPENDIX F 1	BIOCHEMISTRY: SUMMARY, MOUSE: MALE ( 2-WEEK STUDY )
APPENDIX F 2	BIOCHEMISTRY: SUMMARY, MOUSE: FEMALE ( 2-WEEK STUDY )
APPENDIX G 1	GROSS FINDINGS: SUMMARY, MOUSE: MALE: ALL ANIMALS ( 2-WEEK STUDY )
APPENDIX G 2	GROSS FINDINGS: SUMMARY, MOUSE: FEMALE: ALL ANIMALS ( 2-WEEK STUDY )
APPENDIX H 1	ORGAN WEIGHT: ABSOLUTE: SUMMARY, MOUSE: MALE ( 2-WEEK STUDY )
APPENDIX H 2	ORGAN WEIGHT: ABSOLUTE: SUMMARY, MOUSE: FEMALE ( 2-WEEK STUDY )

## APPENDIXES (CONTINUED)

APPENDIX I 1	ORGAN WEIGHT: RELATIVE: SUMMARY, MOUSE: MALE ( 2-WEEK STUDY )
APPENDIX I 2	ORGAN WEIGHT: RELATIVE: SUMMARY, MOUSE: FEMALE ( 2-WEEK STUDY )
APPENDIX J 1	HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS: SUMMARY, MOUSE: MALE: ALL ANIMALS ( 2-WEEK STUDY )
APPENDIX J 2	HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS: SUMMARY, MOUSE: FEMALE: ALL ANIMALS ( 2-WEEK STUDY )
APPENDIX K 1	IDENTITY AND IMPURITY OF 2,4-DICHLORO-1-NITROBENZENE IN THE 2-WEEK FEED STUDY
APPENDIX K 2	STABILITY OF 2,4-DICHLORO-1-NITROBENZENE IN THE 2-WEEK FEED STUDY
APPENDIX K 3	CONCENTRATION OF 2,4-DICHLORO-1-NITROBENZENE IN FORMULATED DIETS IN THE 2-WEEK FEED STUDY
APPENDIX K 4	HOMOGENEITY OF 2,4-DICHLORO-1-NITROBENZENE IN FORMULATED DIETS IN THE 2-WEEK FEED STUDY
APPENDIX K 5	STABILITY OF 2,4-DICHLORO-1-NITROBENZENE IN FORMULATED DIETS IN THE 2-WEEK FEED STUDY
APPENDIX L 1	METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE
APPENDIX M1	UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

## APPENDIX A 1

CLINICAL OBSERVATION : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)  
ALL ANIMALS

SEX : MALE

PAGE : 1

Clinical sign	Group Name	Administration Week-day			
		1-3	1-7	2-3	2-7
		1	1	1	1
HUNCHBACK POSITION	Control	0	0	0	0
	625 ppm	0	0	0	0
	1250 ppm	0	0	0	0
	2500 ppm	0	0	0	0
	5000 ppm	0	0	0	0
	10000 ppm	0	0	0	2
PILOERECTION	Control	0	0	0	0
	625 ppm	0	0	0	0
	1250 ppm	0	0	0	0
	2500 ppm	0	0	0	0
	5000 ppm	0	0	0	0
	10000 ppm	0	3	3	3
YELLOW URINE	Control	0	0	0	0
	625 ppm	0	0	0	0
	1250 ppm	0	0	0	0
	2500 ppm	5	5	5	5
	5000 ppm	5	5	5	5
	10000 ppm	5	5	5	5
SMALL STOOL	Control	0	0	0	0
	625 ppm	0	0	0	0
	1250 ppm	0	0	0	0
	2500 ppm	0	0	0	0
	5000 ppm	0	0	0	0
	10000 ppm	5	5	5	5
OLIGO-STOOL	Control	0	0	0	0
	625 ppm	0	0	0	0
	1250 ppm	0	0	0	0
	2500 ppm	0	0	0	0
	5000 ppm	0	0	0	0
	10000 ppm	5	5	5	5

## APPENDIX A 2

CLINICAL OBSERVATION : SUMMARY, MOUSE : FEMALE  
(2-WEEK STUDY)

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)  
ALL ANIMALS

SEX : FEMALE

PAGE : 2

Clinical sign	Group Name	Administration Week-day			
		1-3	1-7	2-3	2-7
		1	1	1	1
PILOERECTION	Control	0	0	0	0
	625 ppm	0	0	0	0
	1250 ppm	0	0	0	0
	2500 ppm	0	0	0	0
	5000 ppm	0	0	0	0
	10000 ppm	0	3	3	4
YELLOW URINE	Control	0	0	0	0
	625 ppm	0	0	4	4
	1250 ppm	0	0	5	5
	2500 ppm	5	5	5	5
	5000 ppm	5	5	5	5
	10000 ppm	5	5	5	5
SMALL STOOL	Control	0	0	0	0
	625 ppm	0	0	0	0
	1250 ppm	0	0	0	0
	2500 ppm	0	0	0	0
	5000 ppm	0	0	0	0
	10000 ppm	2	2	2	5
OLIGO-STOOL	Control	0	0	0	0
	625 ppm	0	0	0	0
	1250 ppm	0	0	0	0
	2500 ppm	0	0	0	0
	5000 ppm	0	0	0	0
	10000 ppm	5	5	5	5

(HAN190)

BAIS 3

## APPENDIX B 1

BODY WEIGHT CHANGES :SUMMARY, MOUSE : MALE  
(2-WEEK STUDY)



STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 2  
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 1

Group Name	Administration week-day				
	0-0	1-3	1-7	2-3	2-7
Control	23.5± 0.7	23.9± 0.7	24.6± 1.0	24.9± 0.8	24.9± 1.1
625 ppm	23.6± 0.7	23.9± 0.8	24.4± 1.0	24.6± 1.6	25.3± 1.1
1250 ppm	23.6± 0.5	23.9± 0.3	24.4± 0.4	24.8± 0.4	25.1± 0.5
2500 ppm	23.5± 0.7	23.5± 0.9	24.2± 0.8	24.6± 0.7	24.9± 1.0
5000 ppm	23.5± 0.8	21.1± 0.5**	21.2± 0.8**	21.2± 1.1	19.9± 1.1**
10000 ppm	23.5± 0.7	17.3± 0.6**	15.7± 0.4**	14.8± 0.3**	14.0± 0.5**

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

Test of Dunnett

(HAN260)

BAIS 3

## APPENDIX B 2

BODY WEIGHT CHANGES : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 2  
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 2

Group Name	Administration week-day				
	0-0	1-3	1-7	2-3	2-7
Control	19.3± 0.7	19.6± 1.2	19.5± 0.9	19.2± 1.3	18.9± 1.7
625 ppm	19.3± 0.8	19.5± 0.3	19.4± 0.7	19.1± 1.0	19.0± 0.3
1250 ppm	19.3± 0.7	19.2± 0.4	19.4± 0.4	19.8± 0.4	19.7± 0.5
2500 ppm	19.3± 0.7	18.8± 1.0	19.7± 1.0	20.3± 1.0	19.9± 0.8
5000 ppm	19.4± 0.7	17.1± 0.6**	18.0± 1.6	19.5± 1.6	19.1± 1.9
10000 ppm	19.4± 0.7	14.3± 0.5**	13.7± 0.6**	13.3± 0.4**	12.6± 0.6

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

Test of Dunnett

(HAN260)

BAIS 3

## APPENDIX C 1

### FOOD CONSUMPTION CHANGES : SUMMARY, MOUSE : MALE (2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1\_2  
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 1

Group Name	Administration week-day(effective)			
	1-3 (3)	1-7 (4)	2-3 (3)	2-7 (4)
Control	3.9 ± 0.1	4.1 ± 0.3	3.8 ± 0.2	3.8 ± 0.1
625 ppm	4.0 ± 0.2	4.2 ± 0.3	3.7 ± 0.4	4.1 ± 0.2
1250 ppm	3.9 ± 0.2	4.1 ± 0.1	3.9 ± 0.2	4.0 ± 0.2
2500 ppm	3.4 ± 0.3 **	3.9 ± 0.3	3.8 ± 0.3	4.0 ± 0.3
5000 ppm	1.7 ± 0.2 **	2.9 ± 0.5 **	3.0 ± 0.3 **	2.1 ± 0.2 *
10000 ppm	0.8 ± 0.3 **	1.7 ± 0.5 **	1.8 ± 0.3 **	1.8 ± 0.9 **
Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett				

## APPENDIX C 2

### FOOD CONSUMPTION CHANGES : SUMMARY, MOUSE : FEMALE (2-WEEK STUDY)

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
UNIT : g  
REPORT TYPE : A1 2  
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)  
ALL ANIMALS

PAGE : 1

Group Name	Administration week-day(effective)			
	1-3 (3)	1-7 (4)	2-3 (3)	2-7 (4)
Control	3.6 ± 1.1	3.5 ± 0.3	3.3 ± 0.5	3.4 ± 0.6
625 ppm	3.4 ± 0.3	3.5 ± 0.2	3.2 ± 0.5	3.3 ± 0.3
1250 ppm	3.6 ± 0.5	3.6 ± 0.2	3.6 ± 0.2	3.8 ± 0.4
2500 ppm	2.8 ± 0.4	3.3 ± 0.2	3.3 ± 0.2	3.4 ± 0.2
5000 ppm	1.6 ± 0.4 **	2.7 ± 0.8	3.3 ± 0.7	2.8 ± 0.3
10000 ppm	1.0 ± 0.2 **	1.7 ± 0.2 **	2.0 ± 0.3 **	2.2 ± 0.6 **
Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett				

## APPENDIX D 1

CHEMICAL INTAKE CHANGES : SUMMARY, MOUSE : MALE  
(2-WEEK STUDY)



STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
UNIT : g/kg/day  
REPORT TYPE : A1 2  
SEX : MALE

CHEMICAL INTAKE CHANGES (SUMMARY)  
ALL ANIMALS

PAGE : 1

Group Name	Administration week-day			
	1-3	1-7	2-3	2-7
Control	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000
625 ppm	0.105 ± 0.004	0.107 ± 0.004	0.095 ± 0.005	0.100 ± 0.008
1250 ppm	0.204 ± 0.009	0.212 ± 0.006	0.195 ± 0.010	0.198 ± 0.010
2500 ppm	0.360 ± 0.036	0.402 ± 0.024	0.388 ± 0.024	0.399 ± 0.018
5000 ppm	0.408 ± 0.035	0.676 ± 0.097	0.717 ± 0.039	0.539 ± 0.042
10000 ppm	0.440 ± 0.152	1.058 ± 0.318	1.223 ± 0.258	1.296 ± 0.708

## APPENDIX D 2

CHEMICAL INTAKE CHANGES : SUMMARY, MOUSE : FEMALE  
(2-WEEK STUDY)

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
UNIT : g/kg/day  
REPORT TYPE : A1 2  
SEX : FEMALE

CHEMICAL INTAKE CHANGES (SUMMARY)  
ALL ANIMALS

PAGE : 1

Group Name	Administration week-day			
	1-3	1-7	2-3	2-7
Control	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000
625 ppm	0.108 ± 0.010	0.111 ± 0.004	0.104 ± 0.013	0.109 ± 0.010
1250 ppm	0.232 ± 0.026	0.230 ± 0.012	0.225 ± 0.014	0.243 ± 0.025
2500 ppm	0.368 ± 0.037	0.417 ± 0.016	0.410 ± 0.008	0.428 ± 0.035
5000 ppm	0.464 ± 0.097	0.740 ± 0.175	0.831 ± 0.116	0.730 ± 0.072
10000 ppm	0.673 ± 0.128	1.231 ± 0.163	1.536 ± 0.237	1.743 ± 0.528

## APPENDIX E 1

HEMATOLOGY : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : MALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)  
 ALL ANIMALS ( 2W)

PAGE : 1

Group Name	NO. of Animals	RED BLOOD CELL 10 <sup>6</sup> /μl		HEMOGLOBIN g/dl		HEMATOCRIT %		MCV fl		MCH pg		MCHC g/dl		PLATELET 10 <sup>3</sup> /μl	
Control	5	10.48±	0.28	15.7±	0.4	50.8±	2.1	48.4±	0.7	15.0±	0.2	30.9±	0.6	1199±	30
625 ppm	5	10.66±	0.26	15.9±	0.3	51.9±	1.2	48.6±	0.4	14.9±	0.3	30.6±	0.5	1213±	42
1250 ppm	5	10.32±	0.52	15.5±	0.7	50.5±	2.8	48.9±	0.6	15.0±	0.2	30.7±	0.5	1225±	81
2500 ppm	4	9.79±	0.28	14.9±	0.6	46.3±	1.7	47.4±	0.6	15.2±	0.6	32.1±	1.1	1308±	30
5000 ppm	5	9.87±	0.52	16.7±	0.5	44.2±	1.6*	44.9±	1.3**	17.0±	1.0*	37.8±	2.1**	1343±	130
10000 ppm	5	10.82±	1.26	16.4±	2.2	47.2±	5.4	43.6±	1.4**	15.1±	0.6	34.7±	2.4	1031±	224

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

Test of Dunnett

(HCL070)

BAIS 3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crl:BDF1  
 MEASURE. TIME : 1  
 SEX : MALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)  
 ALL ANIMALS ( 2W)

PAGE : 2

Group Name	NO. of Animals	WBC 10 <sup>3</sup> /μl		Differential N-BAND		WBC (%) N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	5	1.59±	0.38	0±	1	16±	9	2±	1	0±	0	3±	2	78±	11	0±	0
625 ppm	5	2.91±	1.06	0±	0	12±	6	2±	1	0±	0	3±	1	83±	7	0±	1
1250 ppm	5	2.11±	1.24	1±	1	11±	2	1±	1	0±	0	3±	1	84±	1	0±	0
2500 ppm	4	1.86±	0.69	1±	1	11±	2	1±	1	0±	0	4±	1	82±	4	1±	1
5000 ppm	5	3.20±	1.54	1±	1	14±	5	2±	0	0±	0	3±	1	81±	5	0±	0
10000 ppm	5	0.69±	0.16	9±	11	58±	13	0±	0	0±	0	0±	0	34±	14	0±	0

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

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS 3

## APPENDIX E 2

HEMATOLOGY : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : FEMALE

HEMATOLOGY (SUMMARY)  
 ALL ANIMALS ( 2W)

REPORT TYPE : A1

PAGE : 3

Group Name	NO. of Animals	RED BLOOD CELL 10 <sup>9</sup> /μl		HEMOGLOBIN g/dl		HEMATOCRIT %		MCV fl		MCH pg		MCHC g/dl		PLATELET 10 <sup>9</sup> /μl	
Control	5	10.17±	0.71	15.2±	1.0	48.7±	3.2	47.9±	0.9	14.9±	0.1	31.2±	0.4	1102±	124
625 ppm	5	10.35±	0.31	15.5±	0.4	49.8±	1.5	48.1±	0.6	14.9±	0.1	31.1±	0.4	1183±	146
1250 ppm	5	10.14±	0.28	15.1±	0.4	48.6±	1.2	47.9±	0.2	14.9±	0.1	31.1±	0.3	1080±	51
2500 ppm	5	9.65±	0.21	14.4±	0.4	46.3±	1.2	47.9±	0.5	14.9±	0.2	31.1±	0.4	1134±	125
5000 ppm	5	9.08±	0.76*	14.9±	1.2	42.3±	2.6**	46.7±	1.9	16.4±	0.4*	35.2±	1.0*	1173±	101
10000 ppm	5	9.47±	0.57	14.3±	0.9	42.1±	3.4**	44.5±	1.2*	15.1±	0.5	34.0±	1.9	1354±	126**

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

Test of Dunnett

(HCL070)

BAIS 3



STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : FEMALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)  
 ALL ANIMALS ( 2W)

PAGE : 4

Group Name	NO. of Animals	WBC 10 <sup>3</sup> /μl		Differential N-BAND		WBC (%) N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	5	2.03±	0.64	1±	1	10±	2	2±	1	0±	0	2±	1	85±	2	0±	1
625 ppm	5	2.76±	0.50	1±	1	13±	6	1±	1	0±	0	4±	3	80±	6	0±	1
1250 ppm	5	2.22±	0.45	1±	0	10±	3	2±	1	0±	0	4±	2	83±	2	0±	0
2500 ppm	5	2.71±	0.78	2±	1	10±	1	1±	1	0±	0	3±	2	84±	3	1±	1
5000 ppm	5	1.99±	0.82	0±	0	14±	7	1±	1	0±	0	2±	2	82±	6	0±	1
10000 ppm	5	0.52±	0.29**	7±	7	42±	18**	0±	0	0±	0	2±	4	49±	22**	0±	0

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

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS 3

## APPENDIX F 1

BIOCHEMISTRY : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : MALE

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 2W)

REPORT TYPE : A1

PAGE : 1

Group Name	NO. of Animals	TOTAL PROTEIN g/dl		ALBUMIN g/dl		A/G RATIO		T-BILIRUBIN mg/dl		GLUCOSE mg/dl		T-CHOLESTEROL mg/dl		PHOSPHOLIPID mg/dl	
Control	5	4.8±	0.1	2.7±	0.1	1.3±	0.1	0.13±	0.01	267±	16	79±	9	168±	14
625 ppm	5	4.9±	0.2	2.8±	0.1	1.3±	0.1	0.13±	0.01	265±	12	93±	10	188±	19
1250 ppm	5	4.8±	0.2	2.7±	0.1	1.3±	0.1	0.16±	0.03	264±	11	91±	9	187±	15
2500 ppm	5	4.8±	0.2	2.7±	0.1	1.3±	0.2	0.17±	0.02	258±	16	106±	6*	208±	9
5000 ppm	5	5.1±	0.1	3.2±	0.1*	1.7±	0.1*	0.27±	0.04**	207±	27**	113±	8**	205±	10
10000 ppm	5	4.4±	0.4	2.6±	0.3	1.4±	0.2	0.21±	0.04*	71±	24**	128±	25**	179±	43

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

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS 3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : MALE

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 2W)

REPORT TYPE : A1

PAGE : 2

Group Name	NO. of Animals	GOT IU/ℓ		GPT IU/ℓ		LDH IU/ℓ		G-GTP IU/ℓ		CPK IU/ℓ		UREA NITROGEN mg/dℓ		SODIUM mEq/ℓ	
Control	5	29±	3	17±	2	178±	36	2±	1	53±	19	21.6±	3.1	149±	1
625 ppm	5	29±	2	19±	3	168±	39	1±	1	50±	11	22.6±	6.4	150±	1
1250 ppm	5	31±	4	21±	6	189±	52	1±	1	59±	13	21.5±	4.0	151±	2
2500 ppm	5	27±	2	18±	5	238±	155	1±	1	75±	52	21.8±	5.0	149±	1
5000 ppm	5	34±	6	22±	6	289±	54	2±	2	142±	129	23.8±	2.3	152±	2
10000 ppm	5	108±	20*	83±	17**	489±	82*	5±	1**	299±	156**	42.8±	6.1**	153±	2**

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

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS 3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : MALE

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 2W)

REPORT TYPE : A1

PAGE : 3

Group Name	NO. of Animals	POTASSIUM mEq/ℓ		CHLORIDE mEq/ℓ		CALCIUM mg/dℓ		INORGANIC PHOSPHORUS mg/dℓ	
Control	5	4.9±	0.3	116±	2	9.0±	0.1	6.8±	1.0
625 ppm	5	4.7±	0.4	117±	2	9.1±	0.4	7.2±	0.9
1250 ppm	5	4.6±	0.4	116±	1	9.0±	0.3	7.9±	1.7
2500 ppm	5	4.9±	0.5	116±	1	8.8±	0.4	7.3±	0.7
5000 ppm	5	5.4±	0.4	118±	2	9.3±	0.2	6.3±	0.5
10000 ppm	5	5.1±	0.4	119±	3	8.4±	0.3*	6.7±	1.0

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

Test of Dunnett

(HCL074)

BAIS 3

## APPENDIX F 2

BIOCHEMISTRY : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 2W)

PAGE : 4

Group Name	NO. of Animals	TOTAL PROTEIN g/dl		ALBUMIN g/dl		A/G RATIO		T-BILIRUBIN mg/dl		GLUCOSE mg/dl		T-CHOLESTEROL mg/dl		PHOSPHOLIPID mg/dl	
Control	5	4.7±	0.2	2.9±	0.2	1.7±	0.1	0.14±	0.03	207±	64	66±	5	135±	8
625 ppm	5	4.8±	0.3	2.9±	0.1	1.6±	0.2	0.15±	0.02	217±	33	83±	13	156±	16
1250 ppm	5	4.6±	0.1	2.8±	0.1	1.6±	0.1	0.15±	0.02	244±	16	74±	5	146±	10
2500 ppm	5	4.7±	0.2	2.9±	0.1	1.6±	0.0	0.15±	0.04	239±	17	94±	9**	172±	13*
5000 ppm	5	5.0±	0.3	3.1±	0.2	1.7±	0.1	0.23±	0.03*	222±	29	122±	16**	222±	26**
10000 ppm	5	4.9±	0.2	2.9±	0.1	1.5±	0.2	0.27±	0.07**	140±	31*	173±	13**	272±	26**

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

Test of Dunnett

(HCL074)

BAIS 3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 2W)

PAGE : 5

Group Name	NO. of Animals	GOT IU/ℓ		GPT IU/ℓ		LDH IU/ℓ		G-GTP IU/ℓ		CPK IU/ℓ		UREA NITROGEN mg/dℓ		SODIUM mEq/ℓ	
Control	5	37±	2	17±	2	205±	30	0±	1	67±	45	20.9±	4.3	149±	1
625 ppm	5	37±	3	19±	2	196±	41	1±	1	49±	11	20.5±	4.4	149±	2
1250 ppm	5	34±	2	18±	3	189±	26	1±	1	68±	39	18.3±	1.2	148±	1
2500 ppm	5	34±	2	18±	2	163±	15	1±	1	62±	23	18.5±	2.8	148±	2
5000 ppm	5	32±	3	16±	2	219±	26	1±	1	78±	46	23.5±	5.1	150±	2
10000 ppm	5	80±	12	69±	14**	360±	109	4±	3**	125±	29	29.6±	9.4	153±	4

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

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS 3



STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
MEASURE. TIME : 1  
SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
ALL ANIMALS ( 2W)

PAGE : 6

Group Name	NO. of Animals	POTASSIUM mEq/ℓ		CHLORIDE mEq/ℓ		CALCIUM mg/dℓ		INORGANIC PHOSPHORUS mg/dℓ	
Control	5	4.5±	0.3	119±	1	8.8±	0.1	6.8±	0.6
625 ppm	5	4.8±	0.3	118±	1	9.0±	0.3	6.9±	0.3
1250 ppm	5	4.7±	0.3	118±	2	8.7±	0.2	6.6±	1.3
2500 ppm	5	4.4±	0.3	118±	2	8.9±	0.2	6.7±	1.2
5000 ppm	5	4.7±	0.5	118±	3	9.0±	0.2	5.3±	0.9
10000 ppm	5	5.5±	0.8**	118±	4	8.7±	0.5	6.3±	0.9

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

Test of Dunnett

(HCL074)

BAIS 3

## APPENDIX G 1

GROSS FINDINGS : SUMMARY, MOUSE : MALE ALL ANIMALS  
(2-WEEK STUDY)

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

GROSS FINDINGS (SUMMARY)  
ALL ANIMALS (0- 2W)

PAGE : 1

Organ	Findings	Group Name	Control	625 ppm	1250 ppm	2500 ppm
		NO. of Animals	5 (%)	5 (%)	5 (%)	5 (%)
thymus	atrophic		0 ( 0)	0 ( 0)	0 ( 0)	0 ( 0)
spleen	black zone		1 ( 20)	0 ( 0)	0 ( 0)	0 ( 0)
liver	dark		0 ( 0)	0 ( 0)	0 ( 0)	0 ( 0)

(HPT080)

BAIS 3

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

GROSS FINDINGS (SUMMARY)  
ALL ANIMALS (0- 2W)

PAGE : 2

Organ	Findings	Group Name	5000 ppm	10000 ppm
		NO. of Animals	5 (%)	5 (%)
thymus	atrophic		5 (100)	5 (100)
spleen	black zone		0 ( 0)	0 ( 0)
liver	dark		4 ( 80)	3 ( 60)

(HPT080)

BAIS 3

## APPENDIX G 2

GROSS FINDINGS : SUMMARY, MOUSE : FEMALE ALL ANIMALS  
(2-WEEK STUDY)

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : FEMALE

GROSS FINDINGS (SUMMARY)  
ALL ANIMALS (0- 2W)

PAGE : 3

Organ	Findings	Group Name NO. of Animals	Control	625 ppm	1250 ppm	2500 ppm
			5 (%)	5 (%)	5 (%)	5 (%)
thymus	atrophic		0 ( 0)	0 ( 0)	0 ( 0)	0 ( 0)
spleen	black zone		0 ( 0)	0 ( 0)	0 ( 0)	0 ( 0)
liver	dark		0 ( 0)	0 ( 0)	0 ( 0)	0 ( 0)
kidney	hydronephrosis		0 ( 0)	1 ( 20)	0 ( 0)	0 ( 0)

(HPT080)

BAIS 3

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : FEMALE

GROSS FINDINGS (SUMMARY)  
ALL ANIMALS (0- 2W)

PAGE : 4

Organ	Findings	Group Name	5000 ppm	10000 ppm
		NO. of Animals	5 (%)	5 (%)
thymus	atrophic		1 ( 20)	5 (100)
spleen	black zone		0 ( 0)	1 ( 20)
liver	dark		1 ( 20)	0 ( 0)
kidney	hydronephrosis		0 ( 0)	0 ( 0)

(HPT080)

BAIS 3

## APPENDIX H 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)



STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE  
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)  
 SURVIVAL ANIMALS ( 2W)

PAGE : 1

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	5	24.9± 1.1	0.053± 0.008	0.010± 0.001	0.201± 0.017	0.145± 0.007	0.146± 0.008
625 ppm	5	25.3± 1.1	0.054± 0.004	0.009± 0.002	0.192± 0.017	0.138± 0.008	0.143± 0.009
1250 ppm	5	25.1± 0.5	0.058± 0.005	0.010± 0.002	0.191± 0.015	0.143± 0.007	0.139± 0.002
2500 ppm	5	24.9± 1.0	0.060± 0.006	0.010± 0.003	0.200± 0.013	0.133± 0.011	0.146± 0.009
5000 ppm	5	19.9± 1.1**	0.021± 0.008**	0.008± 0.001	0.191± 0.016	0.119± 0.008**	0.137± 0.017
10000 ppm	5	14.0± 0.5**	0.014± 0.007**	0.007± 0.001*	0.141± 0.019**	0.096± 0.008**	0.114± 0.007**

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

Test of Dunnett

(HCL040)

BAIS 3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crl:BDF1  
 REPORT TYPE : A1  
 SEX : MALE  
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)  
 SURVIVAL ANIMALS ( 2W)

PAGE : 2

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	5	0.379±	0.025	0.048±	0.002	1.208±	0.046	0.436±	0.006
625 ppm	5	0.376±	0.011	0.054±	0.008	1.289±	0.127	0.438±	0.012
1250 ppm	5	0.384±	0.017	0.051±	0.004	1.355±	0.103	0.435±	0.009
2500 ppm	5	0.379±	0.032	0.079±	0.012	1.403±	0.138*	0.441±	0.009
5000 ppm	5	0.292±	0.025**	0.073±	0.024	0.989±	0.110*	0.426±	0.011
10000 ppm	5	0.215±	0.011**	0.013±	0.005	0.899±	0.044**	0.407±	0.008**

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

Test of Dunnett

(HCL040)

BAIS 3

## APPENDIX H 2

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOUSE : FEMALE  
(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)  
 SURVIVAL ANIMALS ( 2W)

PAGE : 3

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	5	18.9± 1.7	0.070± 0.009	0.011± 0.001	0.018± 0.004	0.115± 0.010	0.132± 0.006
625 ppm	5	19.0± 0.3	0.068± 0.008	0.010± 0.001	0.017± 0.003	0.112± 0.004	0.138± 0.008
1250 ppm	5	19.7± 0.5	0.074± 0.012	0.011± 0.001	0.018± 0.004	0.124± 0.009	0.136± 0.007
2500 ppm	5	19.9± 0.8	0.076± 0.004	0.010± 0.001	0.017± 0.004	0.109± 0.006	0.136± 0.006
5000 ppm	5	19.1± 1.9	0.052± 0.026	0.010± 0.001	0.015± 0.002	0.111± 0.010	0.126± 0.013
10000 ppm	5	12.6± 0.6	0.006± 0.002*	0.008± 0.002*	0.008± 0.001**	0.088± 0.004**	0.109± 0.004**

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

Test of Dunnett

(HCL040)

BAIS 3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)  
 SURVIVAL ANIMALS ( 2W)

PAGE : 4

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	5	0.260±	0.023	0.047±	0.005	0.858±	0.148	0.438±	0.012
625 ppm	5	0.323±	0.157	0.054±	0.013	0.900±	0.041	0.436±	0.006
1250 ppm	5	0.265±	0.012	0.052±	0.004	1.004±	0.071	0.450±	0.008
2500 ppm	5	0.258±	0.007	0.076±	0.012	1.049±	0.069	0.454±	0.011
5000 ppm	5	0.230±	0.017	0.107±	0.033*	1.049±	0.214	0.432±	0.013
10000 ppm	5	0.193±	0.009**	0.020±	0.007	0.881±	0.107	0.408±	0.018**

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

Test of Dunnett

(HCL040)

BAIS 3

## APPENDIX I 1

ORGAN WEIGHT, RELATIVE : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE  
 UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)  
 SURVIVAL ANIMALS ( 2W)

PAGE : 1

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	5	24.9± 1.1	0.214± 0.027	0.042± 0.005	0.809± 0.097	0.582± 0.027	0.586± 0.046
625 ppm	5	25.3± 1.1	0.215± 0.009	0.036± 0.008	0.758± 0.080	0.545± 0.033	0.566± 0.042
1250 ppm	5	25.1± 0.5	0.231± 0.024	0.042± 0.010	0.761± 0.057	0.569± 0.036	0.555± 0.012
2500 ppm	5	24.9± 1.0	0.241± 0.019	0.040± 0.011	0.803± 0.044	0.533± 0.028	0.588± 0.018
5000 ppm	5	19.9± 1.1**	0.103± 0.036**	0.040± 0.006	0.965± 0.109	0.600± 0.034	0.689± 0.053**
10000 ppm	5	14.0± 0.5**	0.097± 0.052**	0.049± 0.012	1.012± 0.137**	0.686± 0.038**	0.813± 0.050**

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

Test of Dunnett

(HCL042)

BAIS 3

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE  
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)  
SURVIVAL ANIMALS ( 2W)

PAGE : 2

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	1.526± 0.164	0.193± 0.007	4.851± 0.238	1.753± 0.077
625 ppm	5	1.484± 0.040	0.213± 0.033	5.088± 0.408	1.733± 0.072
1250 ppm	5	1.532± 0.043	0.204± 0.016	5.402± 0.415	1.736± 0.039
2500 ppm	5	1.522± 0.078	0.317± 0.053	5.629± 0.451**	1.772± 0.066
5000 ppm	5	1.469± 0.069	0.366± 0.110*	4.965± 0.313	2.146± 0.077**
10000 ppm	5	1.537± 0.084	0.094± 0.034	6.431± 0.225**	2.914± 0.107**

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

Test of Dunnett

(HCL042)

BAIS 3



## APPENDIX I 2

ORGAN WEIGHT, RELATIVE : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)  
 SURVIVAL ANIMALS ( 2W)

PAGE : 3

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	5	18.9± 1.7	0.372± 0.021	0.056± 0.006	0.096± 0.022	0.611± 0.015	0.703± 0.054
625 ppm	5	19.0± 0.3	0.361± 0.037	0.051± 0.004	0.091± 0.016	0.593± 0.021	0.729± 0.048
1250 ppm	5	19.7± 0.5	0.375± 0.055	0.055± 0.006	0.089± 0.022	0.629± 0.058	0.690± 0.036
2500 ppm	5	19.9± 0.8	0.384± 0.032	0.052± 0.007	0.084± 0.021	0.548± 0.033	0.684± 0.048
5000 ppm	5	19.1± 1.9	0.266± 0.121	0.053± 0.004	0.081± 0.004	0.586± 0.044	0.663± 0.036
10000 ppm	5	12.6± 0.6	0.050± 0.016**	0.062± 0.014	0.065± 0.009	0.698± 0.041**	0.870± 0.050**

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

Test of Dunnett

(HCL042)

BAIS 3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)  
 SURVIVAL ANIMALS ( 2W)

PAGE : 4

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	1.381± 0.102	0.246± 0.009	4.515± 0.504	2.329± 0.161
625 ppm	5	1.712± 0.859	0.284± 0.072	4.745± 0.217	2.298± 0.057
1250 ppm	5	1.343± 0.069	0.265± 0.017	5.086± 0.301	2.282± 0.058
2500 ppm	5	1.298± 0.042	0.382± 0.061	5.275± 0.336	2.285± 0.089
5000 ppm	5	1.209± 0.055	0.555± 0.156**	5.465± 0.665*	2.284± 0.243
10000 ppm	5	1.535± 0.083	0.159± 0.058	6.988± 0.723**	3.244± 0.178*

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

Test of Dunnett

(HCL042)

BAIS 8

## APPENDIX J 1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE : MALE : ALL ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 ALL ANIMALS (0- 2W)

PAGE : 1

Organ	Findings	Group Name No. of Animals on Study Grade	Control 5				625 ppm 5				1250 ppm 5				2500 ppm 5			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			< 5>				< 5>				< 5>				< 5>			
	atrophy: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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	duct ectasia:olfactory gland		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )
	necrosis:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )
{Hematopoietic system}																		
bone marrow			< 5>				< 5>				< 5>				< 5>			
	granulation		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	decreased 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 )	( 0 )	( 0 )	( 0 )	( 0 )
	erythropoiesis:increased		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 )
thymus			< 5>				< 5>				< 5>				< 5>			
	atrophy		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 )
Grade	1 : Slight	2 : Moderate	3 : Marked	4 : Severe														
< a >	a : Number of animals examined at the site																	
b	b : Number of animals with lesion																	
( c )	c : b / a * 100																	

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 ALL ANIMALS (0- 2%)

PAGE : 2

		Group Name				5000 ppm				10000 ppm			
		No. of Animals on Study				5				5			
Organ_____	Findings_____	Grade				1	2	3	4	1	2	3	4
						(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<hr/>													
{Respiratory system}													
nasal cavit		< 5>				< 5>							
	atrophy:olfactory gland	0	0	0	0	1	4	0	0	( 20)	( 80)	( 0)	( 0)
		( 0)	( 0)	( 0)	( 0)								
	duct ectasia:olfactory gland	5	0	0	0	2	3	0	0	( 40)	( 60)	( 0)	( 0)
		(100)	( 0)	( 0)	( 0)								
	necrosis:olfactory epithelium	5	0	0	0	0	5	0	0	( 0)	(100)	( 0)	( 0)
		(100)	( 0)	( 0)	( 0)								
{Hematopoietic system}													
bone marrow		< 5>				< 5>							
	granulation	0	0	0	0	0	0	0	0	( 0)	( 0)	( 0)	( 0)
		( 0)	( 0)	( 0)	( 0)								
	decreased hematopoiesis	0	0	0	0	5	0	0	0	(100)	( 0)	( 0)	( 0)
		( 0)	( 0)	( 0)	( 0)								
	erythropoiesis:increased	4	0	0	0	0	0	0	0	( 0)	( 0)	( 0)	( 0)
		( 80)	( 0)	( 0)	( 0)								
thymus		< 5>				< 5>							
	atrophy	2	0	0	0	0	0	5	0	( 0)	( 0)	(100)	( 0)
		( 40)	( 0)	( 0)	( 0)								

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

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
ALL ANIMALS (0- 2W)

PAGE : 3

		Group Name	Control				625 ppm				1250 ppm				2500 ppm			
		No. of Animals on Study	5				5				5				5			
Organ	Findings	Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Hematopoietic system]																		
spleen			< 5>				< 5>				< 5>				< 5>			
	atrophy		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)
	deposit of hemosiderin		0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
			( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)	( 0)
	deposit of melanin		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			( 20)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
	increased extramedullary hematopoiesis		0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0
			( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 20)	( 80)	( 0)	( 0)
	engorgement of erythrocyte		0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
			( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 80)	( 0)	( 0)	( 0)
[Digestive system]																		
stomach			< 5>				< 5>				< 5>				< 5>			
	ulcer:forestomach		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)
liver			< 5>				< 5>				< 5>				< 5>			
	necrosis:single cell		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)
Grade	1 : Slight      2 : Moderate      3 : Marked      4 : Severe																	
< a >	a : Number of animals examined at the site																	
b	b : Number of animals with lesion																	
( c )	c : b / a * 100																	

STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
ALL ANIMALS (0- 2%)

PAGE : 4

Organ	Findings	Group Name No. of Animals on Study Grade	5000 ppm				10000 ppm			
			5				5			
			1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}										
spleen			< 5>				< 5>			
	atrophy		0	0	0	0	1	4	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 80 )	( 0 )	( 0 )
	deposit of hemosiderin		5	0	0	0	0	0	0	0
			(100)	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	deposit of melanin		0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	increased extramedullary hematopoiesis		1	3	0	0	0	0	0	0
			( 20 )	( 60 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	engorgement of erythrocyte		3	2	0	0	0	0	0	0
			( 60 )	( 40 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Digestive system}										
stomach			< 5>				< 5>			
	ulcer:forestomach		0	0	0	0	1	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )
liver			< 5>				< 5>			
	necrosis:single cell		0	0	0	0	1	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )

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



STUDY NO. : 0395  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
ALL ANIMALS (0- 2W)

PAGE : 5

Organ	Findings	Group Name	Control				625 ppm				1250 ppm				2500 ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			< 5>				< 5>				< 5>				< 5>			
	granulation		1	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0
			( 20)	( 0)	( 0)	( 0)	( 60)	( 0)	( 0)	( 0)	( 20)	( 0)	( 0)	( 0)	( 20)	( 0)	( 0)	( 0)
	hepatocellular hypertrophy:central		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)
{Musculoskeletal system}																		
muscle			< 5>				< 5>				< 5>				< 5>			
	mineralization		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)
Grade	1 : Slight	2 : Moderate	3 : Marked	4 : Severe														
< a >	a : Number of animals examined at the site																	
b	b : Number of animals with lesion																	
( c )	c : b / a * 100																	

(HPT150)

BAIS3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 ALL ANIMALS (0- 2W)

PAGE : 6

		Group Name					5000 ppm					10000 ppm				
		No. of Animals on Study					5					5				
		Grade					1					1				
Organ	Findings		1	2	3	4		1	2	3	4		1	2	3	4
			(%)	(%)	(%)	(%)		(%)	(%)	(%)	(%)		(%)	(%)	(%)	(%)

{Digestive system}

liver

granulation

< 5>				< 5>			
0	0	0	0	0	0	0	0
( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)

hepatocellular hypertrophy:central

0	3	2	0	0	3	2	0
( 0)	( 60)	( 40)	( 0)	( 0)	( 60)	( 40)	( 0)

{Musculoskeletal system}

muscle

mineralization

< 5>				< 5>			
0	0	0	0	2	0	0	0
( 0)	( 0)	( 0)	( 0)	( 40)	( 0)	( 0)	( 0)

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

(HPT150)

BAIS3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 ALL ANIMALS (0- 2W)

PAGE : 7

Organ	Findings	Group Name No. of Animals on Study Grade	Control 5				625 ppm 5				1250 ppm 5				2500 ppm 5			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			< 5>				< 5>				< 5>				< 5>			
	atrophy: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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	duct ectasia:olfactory gland		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )
	necrosis:olfactory epithelium		0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )	( 80 )	( 0 )	( 0 )	( 0 )
{Hematopoietic system}																		
bone marrow			< 5>				< 5>				< 5>				< 5>			
	decreased 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 )	( 0 )	( 0 )	( 0 )	( 0 )
	erythropoiesis:increased		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 )
thymus			< 5>				< 5>				< 5>				< 5>			
	atrophy		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 )
Grade	1 : Slight	2 : Moderate	3 : Marked	4 : Severe														
< a >	a : Number of animals examined at the site																	
b	b : Number of animals with lesion																	
( c )	c : b / a * 100																	

(HPT150)

BAIS3

## APPENDIX J 2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE : FEMALE: ALL ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 ALL ANIMALS (0- 2W)

PAGE : 8

Organ_____	Findings_____	Group Name	5000 ppm				10000 ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
nasal cavit			< 5>				< 5>			
	atrophy:olfactory gland		0	0	0	0	0	5	0	0
			( 0)	( 0)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)
	duct ectasia:olfactory gland		4	0	0	0	5	0	0	0
			( 80)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)	( 0)
	necrosis:olfactory epithelium		5	0	0	0	0	5	0	0
			(100)	( 0)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)
{Hematopoietic system}										
bone marrow			< 5>				< 5>			
	decreased hematopoiesis		0	0	0	0	1	0	0	0
			( 0)	( 0)	( 0)	( 0)	( 20)	( 0)	( 0)	( 0)
	erythropoiesis:increased		5	0	0	0	0	0	0	0
			(100)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
thymus			< 5>				< 5>			
	atrophy		1	0	0	0	0	0	5	0
			( 20)	( 0)	( 0)	( 0)	( 0)	( 0)	(100)	( 0)
Grade	1 : Slight      2 : Moderate      3 : Marked      4 : Severe									
< a >	a : Number of animals examined at the site									
b	b : Number of animals with lesion									
( c )	c : b / a * 100									

(HPT150)

BAIS3

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 ALL ANIMALS (0- 2%)

PAGE : 9

Organ	Findings	Group Name	Control				625 ppm				1250 ppm				2500 ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
spleen			< 5>				< 5>				< 5>				< 5>			
	atrophy		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 )
	deposit of hemosiderin		0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 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
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	increased extramedullary hematopoiesis		0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	(100)	( 0 )	( 0 )	( 0 )
	engorgement of erythrocyte		0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 40 )	( 0 )	( 0 )	( 0 )	( 0 )
{Digestive system}																		
stomach			< 5>				< 5>				< 5>				< 5>			
	inflammation:forestomach		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
liver			< 5>				< 5>				< 5>				< 5>			
	granulation		3	0	0	0	2	0	0	0	3	0	0	0	4	0	0	0
			( 60 )	( 0 )	( 0 )	( 0 )	( 40 )	( 0 )	( 0 )	( 0 )	( 60 )	( 0 )	( 0 )	( 0 )	( 80 )	( 0 )	( 0 )	( 0 )
Grade	1 : Slight      2 : Moderate      3 : Marked      4 : Severe																	
< a >	a : Number of animals examined at the site																	
b	b : Number of animals with lesion																	
( c )	c : b / a * 100																	

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 ALL ANIMALS (0- 2%)

PAGE : 10

Organ_____	Findings_____	Group Name	5000 ppm				10000 ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
}Hematopoietic system}										
spleen			< 5>				< 5>			
	atrophy		0	0	0	0	3	2	0	0
			( 0)	( 0)	( 0)	( 0)	( 60)	( 40)	( 0)	( 0)
	deposit of hemosiderin		5	0	0	0	0	0	0	0
			(100)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
	deposit of melanin		1	0	0	0	1	0	0	0
			( 20)	( 0)	( 0)	( 0)	( 20)	( 0)	( 0)	( 0)
	increased extramedullary hematopoiesis		1	4	0	0	0	0	0	0
			( 20)	( 80)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
	engorgement of erythrocyte		1	4	0	0	0	0	0	0
			( 20)	( 80)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
}Digestive system}										
stomach			< 5>				< 5>			
	inflammation:forestomach		0	0	0	0	0	0	0	0
			( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
liver			< 5>				< 5>			
	granulation		3	0	0	0	0	0	0	0
			( 60)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
Grade	1 : Slight	2 : Moderate	3 : Marked	4 : Severe						
< a >	a : Number of animals examined at the site									
b	b : Number of animals with lesion									
( c )	c : b / a * 100									

STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 ALL ANIMALS (0- 2W)

PAGE : 11

Organ	Findings	Group Name No. of Animals on Study Grade	Control				625 ppm				1250 ppm				2500 ppm			
			5				5				5				5			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver	hepatocellular hypertrophy:central		< 5>				< 5>				< 5>				< 5>			
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Urinary system}																		
kidney	hydronephrosis		< 5>				< 5>				< 5>				< 5>			
			0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Endocrine system}																		
pituitary	Rathke pouch		< 5>				< 5>				< 5>				< 5>			
			0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )
Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe																		
< a > a : Number of animals examined at the site																		
b b : Number of animals with lesion																		
( c ) c : b / a * 100																		

(HPT150)

BAIS3



STUDY NO. : 0395  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 ALL ANIMALS (0- 2W)

PAGE : 12

		Group Name				5000 ppm		10000 ppm					
		No. of Animals on Study				5		5					
		Grade				1	2	3	4	1	2	3	4
Organ_____	Findings_____					(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

{Digestive system}

liver	hepatocellular hypertrophy:central	< 5>				< 5>			
		4	1	0	0	2	3	0	0
		( 80)	( 20)	( 0)	( 0)	( 40)	( 60)	( 0)	( 0)

{Urinary system}

kidney	hydronephrosis	< 5>				< 5>			
		0	0	0	0	0	0	0	0
		( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)

{Endocrine system}

pituitary	Rathke pouch	< 4>				< 5>			
		0	0	0	0	0	0	0	0
		( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)

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

(HPT150)

BAIS3

## APPENDIX K 1

### IDENTITY AND IMPURITY OF 2,4-DICHLORO-1-NITROBENZENE IN THE 2-WEEK FEED STUDY

## IDENTITY AND IMPURITY OF 2,4-DICHLORO-1-NITROBENZENE IN THE 2-WEEK FEED STUDY

Test Substance : 2,4-Dichloro-1-nitrobenzene (Wako Pure Chemical Industries, Ltd.)

Lot No. : CKK5596

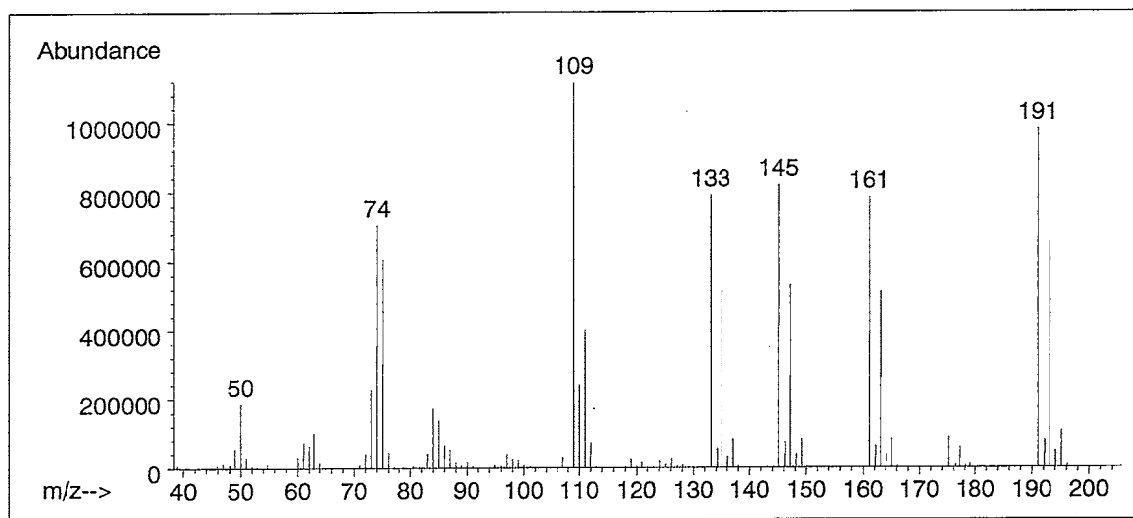
## 1. Spectral Data

Mass Spectrometry

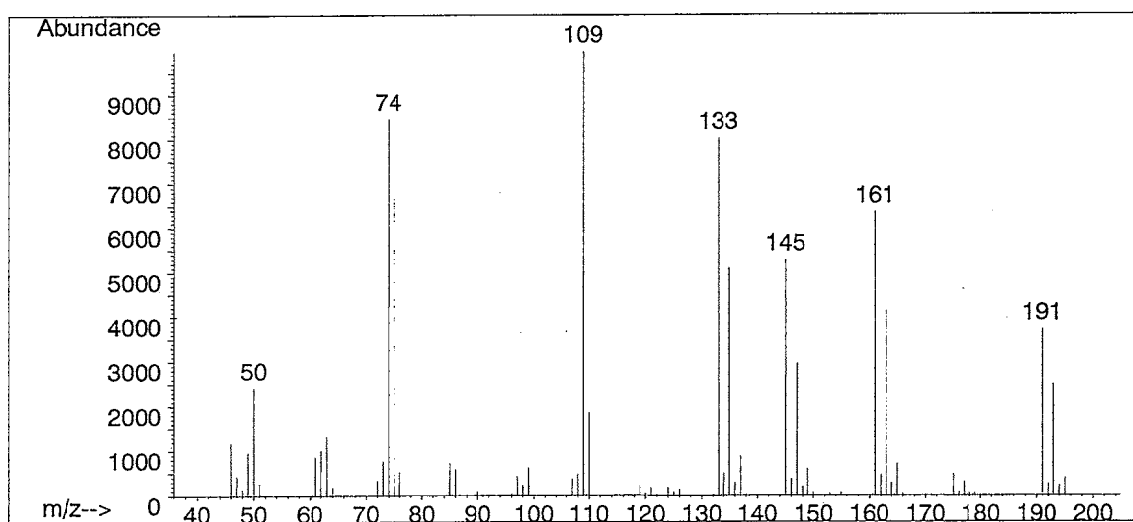
Instrument : Hewlett Packard 5989B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data\*

Results: The mass spectrum was consistent with literature spectrum.

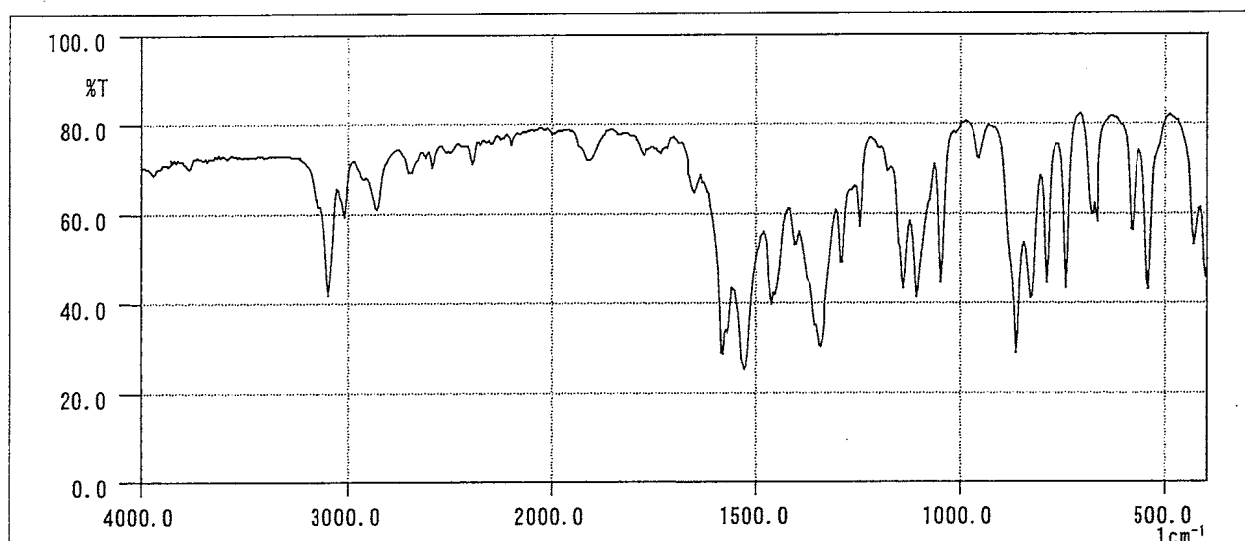
(\*Fred W. McLafferty (1994) Wiley Registry of Mass Spectral Data, 6th edition.  
John Wiley and Sons, Inc. (U.S.), Entry Number 74218)

Infrared Spectrometry

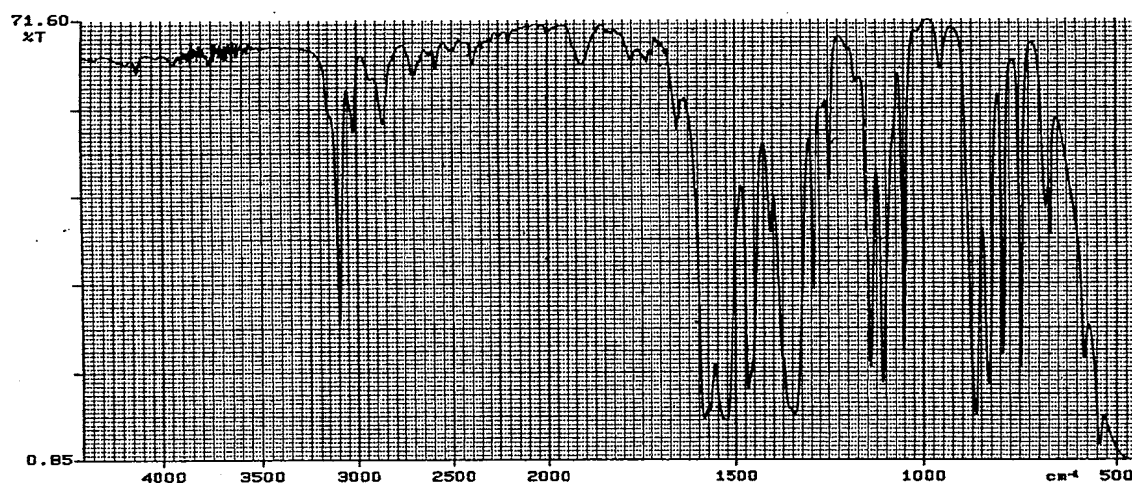
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 2  $\text{cm}^{-1}$



Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data\*

Results: The infrared spectrum was consistent with literature spectrum.

(\*Performed by Wako Pure Chemical Industries, Ltd.)

## 2. Impurity

Instrument : Hewlett Packard 6890 Gas Chromatograph

Column : Ultra1 (0.2 mm $\phi$   $\times$  50 m)

Column Temperature : 160 °C (5 min)  $\rightarrow$  (20 °C/min)  $\rightarrow$  260 °C (5 min)

Flow Rate : 1 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1  $\mu$ L

Sample Name	Peak No.	Area (%)	Peak Name
Test Substance	1	99.91	2,4-Dichloro-1-nitrobenzene
	2	0.03	1,5-Dichloro-2,3-dinitrobenzene
	3	0.06	1,2-Dichloro-4,5-dinitrobenzene

Results: Gas chromatography indicated one major peak (peak No.1) and two impurities. It was identified only by comparing its gas chromatograph with that of 1,5-dichloro-2,3-dinitrobenzene (peak No.2) and 1,2-dichloro-4,5-dinitrobenzene (peak No.3) in the 2,4-dichloro-1-nitrobenzene, the amount in the test substance were 0.03% and 0.06%.

3. Conclusions: The test substance was identified as 2,4-dichloro-1-nitrobenzene by the mass spectrum and the infrared spectrum. Gas chromatography indicated one major peak (peak No.1) and two impurities. It was identified only by comparing its gas chromatograph with that of 1,5-dichloro-2,3-dinitrobenzene and 1,2-dichloro-4,5-dinitrobenzene, the amount in the test substance were 0.03% and 0.06%.

## APPENDIX K 2

### STABILITY OF 2,4-DICHLORO-1-NITROBENZENE IN THE 2-WEEK FEED STUDY

## STABILITY OF 2,4-DICHLORO-1-NITROBENZENE IN THE 2-WEEK FEED STUDY

Test Substance : 2,4-Dichloro-1-nitrobenzene (Wako Pure Chemical Industries, Ltd.)

Lot No. : CKK5596

1. Sample : This lot was used from 1999.10.1 to 1999.10.15. Test substance was stored in a dark place at room temperature.

2. Gas Chromatography

Instrument : Hewlett Packard 6890 Gas Chromatograph

Column : Ultra1 (0.2 mm $\phi$   $\times$  50 m)

Column Temperature : 160 °C (5 min)  $\rightarrow$  (20 °C/min)  $\rightarrow$  260 °C (5 min)

Flow Rate : 1 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1  $\mu$ L

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
1999.09.17	1	5.255	99.91
	2	7.522	0.03
	3	7.684	0.06
1999.12.22	1	5.256	99.91
	2	7.519	0.03
	3	7.684	0.06

Results: Gas chromatography indicated one major peak (peak No.1) and two impurities (peak No. 2, 3 < 0.1% of total area) analyzed on 1999.9.17 and one major peak (peak No.1) and two impurities (peak No.2, 3 < 0.1% of total area) analyzed on 1999.12.22. No new trace impurity peak in the test substance analyzed on 1999.12.22 was detected.

3. Conclusions: The test substance was stable for about 3 months in a dark place at room temperature.

## APPENDIX K 3

CONCENTRATION OF 2,4-DICHLORO-1-NITROBENZENE  
IN FORMULATED DIETS IN THE 2-WEEK FEED STUDY



# CONCENTRATION OF 2,4-DICHLORO-1-NITROBENZENE IN FORMULATED DIETS IN THE 2-WEEK FEED STUDY

Date Analyzed	Target Concentration				
	625 <sup>a</sup>	1250	2500	5000	10000
1999.09.30	604 ( 96.6) <sup>b</sup>	1180 ( 94.7)	2310 ( 92.5)	4600 ( 91.9)	9580 ( 95.8)

<sup>a</sup> ppm

<sup>b</sup> %

Analytical method : The samples were analyzed by gas chromatography.

Instrument : Hewlett Packard 6890 Gas Chromatograph

Column : Ultra 1 (0.2 mm  $\phi$   $\times$  50 m)

Column Temperature : 160 °C  $\rightarrow$  (5 min)  $\rightarrow$  (20 °C/min)  $\rightarrow$  260 °C (5 min)

Flow Rate : 1 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1  $\mu$ L

## APPENDIX K 4

### HOMOGENEITY OF 2,4-DICHLORO-1-NITROBENZENE IN FORMULATED DIETSIN IN THE 2-WEEK FEED STUDY

# HOMOGENEITY OF 2,4-DICHLORO-1-NITROBENZENE IN FORMULATED DIETS IN THE 2-WEEK FEED STUDY

	Target Concentration				
	625 <sup>a</sup>	1250	2500	5000	10000
Coefficient Variation	2.28 <sup>b</sup>	1.08	1.58	1.20	0.82

<sup>a</sup> ppm

<sup>b</sup> % (n=7)

Analytical method : The samples were analyzed by gas chromatography.

Instrument : Hewlett Packard 6890 Gas Chromatograph

Column : Ultra 1 (0.2 mm  $\phi$   $\times$  50 m)

Column Temperature : 160 °C  $\rightarrow$  (5 min)  $\rightarrow$  (20 °C/min)  $\rightarrow$  260 °C (5 min)

Flow Rate : 1 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1  $\mu$ L

## APPENDIX K 5

STABILITY OF 2,4-DICHLORO-1-NITROBENZENE  
IN FORMULATED DIET IN THE 2-WEEK FEED STUDY

# STABILITY OF 2,4-DICHLORO-1-NITROBENZENE IN FORMULATED DIETS IN THE 2-WEEK FEED STUDY

Date Prepared	Date Analyzed	Target Concentration	
		200 <sup>a</sup>	10000
1999.06.09	1999.06.09	210 (100) <sup>b</sup>	9900 (100)
	1999.06.18 <sup>c</sup>	177 ( 84.3)	8780 ( 88.7)
	1999.06.24 <sup>d</sup>	219 (104)	9010 ( 91.0)

<sup>a</sup> ppm

<sup>b</sup> % (Percentage was based on the concentration on date of preparation.)

<sup>c</sup> Animal room samples

<sup>d</sup> Cold storage samples

Analytical method : The samples were analyzed by gas chromatography.

Instrument : Hewlett Packard 6890 Gas Chromatograph

Column : Ultra 1 (0.2 mm $\phi$   $\times$  50 m)

Column Temperature : 160 °C  $\rightarrow$  (5 min)  $\rightarrow$  (20 °C/min)  $\rightarrow$  260 °C (5 min)

Flow Rate : 1 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1  $\mu$ L

## APPENDIX L 1

### METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK  
FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Item	Method
<b>Hematology</b>	
Red blood cell (RBC)	Light scattering method <sup>1)</sup>
Hemoglobin (Hgb)	Cyanmethemoglobin method <sup>1)</sup>
Hematocrit (Hct)	Calculated as $RBC \times MCV / 10$ <sup>1)</sup>
Mean corpuscular volume (MCV)	Light scattering method <sup>1)</sup>
Mean corpuscular hemoglobin (MCH)	Calculated as $Hgb / RBC \times 10$ <sup>1)</sup>
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as $Hgb / Hct \times 100$ <sup>1)</sup>
Platelet	Light scattering method <sup>1)</sup>
White blood cell (WBC)	Light scattering method <sup>1)</sup>
Differential WBC	Pattern recognition method <sup>2)</sup> (Wright staining)
<b>Biochemistry</b>	
Total protein (TP)	Biuret method <sup>3)</sup>
Albumin (Alb)	BCG method <sup>3)</sup>
A/G ratio	Calculated as $Alb / (TP - Alb)$ <sup>3)</sup>
T-bilirubin	Alkaline azobilirubin method <sup>3)</sup>
Glucose	GlcK · G-6-PDH method <sup>3)</sup>
T-cholesterol	CE · COD · POD method <sup>3)</sup>
Phospholipid	PLD · ChOD · POD method <sup>3)</sup>
Glutamic oxaloacetic transaminase (GOT)	JSCC method <sup>3)</sup>
Glutamic pyruvic transaminase (GPT)	JSCC method <sup>3)</sup>
Lactate dehydrogenase (LDH)	SFBC method <sup>3)</sup>
$\gamma$ -Glutamyl transpeptidase ( $\gamma$ -GTP)	L- $\gamma$ -Glutamyl-p-nitroanilide method <sup>3)</sup>
Creatine phosphokinase (CPK)	JSCC method <sup>3)</sup>
Urea nitrogen	Urease · GLDH method <sup>3)</sup>
Sodium	Ion selective electrode method <sup>3)</sup>
Potassium	Ion selective electrode method <sup>3)</sup>
Chloride	Ion selective electrode method <sup>3)</sup>
Calcium	OCPC method <sup>3)</sup>
Inorganic phosphorus	PNP · XOD · POD method <sup>3)</sup>

1) Automatic blood cell analyzer (Technicon H·1 : Bayer Corporation)

2) Automatic blood cell differential analyzer (MICROX HEG-120NA : OMRON Corporation)

3) Automatic analyzer (Hitachi 7070 : Hitachi, Ltd.)

## APPENDIX M 1

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK  
FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE



UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY  
IN THE 2-WEEK FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Item	Unit	Decimal Place
<b>Hematology</b>		
Red blood cell (RBC)	$\times 10^6 / \mu\text{L}$	2
Hemoglobin	g/dL	1
Hematocrit	%	1
Mean corpuscular volume (MCV)	fL	1
Mean corpuscular hemoglobin (MCH)	pg	1
Mean corpuscular hemoglobin concentration (MCHC)	g/dL	1
Platelet	$\times 10^3 / \mu\text{L}$	0
White blood cell (WBC)	$\times 10^3 / \mu\text{L}$	2
Differential WBC	%	0
<b>Biochemistry</b>		
Total protein	g/dL	1
Albumin	g/dL	1
A/G ratio	—	1
T-bilirubin	mg/dL	2
Glucose	mg/dL	0
T-cholesterol	mg/dL	0
Phospholipid	mg/dL	0
Glutamic oxaloacetic transaminase (GOT)	IU/L	0
Glutamic pyruvic transaminase (GPT)	IU/L	0
Lactate dehydrogenase (LDH)	IU/L	0
$\gamma$ -Glutamyl transpeptidase ( $\gamma$ -GTP)	IU/L	0
Creatine phosphokinase (CPK)	IU/L	0
Urea nitrogen	mg/dL	1
Sodium	mEq/L	0
Potassium	mEq/L	1
Chloride	mEq/L	0
Calcium	mg/dL	1
Inorganic phosphorus	mg/dL	1