

1, 2 - ジクロロプロパンのマウスを用いた  
吸入による13週間毒性試験報告書

試験番号 : 0436

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## APPENDICES

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( 13-WEEK STUDY )
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## APPENDIX A 1

CLINICAL OBSERVATION : SUMMARY, MOUSE : MALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)  
ALL ANIMALS

SEX : MALE

PAGE : 1

Clinical sign	Group Name	Administration Week-day												
		1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	300ppm	1	2	2	2	2	2	2	2	2	2	2	2	2
	400ppm	6	6	6	6	6	6	6	6	6	6	6	6	6
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200ppm	1	0	0	0	0	0	0	0	0	0	0	0	0
	300ppm	1	0	0	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200ppm	1	0	0	0	0	0	0	0	0	0	0	0	0
	300ppm	1	0	0	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	1	1	1	1	1
	50ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200ppm	0	1	1	1	1	1	1	1	1	1	1	1	1
	300ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0	0	0	0

## APPENDIX A 2

CLINICAL OBSERVATION : SUMMARY, MOUSE : FEMALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)  
ALL ANIMALS

SEX : FEMALE

PAGE : 2

Clinical sign	Group Name	Administration Week-day												
		1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	300ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0	1	1	1
	WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0
50ppm		0	0	0	0	0	0	0	0	0	0	0	0	0
100ppm		0	0	0	0	0	0	0	0	0	0	0	0	0
200ppm		0	0	0	0	0	0	0	0	0	0	0	0	0
300ppm		2	0	0	0	0	0	0	0	0	0	0	0	0
400ppm		3	0	0	0	0	0	0	0	0	0	0	0	0
PILOERECTOR		Control	0	0	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	300ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400ppm	2	0	0	0	0	0	0	0	0	0	0	0	0
	INTERNAL MASS	Control	0	0	0	0	0	0	0	0	1	1	1	1
50ppm		0	0	0	0	0	0	0	0	0	0	0	0	0
100ppm		0	0	0	0	0	0	0	0	0	0	0	0	0
200ppm		0	0	0	0	0	0	0	0	0	0	0	0	0
300ppm		0	0	0	0	0	0	0	0	0	0	0	0	0
400ppm		0	0	0	0	0	0	0	0	0	0	0	0	0



## APPENDIX B 1

BODY WEIGHT CHANGES : SUMMARY, MOUSE : MALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 13  
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 1

Group Name	Administration week-day						
	0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	23.0± 0.9	24.6± 0.5	25.6± 1.0	26.2± 0.9	26.9± 0.8	27.7± 1.1	28.2± 1.0
50ppm	23.0± 0.8	24.8± 1.3	25.8± 1.5	27.1± 1.5	27.4± 2.1	28.2± 2.2	28.9± 1.8
100ppm	23.1± 0.8	24.7± 0.8	25.0± 0.6	26.0± 0.7	26.9± 0.9	27.0± 1.1	27.6± 1.1
200ppm	23.0± 0.8	23.5± 3.2	24.8± 1.3	25.6± 1.3	26.6± 1.0	26.8± 1.0	27.3± 1.5
300ppm	23.0± 0.8	22.5± 2.9*	24.6± 1.0	25.2± 1.1	26.3± 1.2	25.9± 1.1*	26.4± 1.1*
400ppm	23.1± 0.9	22.4± 1.7	24.6± 0.8	24.2± 1.3*	25.4± 0.5	25.6± 1.0	25.7± 0.5**

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

\*\* :  $P \leq 0.01$

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 13  
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 2

Group Name	Administration week-day						
	7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	28.9± 1.0	29.6± 1.0	30.0± 1.3	30.6± 1.6	31.3± 1.7	32.0± 1.8	32.7± 1.7
50ppm	29.2± 2.3	29.6± 2.7	30.1± 2.9	30.8± 3.0	32.0± 2.9	32.4± 3.1	33.0± 2.9
100ppm	28.2± 1.6	28.9± 1.7	29.3± 1.7	29.9± 2.0	30.9± 2.2	31.2± 2.3	31.6± 2.1
200ppm	27.5± 1.5	28.2± 1.5	28.7± 1.8	28.9± 2.0	29.9± 2.0	30.1± 1.9	30.6± 1.8
300ppm	26.9± 1.2*	27.0± 1.1**	27.4± 1.3*	28.0± 1.4*	28.5± 1.6*	28.9± 1.7*	29.3± 1.4**
400ppm	25.8± 0.9**	26.7± 0.5**	27.7± 0.9	27.2± 1.0*	27.8± 1.2*	28.3± 0.6*	27.9± 1.1**

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

## APPENDIX B 2

BODY WEIGHT CHANGES : SUMMARY, MOUSE : FEMALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 13  
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 3

Group Name	Administration week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	19.0± 0.8	19.8± 0.8	20.8± 1.0	21.6± 0.7	22.0± 1.0	22.1± 0.3	22.4± 1.3
50ppm	19.0± 0.7	19.7± 0.8	21.0± 0.7	21.7± 0.6	23.2± 0.8	22.7± 0.9	23.5± 0.8
100ppm	19.0± 0.8	19.5± 0.7	20.3± 0.9	21.9± 1.3	21.8± 1.2	22.7± 0.5	23.1± 0.8
200ppm	19.0± 0.8	19.6± 0.8	20.7± 1.1	21.3± 0.9	22.8± 1.4	22.2± 0.8	23.3± 1.3
300ppm	19.0± 0.7	18.2± 2.8	20.6± 0.8	20.8± 0.7	22.6± 0.7	22.6± 0.6	22.9± 0.5
400ppm	19.0± 0.8	16.4± 3.3**	20.7± 0.8	20.5± 1.2	22.2± 0.9	22.1± 0.8	22.3± 0.5
Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett							

(HAN260)

BAIS 4

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 13  
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 4

Group Name	Administration week-day						
	7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	22.9± 2.0	23.5± 1.4	22.9± 2.3	23.8± 1.5	24.6± 1.3	24.7± 1.0	25.3± 1.6
50ppm	23.8± 1.1	24.1± 0.8	24.0± 0.9	24.7± 1.2	25.2± 1.0	26.1± 0.9**	25.5± 1.2
100ppm	23.3± 1.2	23.7± 0.7	24.3± 0.9	24.3± 1.0	24.5± 1.2	24.8± 1.1	25.2± 0.7
200ppm	23.5± 1.2	24.4± 0.8	24.2± 0.5	24.6± 0.9	24.7± 1.1	25.3± 0.7	25.2± 1.7
300ppm	23.3± 0.6	23.3± 0.7	23.7± 0.9	24.0± 0.9	24.2± 1.3	24.9± 0.8	25.2± 1.2
400ppm	22.5± 0.5	22.8± 1.1	23.2± 0.7	23.3± 0.7	23.6± 0.5	24.4± 0.9	24.9± 0.6
Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett							

## APPENDIX C 1

FOOD CONSUMPTION CHANGES : SUMMARY, MOUSE : MALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 13  
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 1

Group Name	Administration week-day(effective)						
	1-7(6)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
Control	4.2± 0.3	4.1± 0.3	3.9± 0.3	4.1± 0.3	4.2± 0.2	4.2± 0.2	4.2± 0.2
50ppm	4.2± 0.4	4.2± 0.4	4.2± 0.4	4.3± 0.5	4.4± 0.3	4.4± 0.3	4.5± 0.4
100ppm	4.1± 0.2	4.0± 0.3	4.3± 0.3	4.4± 0.4	4.4± 0.4	4.3± 0.3	4.5± 0.3
200ppm	3.5± 0.7*	4.0± 0.4	3.8± 0.2	4.2± 0.2	4.1± 0.3	4.1± 0.3	4.3± 0.4
300ppm	3.1± 0.7**	4.2± 0.3	3.8± 0.2	4.3± 0.3	4.0± 0.2	4.3± 0.3	4.2± 0.3
400ppm	2.9± 0.4**	4.3± 0.1	3.6± 0.1	4.2± 0.2	3.9± 0.4	4.4± 0.1	4.2± 0.4
Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett							

(HAN260)

BAIS 4



STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 13  
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 2

Group Name	Administration week-day(effective)					
	8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
Control	4.3± 0.2	4.3± 0.2	4.4± 0.2	4.3± 0.2	4.4± 0.2	4.3± 0.2
50ppm	4.5± 0.4	4.6± 0.4	4.6± 0.4	4.7± 0.3*	4.7± 0.4	4.6± 0.4
100ppm	4.5± 0.3	4.5± 0.4	4.6± 0.2	4.7± 0.3*	4.6± 0.1	4.5± 0.2
200ppm	4.3± 0.3	4.4± 0.3	4.3± 0.3	4.4± 0.3	4.3± 0.2	4.4± 0.3
300ppm	4.2± 0.4	4.3± 0.3	4.4± 0.3	4.4± 0.3	4.6± 0.4	4.5± 0.3
400ppm	4.5± 0.1	4.5± 0.3	4.4± 0.1	4.4± 0.4	4.4± 0.0	4.1± 0.5

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

Test of Dunnett

(HAN260)

BAIS 4

## APPENDIX C 2

### FOOD CONSUMPTION CHANGES : SUMMARY, MOUSE : FEMALE ( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 13  
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 3

Group Name	Administration week-day(effective)						
	1-7(6)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
Control	3.4± 0.2	3.5± 0.3	3.5± 0.2	3.7± 0.2	3.7± 0.3	3.8± 0.3	4.1± 0.4
50ppm	3.4± 0.2	3.7± 0.1	3.7± 0.2	3.9± 0.1	3.9± 0.1	4.0± 0.2	4.1± 0.2
100ppm	3.3± 0.2	3.6± 0.2	3.8± 0.2*	3.8± 0.2	3.9± 0.2	3.9± 0.3	4.0± 0.3
200ppm	3.1± 0.2*	3.5± 0.3	3.4± 0.3	3.9± 0.2	3.6± 0.3	3.9± 0.2	4.1± 0.3
300ppm	2.6± 0.6**	3.7± 0.4	3.3± 0.3	3.8± 0.2	3.7± 0.3	3.9± 0.3	4.0± 0.3
400ppm	2.3± 0.7**	3.8± 0.4	3.1± 0.3**	3.7± 0.3	3.5± 0.2	3.8± 0.3	3.8± 0.2
Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett							

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 UNIT : g  
 REPORT TYPE : A1 13  
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 4

Group Name	Administration 8-7(7)	week-day(effective) 9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
Control	4.0± 0.4	4.0± 0.4	4.1± 0.2	4.1± 0.3	4.1± 0.3	4.2± 0.3
50ppm	4.2± 0.2	4.2± 0.2	4.3± 0.1	4.3± 0.2	4.4± 0.2*	4.2± 0.3
100ppm	4.0± 0.2	4.2± 0.2	4.2± 0.4	4.2± 0.2	4.1± 0.3	4.3± 0.2
200ppm	4.1± 0.3	4.1± 0.3	4.2± 0.3	4.1± 0.3	4.2± 0.3	4.2± 0.3
300ppm	4.0± 0.3	4.0± 0.3	4.1± 0.3	4.0± 0.4	4.2± 0.2	4.3± 0.3
400ppm	4.0± 0.2	4.1± 0.3	4.0± 0.2	3.9± 0.3	4.0± 0.3	4.0± 0.3

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

\*\* :  $P \leq 0.01$

Test of Dunnett

(HAN260)

BAIS 4

APPENDIX D 1

URINALYSIS : SUMMARY, MOUSE : MALE

( 13-WEEK STUDY )

STUDY NO. : 0436

ANIMAL : MOUSE Crj:BDF1

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

## URINALYSIS

PAGE : 1

Group Name	NO. of Animals	pH_____							CHI	Protein_____						CHI	Glucose_____						CHI	Ketone body						CHI	Occult blood						CHI
		5.0	6.0	6.5	7.0	7.5	8.0	8.5		-	±	+	2+	3+	4+		-	±	+	2+	3+	4+		-	±	+	2+	3+	4+		-	±	+	2+	3+	4+	
Control	10	0	0	2	3	1	2	2		0	2	7	1	0	0		10	0	0	0	0	0		2	2	4	2	0	0		9	0	1	0	0		
50ppm	10	0	1	1	0	4	4	0		0	0	7	3	0	0		10	0	0	0	0	0		2	2	4	2	0	0		9	1	0	0	0		
100ppm	10	0	2	0	2	4	2	0		0	0	10	0	0	0		10	0	0	0	0	0		1	2	4	3	0	0		9	1	0	0	0		
200ppm	10	0	2	2	0	5	1	0		0	0	9	1	0	0		10	0	0	0	0	0		1	3	6	0	0	0		10	0	0	0	0		
300ppm	8	0	3	2	2	0	1	0		0	2	6	0	0	0		8	0	0	0	0	0		1	3	4	0	0	0		8	0	0	0	0		
400ppm	4	0	3	1	0	0	0	0		0	1	3	0	0	0		4	0	0	0	0	0		1	1	2	0	0	0		4	0	0	0	0		

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

Test of CHI SQUARE

(HCL101)

BAIS 4

STUDY NO. : 0436

URINALYSIS

ANIMAL : MOUSE Crj:BDF1

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

PAGE : 2

Group Name	NO. of Animals	Urobilinogen ± + 2+ 3+ 4+	CHI
------------	-------------------	------------------------------	-----

Control	10	10 0 0 0 0	
---------	----	------------	--

50ppm	10	10 0 0 0 0	
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100ppm	10	10 0 0 0 0	
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200ppm	10	10 0 0 0 0	
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300ppm	8	8 0 0 0 0	
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400ppm	4	4 0 0 0 0	
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Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of CHI SQUARE

(HCL101)

BAIS 4

## APPENDIX D 2

URINALYSIS : SUMMARY, MOUSE : FEMALE

( 13-WEEK STUDY )



STUDY NO. : 0436

ANIMAL : MOUSE Crj:BDF1

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

## URINALYSIS

PAGE : 3

Group Name	NO. of Animals	pH							CHI	Protein						CHI	Glucose						CHI	Ketone body						CHI	Occult blood					CHI
		5.0	6.0	6.5	7.0	7.5	8.0	8.5		-	±	+	2+	3+	4+		-	±	+	2+	3+	4+		-	±	+	2+	3+	4+		-	±	+	2+	3+	
Control	10	0	1	1	1	1	4	2		0	2	7	1	0	0		10	0	0	0	0	0		1	8	1	0	0	0		10	0	0	0	0	
50ppm	10	0	0	1	2	1	6	0		0	2	8	0	0	0		10	0	0	0	0	0		0	8	2	0	0	0		10	0	0	0	0	
100ppm	10	0	0	1	1	2	6	0		0	4	6	0	0	0		10	0	0	0	0	0		0	8	2	0	0	0		10	0	0	0	0	
200ppm	10	0	0	0	2	3	5	0		0	0	6	4	0	0		10	0	0	0	0	0		0	5	3	2	0	0		10	0	0	0	0	
300ppm	10	0	0	1	0	3	4	2		0	0	4	6	0	0	*	10	0	0	0	0	0		0	0	4	6	0	0	**	10	0	0	0	0	
400ppm	9	0	3	2	2	1	1	0		0	5	3	1	0	0		9	0	0	0	0	0		0	1	5	3	0	0	**	9	0	0	0	0	

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

Test of CHI SQUARE

(HCL101)

BAIS 4

STUDY NO. : 0436

URINALYSIS

ANIMAL : MOUSE Crj:BDF1

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

PAGE : 4

Group Name	NO. of Animals	Urobilinogen ± + 2+ 3+ 4+ CHI
------------	-------------------	----------------------------------

Control	10	10 0 0 0 0
---------	----	------------

50ppm	10	10 0 0 0 0
-------	----	------------

100ppm	10	10 0 0 0 0
--------	----	------------

200ppm	10	10 0 0 0 0
--------	----	------------

300ppm	10	10 0 0 0 0
--------	----	------------

400ppm	9	9 0 0 0 0
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Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of CHI SQUARE

(HCL101)

BAIS 4

APPENDIX E 1

HEMATOLOGY : SUMMARY, MOUSE : MALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
MEASURE. TIME : 1  
SEX : MALE

HEMATOLOGY (SUMMARY)  
ALL ANIMALS ( 14W)

REPORT TYPE : A1

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	10	10.94±	0.29	15.7±	0.3	50.4±	0.9	46.0±	0.8	14.4±	0.2	31.2±	0.4	1490±	78
50ppm	10	10.36±	0.38**	15.1±	0.6*	48.6±	1.2*	46.9±	0.7*	14.6±	0.2	31.0±	0.5	1437±	54
100ppm	10	10.28±	0.43**	15.0±	0.6*	48.6±	2.0*	47.3±	0.5**	14.6±	0.1	30.9±	0.3	1430±	52
200ppm	10	10.26±	0.39**	14.9±	0.6*	48.7±	1.4*	47.5±	0.7**	14.5±	0.2	30.6±	0.6*	1461±	70
300ppm	7	9.69±	0.47**	14.3±	0.6**	48.1±	1.5*	49.7±	1.1**	14.7±	0.3**	29.6±	0.5**	1590±	77*
400ppm	4	8.81±	0.16**	13.4±	0.3**	45.5±	0.6**	51.7±	0.5**	15.1±	0.3**	29.3±	0.6**	1772±	99**

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

Test of Dunnett

(HCL070)

BAIS 4

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : MALE

HEMATOLOGY (SUMMARY)  
 ALL ANIMALS ( 14W)

REPORT TYPE : A1

PAGE : 2

Group Name	NO. of Animals	WBC 10 <sup>9</sup> /μl		Differential N-BAND		WBC (%) N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	10	2.52±	1.74	1±	1	12±	4	1±	1	0±	0	3±	2	84±	4	0±	0
50ppm	10	1.72±	1.06	1±	1	14±	3	1±	1	0±	0	3±	2	82±	3	0±	0
100ppm	10	1.49±	0.93	2±	2	12±	5	1±	1	0±	0	3±	3	84±	5	0±	0
200ppm	10	1.95±	1.23	1±	1	14±	3	1±	1	0±	0	3±	2	80±	4	0±	0
300ppm	7	2.24±	1.23	1±	1	17±	9	2±	2	0±	0	4±	2	76±	10	0±	0
400ppm	4	1.68±	1.20	1±	1	28±	3**	2±	1	0±	0	4±	3	66±	5**	0±	0

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

\*\* :  $P \leq 0.01$

Test of Dunnett

APPENDIX E 2

HEMATOLOGY : SUMMARY, MOUSE : FEMALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : FEMALE

HEMATOLOGY (SUMMARY)  
 ALL ANIMALS ( 14W)

REPORT TYPE : A1

PAGE : 3

Group Name	NO. of Animals	RED BLOOD CELL 10 <sup>5</sup> /μl		HEMOGLOBIN g/dl		HEMATOCRIT %		MCV fl		MCH pg		MCHC g/dl		PLATELET 10 <sup>3</sup> /μl	
Control	10	10.63±	0.64	15.6±	1.2	49.2±	3.1	46.3±	0.6	14.6±	0.4	31.6±	0.8	1395±	98
50ppm	10	10.49±	0.37	15.5±	0.6	49.0±	1.2	46.7±	0.7	14.8±	0.2	31.7±	0.6	1388±	172
100ppm	10	10.52±	0.30	15.5±	0.4	48.8±	1.1	46.5±	0.6	14.7±	0.2	31.7±	0.3	1300±	62
200ppm	10	10.28±	0.41	15.2±	0.7	48.9±	1.8	47.6±	0.7**	14.8±	0.2	31.2±	0.5	1256±	361
300ppm	10	9.21±	0.46**	14.1±	0.7**	46.7±	2.0*	50.7±	0.7**	15.3±	0.1**	30.3±	0.4**	1458±	51
400ppm	9	8.79±	0.44**	13.7±	0.8**	45.2±	2.2**	51.5±	0.9**	15.5±	0.3**	30.2±	0.4**	1657±	149**

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

Test of Dunnett

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : FEMALE

HEMATOLOGY (SUMMARY)  
 ALL ANIMALS ( 14W)

REPORT TYPE : A1

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	10	1.76±	1.13	1±	1	15±	5	1±	1	0±	0	2±	1	81±	4	0±	0
50ppm	10	1.52±	0.77	1±	1	17±	6	1±	2	0±	0	2±	1	79±	5	0±	0
100ppm	10	1.55±	1.07	1±	1	18±	6	1±	1	0±	0	2±	2	78±	5	0±	0
200ppm	10	1.66±	1.55	1±	1	14±	6	1±	2	0±	0	2±	1	82±	4	0±	0
300ppm	10	1.60±	1.12	1±	1	15±	4	3±	2	0±	0	4±	2	77±	5	0±	0
400ppm	9	2.54±	1.56	2±	2	18±	4	2±	1	0±	0	4±	2*	74±	5*	0±	0

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

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS4



APPENDIX F 1

BIOCHEMISTRY : SUMMARY, MOUSE : MALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : MALE

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 14W)

REPORT TYPE : A1

PAGE : 1

Group Name	NO. of Animals	TOTAL PROTEIN g/dl		ALBUMIN g/dl		A/G RATIO		T-BILIRUBIN mg/dl		GLUCOSE mg/dl		T-CHOLESTEROL mg/dl		TRIGLYCERIDE mg/dl	
Control	10	5.2±	0.2	3.0±	0.1	1.4±	0.1	0.15±	0.01	219±	22	83±	12	31±	9
50ppm	10	5.0±	0.1	3.0±	0.1	1.5±	0.1	0.15±	0.01	174±	38*	75±	7	20±	5
100ppm	10	5.0±	0.2**	2.9±	0.1	1.5±	0.1	0.15±	0.01	184±	43	72±	8	18±	8*
200ppm	10	4.9±	0.1**	2.9±	0.1	1.5±	0.1	0.16±	0.01	191±	32	79±	13	14±	3**
300ppm	8	5.1±	0.1	3.1±	0.1	1.6±	0.1**	0.16±	0.03	180±	32	96±	5	28±	15
400ppm	4	5.0±	0.1	3.1±	0.1	1.6±	0.1**	0.18±	0.02*	213±	33	100±	4	42±	9

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

Test of Dunnett

(HCL074)

BAIS 4

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : MALE

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 14W)

REPORT TYPE : A1

PAGE : 2

Group Name	NO. of Animals	PHOSPHOLIPID mg/dl		GOT IU/l		GPT IU/l		LDH IU/l		ALP IU/l		G-GTP IU/l		CPK IU/l	
Control	10	179±	23	40±	4	17±	2	183±	35	141±	10	2±	1	45±	11
50ppm	10	163±	13	43±	6	16±	3	180±	27	142±	15	2±	1	41±	7
100ppm	10	155±	18*	41±	7	17±	3	218±	118	134±	10	3±	1	49±	8
200ppm	10	162±	25	39±	6	18±	3	171±	30	144±	12	2±	1	43±	16
300ppm	8	206±	8*	52±	12	21±	5	212±	50	174±	8**	1±	1	43±	11
400ppm	4	213±	17*	139±	24**	95±	37**	397±	64*	325±	45**	2±	0	86±	54

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

Test of Dunnett

(HCL074)

BAIS 4

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : MALE

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 14W)

REPORT TYPE : A1

PAGE : 3

Group Name	NO. of Animals	UREA NITROGEN mg/dl		SODIUM mEq/l		POTASSIUM mEq/l		CHLORIDE mEq/l		CALCIUM mg/dl		INORGANIC PHOSPHORUS mg/dl	
Control	10	27.9±	5.7	150±	1	4.5±	0.2	120±	2	9.0±	0.3	7.9±	1.1
50ppm	10	25.0±	2.5	151±	1**	4.3±	0.2	121±	3	8.8±	0.2	7.7±	0.6
100ppm	10	26.1±	4.6	151±	1*	4.6±	0.3	122±	2	8.7±	0.1*	7.6±	0.6
200ppm	10	25.2±	3.5	150±	1	4.4±	0.3	121±	2	8.6±	0.2**	6.5±	0.6**
300ppm	8	22.3±	3.5	150±	1	4.9±	0.5	120±	2	8.9±	0.3	7.8±	0.9
400ppm	4	22.8±	1.9	151±	1	5.0±	0.3*	120±	2	8.9±	0.1	7.9±	1.7

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

Test of Dunnett

(HCL074)

BAIS 4

APPENDIX F 2

BIOCHEMISTRY : SUMMARY, MOUSE : FEMALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : FEMALE

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 14W)

REPORT TYPE : A1

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		TRIGLYCERIDE mg/dl	
Control	10	5.3±	0.2	3.3±	0.1	1.7±	0.2	0.14±	0.01	168±	28	77±	12	17±	8
50ppm	10	5.2±	0.1	3.3±	0.1	1.7±	0.1	0.14±	0.03	166±	26	74±	11	16±	4
100ppm	10	5.2±	0.1	3.3±	0.1	1.7±	0.1	0.14±	0.02	155±	20	71±	7	13±	5
200ppm	10	5.2±	0.1	3.3±	0.1	1.8±	0.1	0.14±	0.00	169±	22	78±	5	12±	4
300ppm	10	5.1±	0.2	3.4±	0.1	1.9±	0.1**	0.15±	0.02	183±	29	92±	7**	18±	8
400ppm	9	5.2±	0.2	3.4±	0.1	1.9±	0.1**	0.18±	0.03**	171±	70	109±	8**	69±	56*

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

\*\* :  $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 14W)

PAGE : 5

Group Name	NO. of Animals	PHOSPHOLIPID mg/dl		GOT I U / l		GPT I U / l		LDH I U / l		ALP I U / l		G-GTP I U / l		CPK I U / l	
Control	10	160±	20	53±	10	21±	4	201±	21	237±	56	1±	0	58±	22
50ppm	10	156±	17	60±	31	21±	8	233±	93	217±	27	2±	1	62±	41
100ppm	10	147±	19	54±	13	20±	3	207±	54	209±	20	2±	1	55±	23
200ppm	10	158±	15	45±	9	18±	3	226±	96	201±	28	1±	1	53±	29
300ppm	10	185±	16*	75±	45	27±	25	276±	119	195±	29	1±	1	48±	21
400ppm	9	227±	19**	206±	173*	95±	180	568±	364**	197±	16	2±	1	93±	43

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

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS 4

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 MEASURE. TIME : 1  
 SEX : FEMALE

BIOCHEMISTRY (SUMMARY)  
 ALL ANIMALS ( 14W)

REPORT TYPE : A1

PAGE : 6

Group Name	NO. of Animals	UREA NITROGEN mg/dl		SODIUM mEq/l		POTASSIUM mEq/l		CHLORIDE mEq/l		CALCIUM mg/dl		INORGANIC PHOSPHORUS mg/dl	
Control	10	29.0±	13.2	151±	2	4.2±	0.4	121±	3	9.2±	0.4	7.2±	1.2
50ppm	10	23.3±	3.4	151±	2	4.4±	0.3	122±	2	9.0±	0.3	7.1±	0.7
100ppm	10	22.4±	2.5	151±	1	4.4±	0.3	122±	2	8.9±	0.1	6.8±	1.0
200ppm	10	21.6±	2.7	151±	2	4.3±	0.3	121±	2	9.0±	0.1	6.5±	1.0
300ppm	10	19.1±	2.1**	150±	1	4.5±	0.3	120±	1	9.1±	0.2	7.4±	1.5
400ppm	9	15.7±	2.6**	152±	1	4.2±	0.3	117±	3**	9.4±	0.2	8.0±	1.8

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

Test of Dunnett



## APPENDIX G 1

GROSS FINDINGS : SUMMARY, MOUSE : MALE : DEAD AND MORIBUND ANIMALS  
( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name	Control		50ppm		100ppm		200ppm	
		NO. of Animals	0	(%)	0	(%)	0	(%)	0	(%)
thymus	atrophic		-	( -)	-	( -)	-	( -)	-	( -)
spleen	black zone		-	( -)	-	( -)	-	( -)	-	( -)
liver	pale		-	( -)	-	( -)	-	( -)	-	( -)
	accentuation of lobular structure		-	( -)	-	( -)	-	( -)	-	( -)

(HPT080)

BAIS 3

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

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

PAGE : 2

Organ	Findings	Group Name		300ppm		400ppm	
		NO. of Animals		2	(%)	6	(%)
thymus	atrophic			1	( 50)	1	( 17)
spleen	black zone			0	( 0)	1	( 17)
liver	pale			1	( 50)	5	( 83)
	accentuation of lobular structure			1	( 50)	4	( 67)

(HPT080)

BAIS 3

## APPENDIX G 2

GROSS FINDINGS : SUMMARY, MOUSE : MALE : SACRIFICED ANIMALS  
( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

GROSS FINDINGS (SUMMARY)  
SACRIFICED ANIMALS ( 14W)

PAGE : 1

Organ	Findings	Group Name NO. of Animals	Control		50ppm		100ppm		200ppm	
			10	(%)	10	(%)	10	(%)	10	(%)
forestomach	thick		0	( 0)	0	( 0)	0	( 0)	0	( 0)
liver	black zone		0	( 0)	0	( 0)	0	( 0)	0	( 0)
kidney	hydronephrosis		1	( 10)	1	( 10)	0	( 0)	1	( 10)
testis	atrophic		1	( 10)	0	( 0)	0	( 0)	0	( 0)

(HPT080)

BAIS 3

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

GROSS FINDINGS (SUMMARY)  
SACRIFICED ANIMALS ( 14W)

PAGE : 2

---

Organ	Findings	Group Name NO. of Animals	300ppm	400ppm
			8 (%)	4 (%)
forestomach	thick		2 ( 25)	4 (100)
liver	black zone		1 ( 13)	0 ( 0)
kidney	hydronephrosis		0 ( 0)	0 ( 0)
testis	atrophic		0 ( 0)	0 ( 0)

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(HPT080)

BAIS 3

## APPENDIX G 3

GROSS FINDINGS : SUMMARY, MOUSE : FEMALE : DEAD AND MORIBUND ANIMALS  
( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : FEMALE

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

PAGE : 3

Organ_____	Findings_____	Group Name	Control		50ppm		100ppm		200ppm	
		NO. of Animals	0	(%)	0	(%)	0	(%)	0	(%)
liver	white zone		-	( -)	-	( -)	-	( -)	-	( -)

(HPT080)

BAIS 3



STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : FEMALE

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

PAGE : 4

Organ	Findings	Group Name NO. of Animals	300ppm 0 (%)	400ppm 1 (%)
liver	white zone		- ( -)	1 (100)

(HPT080)

BAIS 3

## APPENDIX G 4

GROSS FINDINGS : SUMMARY, MOUSE : FEMALE : SACRIFICED ANIMALS

( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : FEMALE

GROSS FINDINGS (SUMMARY)  
SACRIFICED ANIMALS ( 14W)

PAGE : 3

Organ	Findings	Group Name NO. of Animals	Control		50ppm		100ppm		200ppm	
			10	(%)	10	(%)	10	(%)	10	(%)
spleen	black zone		0	( 0)	0	( 0)	0	( 0)	2	( 20)
forestomach	thick		0	( 0)	0	( 0)	0	( 0)	0	( 0)
liver	white zone		0	( 0)	0	( 0)	0	( 0)	0	( 0)
kidney	hydronephrosis		2	( 20)	1	( 10)	0	( 0)	0	( 0)

(HPT080)

BAIS 3

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : FEMALE

GROSS FINDINGS (SUMMARY)  
SACRIFICED ANIMALS ( 14W)

PAGE : 4

Organ	Findings	Group Name NO. of Animals	300ppm		400ppm	
			10	(%)	9	(%)
spleen	black zone		1	( 10)	0	( 0)
forestomach	thick		2	( 20)	9	(100)
liver	white zone		0	( 0)	1	( 11)
kidney	hydronephrosis		0	( 0)	0	( 0)

(HPT080)

BAIS 3

## APPENDIX H 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOUSE : MALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE  
UNIT: g

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

PAGE : 1

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	29.3± 1.7	0.034± 0.010	0.008± 0.002	0.202± 0.060	0.151± 0.008	0.164± 0.009
50ppm	10	29.5± 3.1	0.035± 0.006	0.009± 0.002	0.223± 0.025	0.161± 0.011	0.172± 0.015
100ppm	10	28.1± 2.1	0.030± 0.006	0.009± 0.002	0.234± 0.023	0.159± 0.013	0.173± 0.012
200ppm	10	26.6± 1.4*	0.031± 0.002	0.008± 0.002	0.229± 0.024	0.149± 0.011	0.163± 0.018
300ppm	8	25.6± 1.0**	0.034± 0.005	0.009± 0.002	0.220± 0.017	0.142± 0.004	0.160± 0.009
400ppm	4	24.1± 0.8**	0.029± 0.007	0.009± 0.001	0.210± 0.023	0.152± 0.001	0.158± 0.006

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

Test of Dunnett

(HCL040)

BAIS 4

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE  
 UNIT: g

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

PAGE : 2

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	10	0.434±	0.041	0.047±	0.009	1.166±	0.051	0.428±	0.017
50ppm	10	0.462±	0.034	0.048±	0.008	1.209±	0.099	0.446±	0.018
100ppm	10	0.462±	0.027	0.041±	0.005	1.187±	0.057	0.438±	0.026
200ppm	10	0.450±	0.030	0.041±	0.006	1.152±	0.085	0.442±	0.018
300ppm	8	0.461±	0.022	0.043±	0.003	1.330±	0.127**	0.440±	0.016
400ppm	4	0.480±	0.012	0.052±	0.005	1.517±	0.084**	0.425±	0.012

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

Test of Dunnett

(HCL040)

BAIS 4

## APPENDIX H 2

ORGAN WEIGHT, ABSOLUTE: SUMMARY, MOUSE : FEMALE

( 13-WEEK STUDY )



STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: g

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

PAGE : 3

Group Name	NO. of Animals	Body Weight	THYMUS		ADRENALS		OVARIES		HEART		LUNGS	
Control	10	21.7± 1.1	0.042±	0.009	0.010±	0.002	0.022±	0.006	0.136±	0.019	0.156±	0.012
50ppm	10	22.1± 1.4	0.038±	0.006	0.010±	0.002	0.025±	0.006	0.131±	0.010	0.160±	0.014
100ppm	10	21.3± 0.9	0.041±	0.005	0.011±	0.002	0.026±	0.005	0.125±	0.011	0.172±	0.013
200ppm	10	21.7± 1.3	0.040±	0.004	0.010±	0.002	0.023±	0.005	0.124±	0.007	0.159±	0.015
300ppm	10	22.0± 0.7	0.040±	0.006	0.010±	0.002	0.025±	0.005	0.139±	0.007	0.161±	0.014
400ppm	9	21.1± 0.5	0.041±	0.005	0.010±	0.003	0.023±	0.007	0.132±	0.008	0.155±	0.011

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

Test of Dunnett

(HCL040)

BATS 4

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: g

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

PAGE : 4

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	10	0.348±	0.166	0.052±	0.005	0.953±	0.080	0.445±	0.021
50ppm	10	0.327±	0.083	0.056±	0.015	1.012±	0.081	0.459±	0.022
100ppm	10	0.296±	0.015	0.050±	0.007	0.982±	0.052	0.456±	0.017
200ppm	10	0.306±	0.016	0.048±	0.007	1.033±	0.077	0.447±	0.022
300ppm	10	0.332±	0.010*	0.052±	0.005	1.206±	0.102**	0.448±	0.014
400ppm	9	0.350±	0.026**	0.062±	0.007	1.532±	0.151**	0.406±	0.017**

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

Test of Dunnett

(HCL040)

BATS 4

APPENDIX I 1

ORGAN WEIGHT, RELATIVE : SUMMARY, MOUSE : MALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE  
UNIT: %

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

PAGE : 1

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	29.3± 1.7	0.116± 0.031	0.029± 0.007	0.691± 0.208	0.518± 0.049	0.563± 0.040
50ppm	10	29.5± 3.1	0.119± 0.019	0.031± 0.006	0.764± 0.120	0.547± 0.033	0.583± 0.036
100ppm	10	28.1± 2.1	0.107± 0.014	0.030± 0.007	0.838± 0.093	0.570± 0.060*	0.616± 0.029*
200ppm	10	26.6± 1.4*	0.116± 0.010	0.030± 0.008	0.866± 0.112*	0.561± 0.035	0.611± 0.070
300ppm	8	25.6± 1.0**	0.131± 0.018	0.034± 0.009	0.859± 0.065	0.554± 0.031	0.626± 0.034*
400ppm	4	24.1± 0.8**	0.118± 0.028	0.036± 0.006	0.870± 0.076	0.632± 0.022**	0.657± 0.035**

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

Test of Dunnett

(HCL042)

BAIS 4

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE  
 UNIT: %

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

PAGE : 2

Group Name	N0. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	1.487± 0.160	0.160± 0.035	3.993± 0.227	1.468± 0.128
50ppm	10	1.572± 0.084	0.163± 0.019	4.111± 0.267	1.527± 0.178
100ppm	10	1.654± 0.131**	0.145± 0.020	4.247± 0.284	1.566± 0.114
200ppm	10	1.690± 0.062**	0.154± 0.017	4.327± 0.213	1.662± 0.083**
300ppm	8	1.801± 0.114**	0.166± 0.015	5.188± 0.413**	1.719± 0.059**
400ppm	4	1.990± 0.104**	0.216± 0.026**	6.292± 0.378**	1.762± 0.076**

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

Test of Dunnett

(HCL042)

BAIS 4

## APPENDIX I 2

ORGAN WEIGHT, RELATIVE : SUMMARY, MOUSE : FEMALE

( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: %

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

PAGE : 3

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	10	21.7± 1.1	0.195± 0.046	0.048± 0.009	0.101± 0.026	0.627± 0.099	0.717± 0.058
50ppm	10	22.1± 1.4	0.171± 0.023	0.047± 0.006	0.115± 0.028	0.595± 0.058	0.722± 0.048
100ppm	10	21.3± 0.9	0.192± 0.021	0.052± 0.009	0.122± 0.019	0.587± 0.043	0.811± 0.064**
200ppm	10	21.7± 1.3	0.187± 0.020	0.048± 0.009	0.108± 0.022	0.573± 0.037	0.733± 0.076
300ppm	10	22.0± 0.7	0.181± 0.028	0.046± 0.011	0.115± 0.027	0.634± 0.041	0.732± 0.063
400ppm	9	21.1± 0.5	0.192± 0.023	0.047± 0.014	0.108± 0.033	0.626± 0.043	0.739± 0.059

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

Test of Dunnett

(HCL042)

BAIS 4

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : FEMALE  
UNIT: %

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

PAGE : 4

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	1.611± 0.805	0.240± 0.027	4.383± 0.248	2.051± 0.140
50ppm	10	1.476± 0.330	0.250± 0.055	4.575± 0.258	2.083± 0.162
100ppm	10	1.391± 0.058	0.236± 0.025	4.622± 0.226	2.144± 0.089
200ppm	10	1.415± 0.084	0.220± 0.022	4.764± 0.201	2.064± 0.142
300ppm	10	1.510± 0.073	0.236± 0.022	5.477± 0.344**	2.040± 0.090
400ppm	9	1.665± 0.130**	0.293± 0.033*	7.285± 0.783**	1.927± 0.095

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

Test of Dunnett

(HCL042)

BAIS 4



## APPENDIX J 1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS :  
SUMMARY, MOUSE : MALE : DEAD AND MORIBUND ANIMALS

( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name No. of Animals on Study Grade	Control				50ppm				100ppm				200ppm			
			0				0				0				0			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			< 0>				< 0>				< 0>				< 0>			
	respiratory metaplasia:olfactory epithelium		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	desquamation:olfactory epithelium		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	atrophy:olfactory epithelium		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	necrosis:olfactory epithelium		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
lung			< 0>				< 0>				< 0>				< 0>			
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
{Hematopoietic system}																		
bone marrow			< 0>				< 0>				< 0>				< 0>			
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
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. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 2

		Group Name				300ppm				400ppm			
		No. of Animals on Study				2				6			
Organ	Findings	Grade				1	2	3	4	1	2	3	4
						(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}													
nasal cavit		< 2>				< 6>							
	respiratory metaplasia:olfactory epithelium	0	0	0	0	1	0	0	0	( 17)	( 0)	( 0)	( 0)
		( 0)	( 0)	( 0)	( 0)								
	desquamation:olfactory epithelium	0	0	0	0	6	0	0	0	(100)	( 0)	( 0)	( 0)
		( 0)	( 0)	( 0)	( 0)								
	atrophy:olfactory epithelium	1	0	0	0	0	0	0	0	( 0)	( 0)	( 0)	( 0)
		( 50)	( 0)	( 0)	( 0)								
	necrosis:olfactory epithelium	2	0	0	0	0	0	0	0	( 0)	( 0)	( 0)	( 0)
		(100)	( 0)	( 0)	( 0)								
lung		< 2>				< 6>							
	congestion	1	0	0	0	3	0	0	0	( 50)	( 0)	( 0)	( 0)
		( 50)	( 0)	( 0)	( 0)								
{Hematopoietic system}													
bone marrow		< 2>				< 6>							
	congestion	1	0	0	0	1	2	3	0	( 50)	( 33)	( 50)	( 0)
		( 50)	( 0)	( 0)	( 0)	( 17)	( 33)	( 50)	( 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. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

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

PAGE : 3

Organ	Findings	Group Name No. of Animals on Study				Control 0				50ppm 0				100ppm 0				200ppm 0			
		Grade																			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Hematopoietic system)																					
lymph node		< 0>				< 0>				< 0>				< 0>				< 0>			
	atrophy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	karyorrhexis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
thymus		< 0>				< 0>				< 0>				< 0>				< 0>			
	atrophy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	karyorrhexis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
spleen		< 0>				< 0>				< 0>				< 0>				< 0>			
	atrophy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	engorgement of erythrocyte	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
{Circulatory system}																					
heart		< 0>				< 0>				< 0>				< 0>				< 0>			
	ground glass appearance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )

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

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 4

Organ	Findings	300ppm				400ppm			
		2				6			
		1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}									
lymph node		< 2>				< 5>			
	atrophy	0	0	1	0	0	0	0	0
		( 0 )	( 0 )	( 50 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	karyorrhexis	0	0	0	0	1	4	0	0
		( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 80 )	( 0 )	( 0 )
thymus		< 2>				< 6>			
	atrophy	0	0	1	0	0	0	1	0
		( 0 )	( 0 )	( 50 )	( 0 )	( 0 )	( 0 )	( 17 )	( 0 )
	karyorrhexis	1	0	0	0	2	3	0	0
		( 50 )	( 0 )	( 0 )	( 0 )	( 33 )	( 50 )	( 0 )	( 0 )
spleen		< 2>				< 5>			
	atrophy	0	0	1	0	3	2	0	0
		( 0 )	( 0 )	( 50 )	( 0 )	( 60 )	( 40 )	( 0 )	( 0 )
	engorgement of erythrocyte	1	0	0	0	1	0	0	0
		( 50 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )
{Circulatory system}									
heart		< 2>				< 6>			
	ground glass appearance	0	0	1	0	0	5	1	0
		( 0 )	( 0 )	( 50 )	( 0 )	( 0 )	( 83 )	( 17 )	( 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. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

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

PAGE : 5

		Group Name	Control				50ppm				100ppm				200ppm			
		No. of Animals on Study	0				0				0				0			
Organ	Findings	Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			< 0>				< 0>				< 0>				< 0>			
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	necrosis:central		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	fatty change:central		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	
	mineralization:central		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	vacuolic change:central		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
{Urinary system}																		
kidney			< 0>				< 0>				< 0>				< 0>			
	hyaline cast:urinary tubule		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
{Endocrine system}																		
pituitary			< 0>				< 0>				< 0>				< 0>			
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )

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. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 6

		300ppm				400ppm			
		2				6			
Group Name	No. of Animals on Study								
Grade		1	2	3	4	1	2	3	4
Organ_____	Findings_____	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<hr/>									
{Digestive system}									
liver		< 2>				< 6>			
	congestion	1	0	0	0	0	0	0	0
		( 50)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
	necrosis:central	0	0	1	0	0	0	2	0
		( 0)	( 0)	( 50)	( 0)	( 0)	( 0)	( 33)	( 0)
	fatty change:central	1	0	0	0	1	4	0	0
	( 50)	( 0)	( 0)	( 0)	( 17)	( 67)	( 0)	( 0)	
mineralization:central		0	0	0	0	0	1	0	0
	( 0)	( 0)	( 0)	( 0)	( 0)	( 17)	( 0)	( 0)	
vacuolic change:central		0	0	0	0	0	1	4	0
	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 17)	( 67)	( 0)
{Urinary system}									
kidney		< 2>				< 6>			
	hyaline cast:urinary tubule	2	0	0	0	0	0	0	0
	(100)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
{Endocrine system}									
pituitary		< 2>				< 6>			
	congestion	1	0	0	0	6	0	0	0
	( 50)	( 0)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)	( 0)

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

STUDY NO. : 0436  
 ANIMAL : MOUSE Cri:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 7

Organ	Findings	Group Name				Control				50ppm				100ppm				200ppm			
		No. of Animals on Study				0				0				0				0			
		Grade				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																					
adrenal	congestion	< 0>				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
{Reproductive system}																					
testis	germ cell necrosis	< 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)

BAIS4



STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 8

Organ	Findings	Group Name		300ppm				400ppm			
		No. of Animals on Study		2				6			
		Grade		1	2	3	4	1	2	3	4
				(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

{Endocrine system}

adrenal	congestion	< 2>				< 6>			
		1	0	0	0	6	0	0	0
		( 50)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)	( 0)

{Reproductive system}

testis	germ cell necrosis	< 2>				< 6>			
		0	0	0	0	2	0	0	0
		( 0)	( 0)	( 0)	( 0)	( 33)	( 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)

BAIS4

## APPENDIX J 2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS :  
SUMMARY, MOUSE : MALE : SACRIFICED ANIMALS

( 13-WEEK STUDY )

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name No. of Animals on Study Grade	Control				50ppm				100ppm				200ppm			
			10				10				10				10			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
{Respiratory system}																		
nasal cavit			<10>				<10>				<10>				<10>			
	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 )	
	atrophy: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 )	
	necrosis:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	
lung			<10>				<10>				<10>				<10>			
	congestion		0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 10 )	( 0 )	( 0 )	( 0 )	( 0 )	
{Hematopoietic system}																		
bone marrow			<10>				<10>				<10>				<10>			
	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 )	
spleen			<10>				<10>				<10>				<10>			
	deposit of hemosiderin		0	0	0	0	0	0	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  
Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 2

		Group Name		300ppm				400ppm			
		No. of Animals on Study		8				4			
Organ	Findings	Grade		1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}											
nasal cavit		< 8>				< 4>					
	respiratory metaplasia:olfactory epithelium	3	0	0	0	2	0	0	0		
		( 38)	( 0)	( 0)	( 0)	( 50)	( 0)	( 0)	( 0)		
	atrophy:olfactory epithelium	6	0	0	0 **	4	0	0	0 **		
		( 75)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)	( 0)		
	necrosis:olfactory epithelium	2	0	0	0	1	0	0	0		
		( 25)	( 0)	( 0)	( 0)	( 25)	( 0)	( 0)	( 0)		
lung		< 8>				< 4>					
	congestion	0	0	0	0	0	0	0	0		
		( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)		
{Hematopoietic system}											
bone marrow		< 8>				< 4>					
	erythropoiesis:increased	3	0	0	0	2	0	0	0		
		( 38)	( 0)	( 0)	( 0)	( 50)	( 0)	( 0)	( 0)		
spleen		< 8>				< 4>					
	deposit of hemosiderin	0	0	0	0	4	0	0	0 **		
		( 0)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)	( 0)		

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
 < a > a : Number of animals examined at the site  
 b b : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

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

PAGE : 3

Organ	Findings	Group Name No. of Animals on Study Grade	Control				50ppm				100ppm				200ppm			
			10				10				10				10			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
spleen			<10>				<10>				<10>				<10>			
	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	1	0	0	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 10 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	megakaryocyte: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 )
{Circulatory system}																		
heart			<10>				<10>				<10>				<10>			
	ground glass appearance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Digestive system}																		
stomach			<10>				<10>				<10>				<10>			
	hyperplasia:forestomach		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 10 )	( 0 )	( 0 )	( 0 )

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
< a > a : Number of animals examined at the site  
b : Number of animals with lesion  
( c ) c : b / a \* 100  
Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 4

Organ	Findings	300ppm				400ppm			
		1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}									
spleen		< 8>				< 4>			
	deposit of melanin	1	0	0	0	0	0	0	0
		( 13)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
	increased extramedullary hematopoiesis	3	0	0	0	0	4	0	0 **
		( 38)	( 0)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)
	megakaryocyte:increased	3	0	0	0	4	0	0	0 **
		( 38)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)	( 0)
{Circulatory system}									
heart		< 8>				< 4>			
	ground glass appearance	2	0	0	0	3	0	0	0 *
		( 25)	( 0)	( 0)	( 0)	( 75)	( 0)	( 0)	( 0)
{Digestive system}									
stomach		< 8>				< 4>			
	hyperplasia:forestomach	2	0	0	0	2	2	0	0 **
		( 25)	( 0)	( 0)	( 0)	( 50)	( 50)	( 0)	( 0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
 < a > a : Number of animals examined at the site  
 b : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : MALE

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

PAGE : 5

Organ	Findings	Group Name No. of Animals on Study Grade	Control				50ppm				100ppm				200ppm			
			10				10				10				10			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Digestive system)																		
liver																		
	necrosis:central		<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)
	swelling: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)
	mineralization: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)
	vacuolic change: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)
(Urinary system)																		
kidney																		
	basophilic change		<10>				<10>				<10>				<10>			
			1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			( 10)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 10)	( 0)	( 0)	( 0)
	inflammatory polyp		0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
			( 0)	( 10)	( 0)	( 0)	( 0)	( 10)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 10)	( 0)	( 0)
	vacuolization of proximal tubule		5	3	0	0	6	4	0	0	7	1	2	0	8	0	0	0
			( 50)	( 30)	( 0)	( 0)	( 60)	( 40)	( 0)	( 0)	( 70)	( 10)	( 20)	( 0)	( 80)	( 0)	( 0)	( 0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
< a > a : Number of animals examined at the site  
b : Number of animals with lesion  
( c ) c : b / a \* 100  
Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 6

		Group Name	300ppm				400ppm			
		No. of Animals on Study	8				4			
Organ	Findings	Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}										
liver			< 8>				< 4>			
	necrosis:central		0	0	0	0	1	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 25 )	( 0 )	( 0 )	( 0 )
	swelling:central		8	0	0	0 **	2	1	1	0 **
			(100)	( 0 )	( 0 )	( 0 )	( 50 )	( 25 )	( 25 )	( 0 )
	mineralization:central		0	0	0	0	1	2	0	0 **
			( 0 )	( 0 )	( 0 )	( 0 )	( 25 )	( 50 )	( 0 )	( 0 )
	vacuolic change:central		0	0	0	0	2	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 50 )	( 0 )	( 0 )	( 0 )
{Urinary system}										
kidney			< 8>				< 4>			
	basophilic change		0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	inflammatory polyp		0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	vacuolization of proximal tubule		5	0	0	0	0	0	0	0 *
			( 63 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
 < a > a : Number of animals examined at the site  
 b : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square



STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 7

Organ	Findings	Group Name No. of Animals on Study Grade	Control				50ppm				100ppm				200ppm			
			10				10				10				10			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney	hydronephrosis		<10>				<10>				<10>				<10>			
			0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
			( 0 )	( 0 )	( 10 )	( 0 )	( 0 )	( 0 )	( 10 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 10 )	( 0 )
	tubular necrosis:proximale tubule		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	hyaline cast:urinary tubule		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Endocrine system}																		
thyroid	ultimibranchial body remanet		<10>				<10>				<10>				<10>			
			0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 10 )	( 0 )	( 0 )	( 0 )
{Reproductive system}																		
testis	hypoplasia		<10>				<10>				<10>				<10>			
			1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			( 10 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
 < a > a : Number of animals examined at the site  
 b : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : MALE

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

PAGE : 8

		Group Name	300ppm				400ppm			
		No. of Animals on Study	8				4			
Organ_____	Findings_____	Grade	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<hr/>										
{Urinary system}										
kidney			< 8>				< 4>			
	hydronephrosis		0	0	0	0	0	0	0	0
			( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
	tubular necrosis:proximale tubule		1	0	0	0	0	0	0	0
			( 13)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
	hyaline cast:urinary tubule		1	0	0	0	0	0	0	0
			( 13)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
{Endocrine system}										
thyroid			< 8>				< 4>			
	ultimibranchial body remanet		0	0	0	0	0	0	0	0
			( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
{Reproductive system}										
testis			< 8>				< 4>			
	hypoplasia		0	0	0	0	0	0	0	0
			( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
 < a > a : Number of animals examined at the site  
 b : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

## APPENDIX J 3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS :  
SUMMARY, MOUSE : FEMALE : DEAD AND MORIBUND ANIMALS

( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 9

Organ	Findings	Group Name No. of Animals on Study Grade	Control 0				50ppm 0				100ppm 0				200ppm 0			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit	atrophy:olfactory epithelium		< 0>				< 0>				< 0>				< 0>			
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	necrosis:olfactory epithelium		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
lung	congestion		< 0>				< 0>				< 0>				< 0>			
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
{Hematopoietic system}																		
bone marrow	erythropoiesis:increased		< 0>				< 0>				< 0>				< 0>			
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
spleen	deposit of hemosiderin		< 0>				< 0>				< 0>				< 0>			
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	increased extramedullary hematopoiesis		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )

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. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 10

		300ppm				400ppm			
		No. of Animals on Study				1			
		Grade				0			
Organ	Findings	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}									
nasal cavit		< 0>				< 1>			
	atrophy:olfactory epithelium	-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )
	necrosis:olfactory epithelium	-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )
lung		< 0>				< 1>			
	congestion	-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )
{Hematopoietic system}									
bone marrow		< 0>				< 1>			
	erythropoiesis:increased	-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )
spleen		< 0>				< 1>			
	deposit of hemosiderin	-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )
	increased extramedullary hematopoiesis	-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )

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

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 11

Organ	Findings	Group Name No. of Animals on Study Grade	Control 0				50ppm 0				100ppm 0				200ppm 0			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
spleen	engorgement of erythrocyte		< 0>				< 0>				< 0>				< 0>			
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
{Circulatory system}																		
heart	ground glass appearance		< 0>				< 0>				< 0>				< 0>			
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	mineralization		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
{Digestive system}																		
stomach	inflammation:foreign body		< 0>				< 0>				< 0>				< 0>			
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	hyperplasia:forestomach		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )

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

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 12

		Group Name				300ppm				400ppm			
		No. of Animals on Study				0				1			
		Grade				1	2	3	4	1	2	3	4
Organ	Findings					(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

{Hematopoietic system}

spleen	engorgement of erythrocyte	< 0>				< 1>			
		-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )

{Circulatory system}

heart	ground glass appearance	< 0>				< 1>			
		-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )
	mineralization	< 0>				< 1>			
		-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )

{Digestive system}

stomach	inflammation:foreign body	< 0>				< 1>			
		-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	(100)	( 0 )	( 0 )	( 0 )
	hyperplasia:forestomach	< 0>				< 1>			
		-	-	-	-	0	1	0	0
		( - )	( - )	( - )	( - )	( 0 )	(100)	( 0 )	( 0 )

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

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 13

Organ_____	Findings_____	Group Name				Control				50ppm				100ppm				200ppm			
		No. of Animals on Study				0				0				0				0			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)			
<hr/>																					
{Digestive system}																					
liver		< 0>				< 0>				< 0>				< 0>							
	mineralization:central	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )			
	vacuolic change:central	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )			

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)

BAIS4



STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 14

		300ppm				400ppm			
		0				1			
		No. of Animals on Study							
		Grade							
Organ	Findings	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

{Digestive system}

liver	mineralization:central	< 0>				< 1>			
		-	-	-	-	1	0	0	0
		( -)	( -)	( -)	( -)	(100)	( 0)	( 0)	( 0)
	vacuolic change:central	-	-	-	-	1	0	0	0
		( -)	( -)	( -)	( -)	(100)	( 0)	( 0)	( 0)

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

(HPT150)

BAIS4

## APPENDIX J 4

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS :  
SUMMARY, MOUSE : FEMALE : SACRIFICED ANIMALS

( 13-WEEK STUDY )

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 9

Organ	Findings	Group Name No. of Animals on Study Grade	Control				50ppm				100ppm				200ppm			
			10				10				10				10			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<10>				<10>				<10>				<10>			
	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 )	( 0 )	( 0 )
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	necrosis:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Hematopoietic system}																		
bone marrow			<10>				<10>				<10>				<10>			
	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 )
spleen			<10>				<10>				<10>				<10>			
	deposit of hemosiderin		0	0	0	0	0	0	0	0	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 melanin		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
 < a > a : Number of animals examined at the site  
 b : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : FEMALE

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

PAGE : 10

		300ppm				400ppm			
		10				9			
Group Name	No. of Animals on Study								
Grade		1	2	3	4	1	2	3	4
Organ_____	Findings_____	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<hr/>									
{Respiratory system}									
nasal cavit		<10>				< 9>			
	respiratory metaplasia:olfactory epithelium	4	0	0	0	3	0	0	0
		( 40)	( 0)	( 0)	( 0)	( 33)	( 0)	( 0)	( 0)
	atrophy:olfactory epithelium	7	0	0	0 **	8	0	0	0 **
		( 70)	( 0)	( 0)	( 0)	( 89)	( 0)	( 0)	( 0)
	necrosis:olfactory epithelium	4	0	0	0	1	0	0	0
		( 40)	( 0)	( 0)	( 0)	( 11)	( 0)	( 0)	( 0)
{Hematopoietic system}									
bone marrow		<10>				< 9>			
	erythropoiesis:increased	4	0	0	0	3	0	0	0
		( 40)	( 0)	( 0)	( 0)	( 33)	( 0)	( 0)	( 0)
spleen		<10>				< 9>			
	deposit of hemosiderin	0	0	0	0	9	0	0	0 **
		( 0)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)	( 0)
	deposit of melanin	1	0	0	0	1	0	0	0
		( 10)	( 0)	( 0)	( 0)	( 11)	( 0)	( 0)	( 0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
< a > a : Number of animals examined at the site  
b : Number of animals with lesion  
( c ) c : b / a \* 100  
Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$  Test of Chi Square

STUDY NO. : 0436  
ANIMAL : MOUSE Crj:BDF1  
REPORT TYPE : A1  
SEX : FEMALE

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

PAGE : 11

Organ	Findings	Group Name No. of Animals on Study				Control				50ppm				100ppm				200ppm			
		Grade				10				10				10				10			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																					
spleen		<10>				<10>				<10>				<10>				<10>			
	increased extramedullary hematopoiesis	0	0	0	0	0	1	0	0	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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	engorgement of erythrocyte	0	0	0	0	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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 10 )	( 0 )	( 0 )	( 0 )
	megakaryocyte:increased	0	0	0	0	1	0	0	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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Circulatory system}																					
heart		<10>				<10>				<10>				<10>				<10>			
	ground glass appearance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Digestive system}																					
stomach		<10>				<10>				<10>				<10>				<10>			
	inflammation:foreign body	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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 : Number of animals with lesion  
( c ) c : b / a \* 100  
Significant difference ; \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 12

Organ	Findings	300ppm				400ppm			
		10				9			
		1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}									
spleen		<10>				< 9>			
	increased extramedullary hematopoiesis	5	0	0	0 *	4	5	0	0 **
		( 50)	( 0)	( 0)	( 0)	( 44)	( 56)	( 0)	( 0)
	engorgement of erythrocyte	0	0	0	0	0	0	0	0
		( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
	megakaryocyte:increased	3	0	0	0	9	0	0	0 **
		( 30)	( 0)	( 0)	( 0)	(100)	( 0)	( 0)	( 0)
{Circulatory system}									
heart		<10>				< 9>			
	ground glass appearance	3	0	0	0	4	1	3	0 **
		( 30)	( 0)	( 0)	( 0)	( 44)	( 11)	( 33)	( 0)
	mineralization	0	0	0	0	8	1	0	0 **
		( 0)	( 0)	( 0)	( 0)	( 89)	( 11)	( 0)	( 0)
{Digestive system}									
stomach		<10>				< 9>			
	inflammation:foreign body	0	0	0	0	2	0	0	0
		( 0)	( 0)	( 0)	( 0)	( 22)	( 0)	( 0)	( 0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
 < a > a : Number of animals examined at the site  
 b b : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$  Test of Chi Square

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 13

Organ	Findings	Group Name No. of Animals on Study				Control				50ppm				100ppm				200ppm			
		Grade				10				10				10				10			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																					
stomach		<10>				<10>				<10>				<10>				<10>			
	hyperplasia:forestomach	0	0	0	0	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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 10 )	( 0 )	( 0 )	( 0 )
liver		<10>				<10>				<10>				<10>				<10>			
	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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	swelling: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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
	mineralization: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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Urinary system}																					
kidney		<10>				<10>				<10>				<10>				<10>			
	hydronephrosis	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
		( 0 )	( 0 )	( 20 )	( 0 )	( 0 )	( 0 )	( 10 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
{Endocrine system}																					
pituitary		<10>				<10>				<10>				<10>				<10>			
	congestion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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 : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference : \* : P ≤ 0.05 \*\* : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 14

Organ	Findings	Group Name		300ppm				400ppm			
		No. of Animals on Study		10				9			
		Grade		1	2	3	4	1	2	3	4
				(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}											
stomach	hyperplasia:forestomach			<10>				< 9>			
				5	5	0	0 **	4	3	2	0 **
				( 50)	( 50)	( 0)	( 0)	( 44)	( 33)	( 22)	( 0)
liver	necrosis:focal			<10>				< 9>			
				0	0	0	0	1	0	0	0
				( 0)	( 0)	( 0)	( 0)	( 11)	( 0)	( 0)	( 0)
	swelling:central			<10>				< 9>			
				7	0	0	0 **	8	1	0	0 **
				( 70)	( 0)	( 0)	( 0)	( 89)	( 11)	( 0)	( 0)
	mineralization:central			<10>				< 9>			
				0	0	0	0	2	6	0	0 **
				( 0)	( 0)	( 0)	( 0)	( 22)	( 67)	( 0)	( 0)
{Urinary system}											
kidney	hydronephrosis			<10>				< 9>			
				0	0	0	0	0	0	0	0
				( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
{Endocrine system}											
pituitary	congestion			<10>				< 9>			
				0	0	0	0	1	0	0	0
				( 0)	( 0)	( 0)	( 0)	( 11)	( 0)	( 0)	( 0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe

< a > a : Number of animals examined at the site

b b : Number of animals with lesion

( c ) c : b / a \* 100

Significant difference : \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$  Test of Chi Square



STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 15

Organ	Findings	Group Name No. of Animals on Study Grade	Control				50ppm				100ppm				200ppm			
			10				10				10				10			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
thyroid			<10>				<10>				<10>				<10>			
	ultimibranhial body remanet		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
parathyroid			<10>				<10>				<10>				<10>			
	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 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )
adrenal			<10>				<10>				<10>				<10>			
	congestion		0	0	0	0	0	0	0	0	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 : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$  Test of Chi Square

STUDY NO. : 0436  
 ANIMAL : MOUSE Crj:BDF1  
 REPORT TYPE : A1  
 SEX : FEMALE

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

PAGE : 16

Organ	Findings	Group Name No. of Animals on Study				300ppm				400ppm			
		Grade				10				9			
		1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}													
thyroid		<10>				< 9>							
	ultimibranhial body remanet	1	0	0	0	0	0	0	0	0	0	0	0
		( 10)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
parathyroid		<10>				< 9>							
	cyst	1	0	0	0	0	0	0	0	0	0	0	0
		( 10)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)
adrenal		<10>				< 9>							
	congestion	0	0	0	0	1	0	0	0	0	0	0	0
		( 0)	( 0)	( 0)	( 0)	( 11)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)	( 0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe  
 < a > a : Number of animals examined at the site  
 b : Number of animals with lesion  
 ( c ) c : b / a \* 100  
 Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$  Test of Chi Square

(HPT150)

BAIS4

## APPENDIX K 1

### IDENTITY OF 1,2-DICHLOROPROPANE IN THE 13-WEEK INHALATION STUDY

## IDENTITY OF 1,2-DICHLOROPROPANE IN THE 13-WEEK INHALATION STUDY

Test Substance : 1,2-Dichloropropane (Wako Pure Chemical Industries, Ltd.)

Lot No. : LDL5937

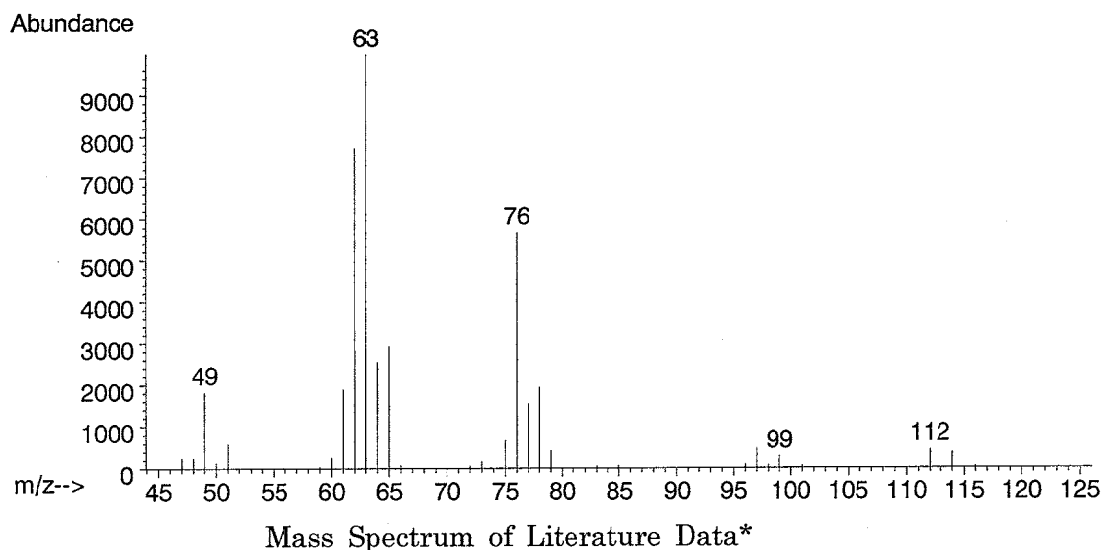
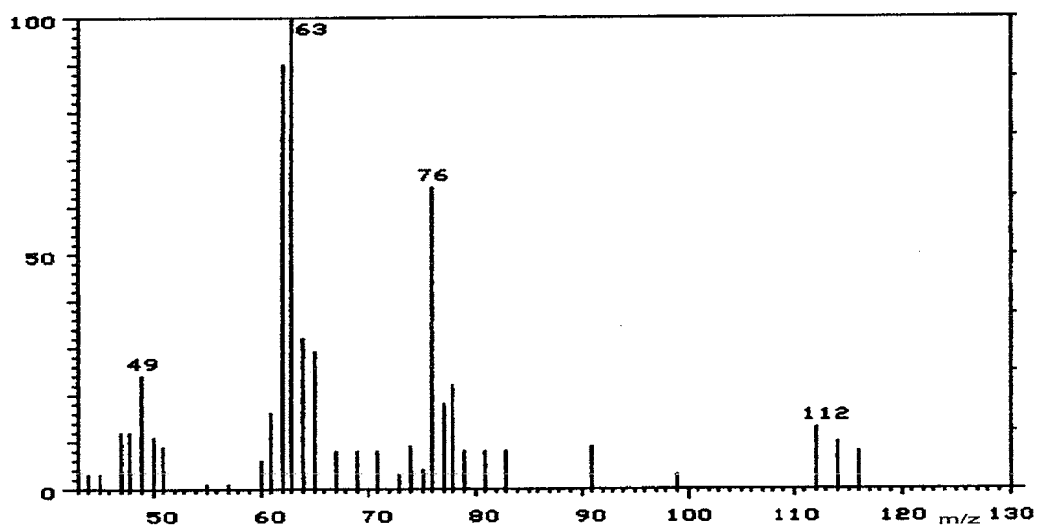
## 1. Spectral Data

Mass Spectrometry

Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Result: The mass spectrum was consistent with literature spectrum.

(\*McLafferty F. W. (1994)

Wiley Registry of Mass Spectral Data, (6<sup>th</sup> edition), Entry Number 10229.

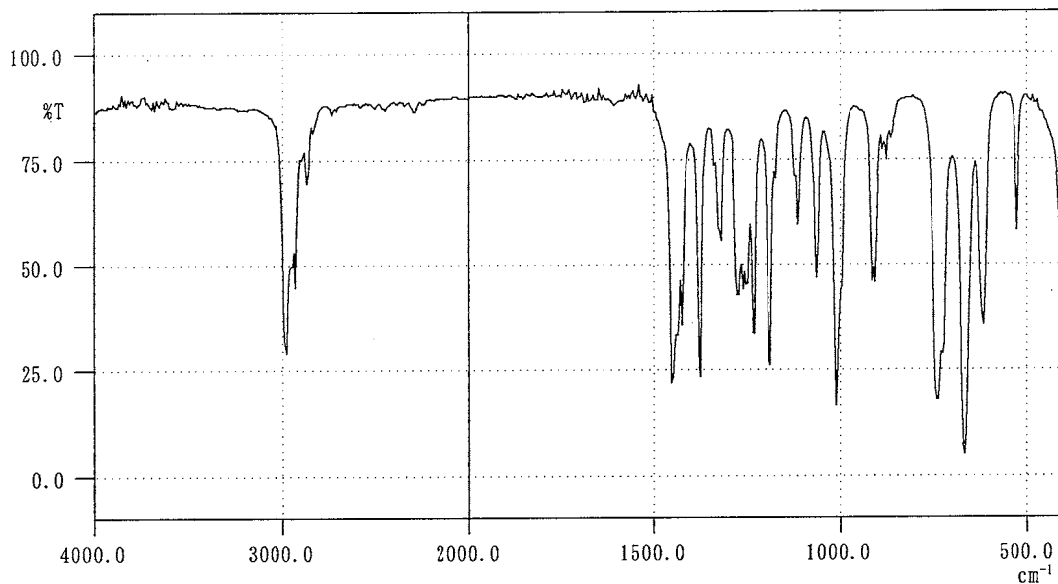
John Wiley and Sons, New York, NY)

Infrared Spectrometry

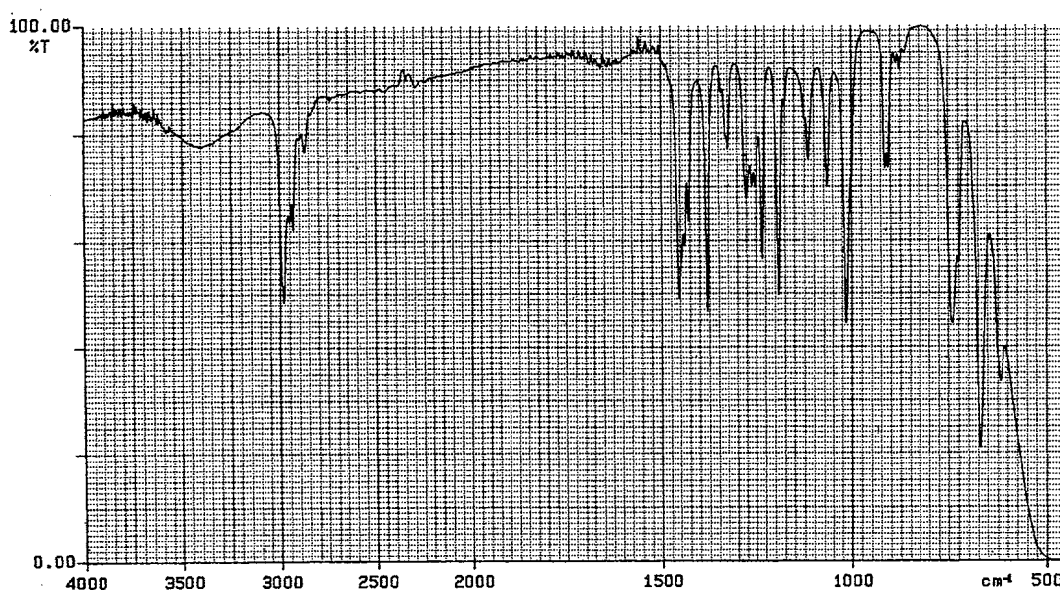
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution :  $4\text{ cm}^{-1}$



Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data\*

Result: The infrared spectrum was consistent with literature spectrum.

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

2. Conclusion: The test substance was identified as 1,2-dichloropropane by the mass spectrum and the infrared spectrum.

## APPENDIX K 2

### STABILITY OF 1,2-DICHLOROPROPANE IN THE 13-WEEK INHALATION STUDY

## STABILITY OF 1,2-DICHLOROPROPANE IN THE 13-WEEK INHALATION STUDY

Test Substance : 1,2-Dichloropropane (Wako Pure Chemical Industries, Ltd.)

Lot No. : LDL5937

1. Sample : This lot was used from 2001.9.12 to 2001.12.11. Test substance was stored in a dark place at room temperature.

## 2. Gas Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone ( 0.53 mm  $\phi$   $\times$  60 m)

Column Temperature: 100° C

Flow Rate : 15 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1  $\mu$ L

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
2001.08.21	1	3.348	99.72
	2	4.659	0.28
2001.12.17	1	3.347	99.71
	2	4.658	0.29

Result: Gas chromatography indicated one major peak (peak No.1) and one impurity (peak No.2 < 0.3% of total area) analyzed on 2001.8.21 and one major peak (peak No.1) and one impurity (peak No.2 < 0.3% of total area) analyzed on 2001.12.17. No new trace impurity peak in the test substance analyzed on 2001.12.17 was detected.

3. Conclusion: The test substance was stable for about 4 months in a dark place at room temperature.

## APPENDIX L 1

### CONCENTRATION OF 1,2-DICHLOROPROPANE IN THE INHALATION CHAMBER OF THE 13-WEEK INHALATION STUDY



CONCENTRATION OF 1,2-DICHLOROPROPANE IN THE INHALATION CHAMBER  
OF THE 13-WEEK INHALATION STUDY

Group Name	Concentration(ppm)
	Mean $\pm$ S.D.
Control	0.0 $\pm$ 0.0
50 ppm	50.0 $\pm$ 0.3
100 ppm	100.1 $\pm$ 0.8
200 ppm	200.0 $\pm$ 1.2
300 ppm	300.2 $\pm$ 1.4
400 ppm	399.9 $\pm$ 2.6

## APPENDIX L 2

### ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 13-WEEK INHALATION STUDY OF 1,2-DICHLOROPROPANE

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 13-WEEK INHALATION STUDY OF  
1,2-DICHLOROPROPANE

Group Name	Temperature(°C) Mean ± S.D.	Humidity(%) Mean ± S.D.	Ventilation Rate(L/min) Mean ± S.D.	Air Change(time/h) Mean
Control	22.3 ± 0.1	57.8 ± 1.0	104.5 ± 0.3	12.1
50ppm	22.4 ± 0.1	57.8 ± 0.9	104.3 ± 0.5	12.0
100ppm	22.3 ± 0.1	57.6 ± 0.8	104.2 ± 0.4	12.0
200ppm	22.2 ± 0.1	56.4 ± 1.0	104.4 ± 0.5	12.0
300ppm	22.4 ± 0.1	56.0 ± 1.1	104.5 ± 0.5	12.1
400ppm	22.1 ± 0.1	55.6 ± 1.3	104.8 ± 0.4	12.1

## APPENDIX M 1

### METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALYSIS IN THE 13-WEEK INHALATION STUDY OF 1,2-DICHLOROPROPANE

METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALYSIS  
IN THE 13-WEEK INHALATION STUDY OF 1,2-DICHLOROPROPANE

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)	Pattern recognition method <sup>2)</sup>
Differential WBC	(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>
Triglyceride	LPL·GK·GPO·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>
Alkaline phosphatase (ALP)	GSCC 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>
<b>Urinalysis</b>	
pH, Protein, Glucose, Ketone body, Occult blood, Urobilinogen	Urinalysis reagent paper method <sup>4)</sup>

1) Automatic blood cell analyzer (ADVIA120 : Bayer Corporation)

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

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

4) Ames reagent strips for urinalysis (Uro-Labstix : Bayer Corporation)

## APPENDIX M 2

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY  
IN THE 13-WEEK INHALATION STUDY OF 1,2-DICHLOROPROPANE

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY  
IN THE 13-WEEK INHALATION STUDY OF 1,2-DICHLOROPROPANE

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
Triglyceride	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
Alkaline phosphatase (ALP)	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