

酢酸イソプロピルのマウスを用いた
吸入による13週間毒性試験報告書

試験番号：0559

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APPENDIX A 1

IDENTITY AND IMPURITY OF ISOPROPYL ACETATE
IN THE 13-WEEK INHALATION STUDY

IDENTITY AND IMPURITY OF ISOPROPYL ACETATE IN THE 13-WEEK INHALATION STUDY

Test Substance : Isopropyl acetate (Wako Pure Chemical Industries, Ltd.)

Lot No. : KLL5209

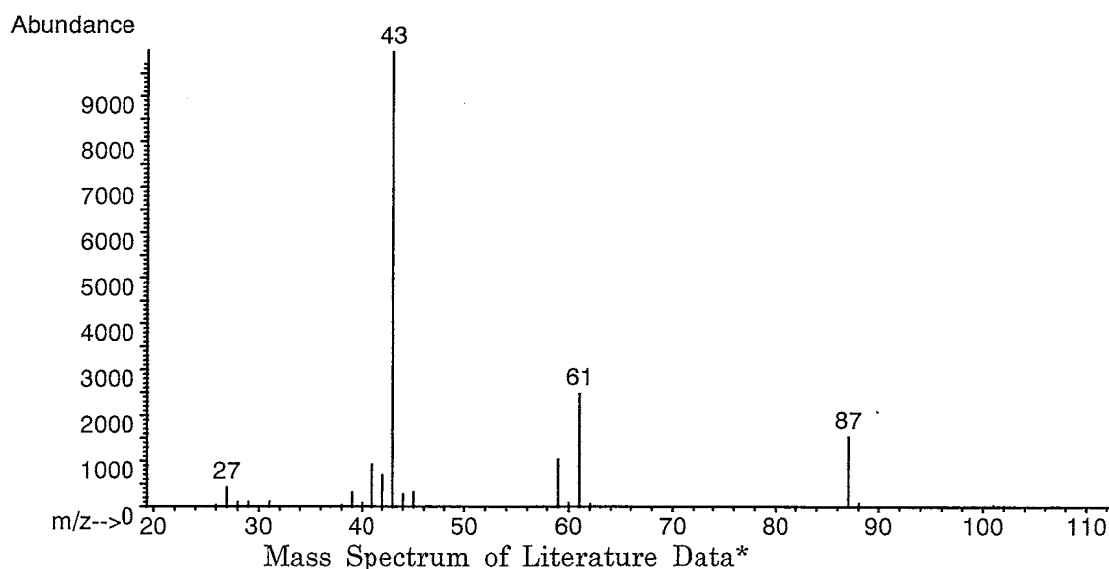
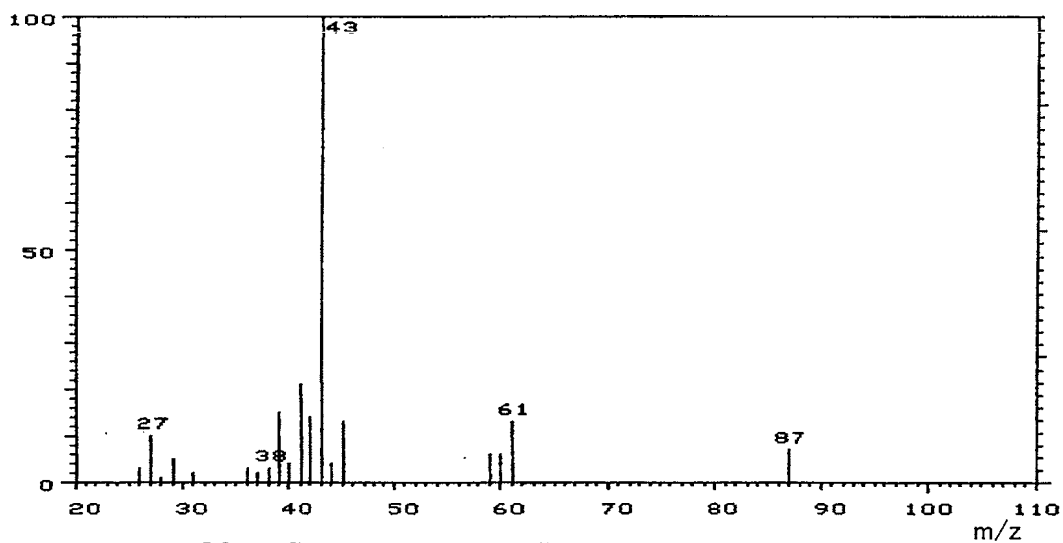
1. Spectral Data

Mass Spectrometry

Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



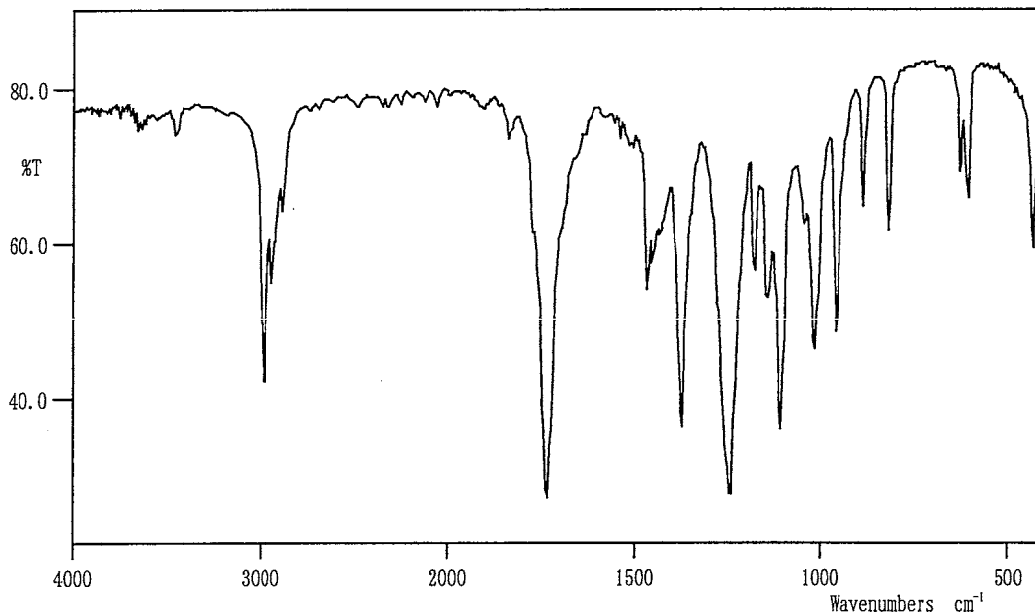
Result: The mass spectrum was consistent with literature spectrum.

(*McLafferty FW, ed. 1994. Wiley Registry of Mass Spectral Data. 6th ed. New York, NY:John Wiley and Sons.)

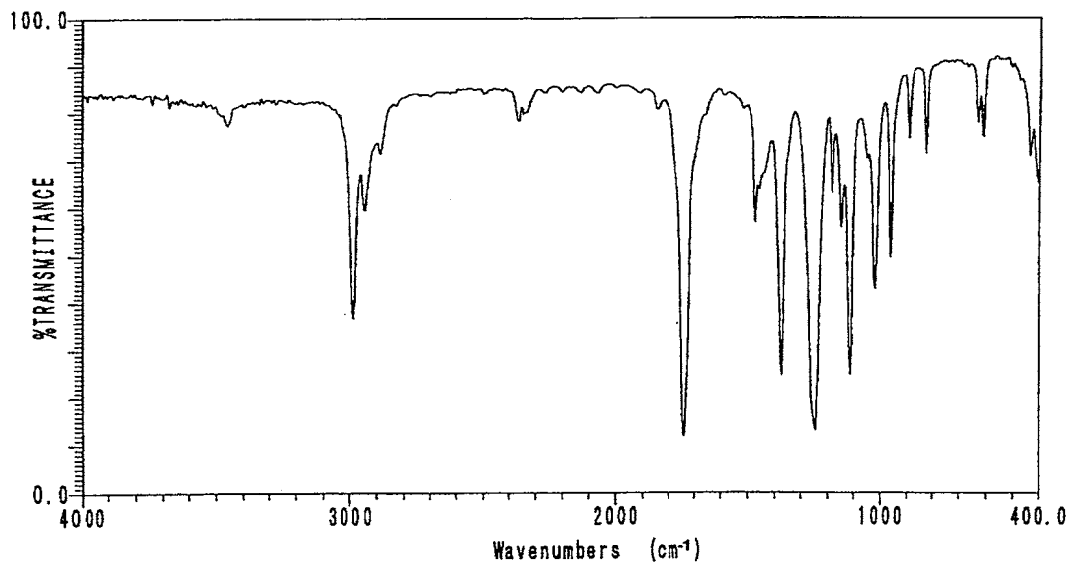
Infrared Spectrometry

Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1} 

Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data*

Result: The infrared spectrum was consistent with literature spectrum.

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

2. Impurity

Instrument : Hewlett Packard 5890A Gas Chromatograph
Column : Methyl Silicone (0.53 mm ϕ \times 60 m)
Column Temperature: 80° C
Flow Rate : 15 mL/min
Detector : FID (Flame Ionization Detector)
Injection Volume : 1 μ L

Sample Name	Peak No.	Area (%)	Peak Name
	1	0.038	2-Propanol
Test Substance	2	99.962	Isopropyl acetate

Result: Gas chromatography indicated one major peak (peak No. 2) and one impurity. The impurity (peak No. 1) was identified as 2-propanol by comparing GC-MS with that of standard sample. The amount of 2-propanol in the test substance was 0.038% (The quantity value by the standard sample was 0.043%.) with a gas chromatograph.

3. Conclusion: The test substance was identified as isopropyl acetate by mass spectrum and infrared spectrum. Gas chromatography indicated one major peak (isopropyl acetate) and one impurity. The impurity was 2-propanol in the test substance.

APPENDIX A 2

STABILITY OF ISOPROPYL ACETATE IN THE 13-WEEK INHALATION STUDY

STABILITY OF ISOPROPYL ACETATE IN THE 13-WEEK INHALATION STUDY

Test Substance : Isopropyl acetate (Wako Pure Chemical Industries, Ltd.)

Lot No. : KLL5209

1. Sample : This lot was used from 2004.9.15 to 2004.12.14. 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 ϕ \times 60 m)

Column Temperature: 80° C

Flow Rate : 15 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μ L

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
2004.09.14	1	1.947	0.038
	2	4.099	99.962
2004.12.17	1	1.977	0.039
	2	4.031	99.961

Result: Gas chromatography indicated one major peak (peak No.2) and one impurity (peak No. 1 < 0.1% of total area) analyzed on 2004.9.14 and one major peak (peak No.2) and one impurity (peak No. 1 < 0.1% of total area) analyzed on 2004.12.17. No new trace impurity peak in the test substance analyzed on 2004.12.17 was detected.

3. Conclusion: The test substance was stable for about 13 weeks in a dark place at room temperature.

APPENDIX B

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER
IN THE 13-WEEK INHALATION STUDY OF
ISOPROPYL ACETATE

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 13-WEEK
INHALATION STUDY OF ISOPROPYL ACETATE

Group Name	Temperature (°C) Mean ± S.D.	Humidity (%) Mean ± S.D.	Ventilation Rate (L/min) Mean ± S.D.	Air Change (time/h) Mean
Control	22.4 ± 0.3	59.7 ± 1.5	104.6 ± 0.2	12.1
250 ppm	22.3 ± 0.3	57.5 ± 1.2	104.5 ± 0.6	12.1
500 ppm	22.3 ± 0.3	57.8 ± 1.5	104.7 ± 0.5	12.1
1000 ppm	22.4 ± 0.3	57.0 ± 1.8	104.9 ± 0.4	12.1
2000 ppm	22.4 ± 0.3	52.9 ± 2.0	104.5 ± 0.4	12.1
4000 ppm	22.5 ± 0.2	51.5 ± 3.0	104.5 ± 0.5	12.1

APPENDIX C

CLINICAL OBSERVATION : MALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0
	250ppm	0	0	0	1	1	1	1	1	1	1	1	1	1
	500ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	Control	0	1	1	3	3	3	3	3	3	2	2	2	2
	250ppm	0	2	2	1	1	2	2	2	2	1	1	1	1
	500ppm	1	1	1	1	1	1	1	0	1	1	0	0	0
	1000ppm	0	1	1	1	1	1	0	1	1	1	0	0	0
	2000ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000ppm	0	1	1	1	1	1	1	1	1	1	1	1	1

APPENDIX D 1

BODY WEIGHT CHANGES : MALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/CrLj[Crj:BDF1]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day						
	0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	23.5± 0.9	24.2± 1.1	25.1± 1.8	25.7± 1.5	26.6± 1.6	27.7± 1.5	28.3± 1.6
250ppm	23.5± 0.9	23.8± 1.4	24.3± 1.9	24.6± 2.2	26.2± 0.8	26.9± 0.9	27.4± 1.1
500ppm	23.5± 0.9	24.7± 1.0	26.1± 0.9	26.7± 1.2	27.6± 1.1	28.2± 1.2	28.6± 1.2
1000ppm	23.5± 0.9	24.4± 1.9	25.1± 1.4	25.6± 1.3	26.6± 1.3	27.1± 1.4	27.9± 1.8
2000ppm	23.5± 0.9	25.0± 0.9	25.7± 1.3	26.2± 1.3	26.9± 1.3	27.1± 1.8	27.9± 1.6
4000ppm	23.5± 0.9	24.9± 0.9	25.0± 2.2	25.9± 1.6	27.0± 1.5	27.4± 1.3	28.1± 1.2

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

Test of Dunnett

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day						
	7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	28.9± 1.5	29.6± 1.8	30.6± 2.0	31.5± 2.1	31.8± 2.1	32.4± 2.0	32.9± 2.2
250ppm	27.9± 1.2	28.6± 1.0	28.9± 1.3	29.7± 1.5	30.2± 1.7	30.5± 1.6	31.0± 1.8
500ppm	29.4± 1.4	29.7± 1.4	30.3± 1.8	30.9± 1.8	31.0± 1.8	31.5± 2.1	32.6± 2.0
1000ppm	28.2± 1.9	28.9± 2.1	29.6± 2.1	30.3± 2.4	30.7± 2.5	31.2± 2.7	31.8± 2.7
2000ppm	28.0± 1.9	29.0± 1.9	29.9± 2.0	30.4± 2.1	30.9± 2.5	31.3± 2.6	31.6± 2.7
4000ppm	28.6± 1.2	28.7± 1.5	29.7± 1.8	29.9± 2.0	30.5± 2.3	30.7± 2.2	31.1± 2.4

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

APPENDIX D 2

BODY WEIGHT CHANGES : FEMALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/CrLj[Crj:BDF1]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day						
	0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	19.1± 0.7	20.6± 0.8	21.3± 1.0	21.8± 1.1	22.6± 1.3	23.3± 1.0	23.8± 1.0
250ppm	19.1± 0.7	20.2± 0.8	20.6± 0.6	21.0± 0.9	22.0± 0.7	22.6± 0.8	23.0± 0.7
500ppm	19.1± 0.7	20.4± 0.8	21.2± 0.7	21.7± 0.5	22.6± 0.7	22.9± 0.7	23.8± 1.3
1000ppm	19.1± 0.7	20.6± 0.8	21.5± 1.0	22.1± 0.7	23.0± 1.4	23.4± 1.2	24.1± 1.0
2000ppm	19.1± 0.8	20.0± 0.7	20.7± 0.7	21.3± 0.6	22.2± 0.6	22.4± 0.6	22.8± 0.7
4000ppm	19.1± 0.7	20.3± 0.9	20.8± 0.7	21.6± 0.8	22.9± 1.1	22.6± 0.6	23.7± 0.8

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

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day						
	7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	24.1± 0.7	24.5± 1.0	24.9± 1.2	25.1± 1.2	25.5± 0.9	25.5± 1.1	25.4± 1.3
250ppm	23.5± 0.4	24.1± 1.3	24.1± 1.0	24.7± 0.8	24.7± 0.9	24.5± 0.9	24.8± 1.2
500ppm	24.1± 0.5	24.9± 0.8	24.7± 0.8	26.0± 1.1	25.8± 1.1	26.3± 1.3	26.4± 1.5
1000ppm	24.4± 0.9	25.2± 1.5	25.3± 1.5	25.6± 1.3	25.5± 1.4	25.9± 1.8	26.0± 1.6
2000ppm	23.5± 0.9	23.9± 0.7	24.1± 1.1	24.7± 0.9	25.3± 1.4	25.6± 1.0	24.9± 1.1
4000ppm	23.8± 1.4	24.7± 1.1	24.9± 0.9	24.8± 0.9	25.4± 1.2	25.5± 1.0	25.8± 1.0

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

Test of Dunnett

APPENDIX E 1

FOOD CONSUMPTION CHANGES : MALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

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	3.8± 0.3	3.8± 0.4	4.2± 0.6	4.3± 0.4	4.3± 0.4	4.4± 0.5	4.4± 0.4
250ppm	3.8± 0.6	4.0± 0.5	4.1± 0.3	4.4± 0.6	4.4± 0.3	4.3± 0.3	4.3± 0.3
500ppm	4.2± 0.4	4.3± 0.3*	4.3± 0.4	4.7± 0.4	4.7± 0.4	4.7± 0.4	4.6± 0.4
1000ppm	4.0± 0.6	4.0± 0.3	4.1± 0.3	4.4± 0.4	4.3± 0.3	4.4± 0.4	4.3± 0.3
2000ppm	4.1± 0.2	3.8± 0.3	4.0± 0.3	4.2± 0.3	4.1± 0.2	4.2± 0.2	4.1± 0.3
4000ppm	4.0± 0.3	3.6± 0.5	3.9± 0.2	4.1± 0.3	4.0± 0.2	4.1± 0.2	4.0± 0.2*

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

Test of Dunnett

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr-lj[Crj:BDF1]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day(effective)					
	8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
Control	4.5± 0.4	4.5± 0.4	4.6± 0.4	4.5± 0.4	4.5± 0.4	4.4± 0.2
250ppm	4.5± 0.3	4.4± 0.3	4.5± 0.4	4.5± 0.4	4.5± 0.3	4.4± 0.3
500ppm	4.8± 0.3	4.6± 0.4	4.7± 0.4	4.6± 0.3	4.7± 0.3	4.6± 0.3
1000ppm	4.4± 0.3	4.4± 0.4	4.5± 0.4	4.4± 0.3	4.5± 0.3	4.5± 0.3
2000ppm	4.3± 0.3	4.2± 0.2	4.3± 0.3	4.3± 0.1	4.3± 0.2	4.2± 0.1
4000ppm	4.1± 0.2**	4.1± 0.2	4.1± 0.3*	4.2± 0.3	4.2± 0.2	4.1± 0.2*

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

Test of Dunnett

APPENDIX E 2

FOOD CONSUMPTION CHANGES : FEMALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

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	3.6± 0.2	3.7± 0.2	4.0± 0.3	4.3± 0.2	4.5± 0.2	4.5± 0.2	4.6± 0.2
250ppm	3.5± 0.2	3.5± 0.3	3.7± 0.2	4.0± 0.2*	4.1± 0.3**	4.2± 0.2**	4.2± 0.3**
500ppm	3.6± 0.3	3.7± 0.3	3.8± 0.2	4.2± 0.3	4.1± 0.2**	4.4± 0.3	4.4± 0.2
1000ppm	3.6± 0.2	3.7± 0.2	3.9± 0.1	4.1± 0.2	4.1± 0.2**	4.3± 0.2	4.3± 0.2*
2000ppm	3.4± 0.2	3.5± 0.2	3.6± 0.3**	3.8± 0.3**	3.7± 0.3**	3.9± 0.2**	3.8± 0.4**
4000ppm	3.2± 0.5*	3.4± 0.3*	3.5± 0.2**	3.8± 0.3**	3.6± 0.2**	3.9± 0.2**	3.8± 0.3**

Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Dunnett

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 UNIT : g
 REPORT TYPE : A1 13
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day(effective)					
	8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
Control	4.6± 0.2	4.7± 0.2	4.6± 0.2	4.7± 0.3	4.5± 0.2	4.5± 0.3
250ppm	4.5± 0.4	4.2± 0.2**	4.3± 0.2*	4.3± 0.3*	4.3± 0.3	4.4± 0.3
500ppm	4.6± 0.3	4.4± 0.3	4.6± 0.2	4.4± 0.2	4.7± 0.2	4.5± 0.3
1000ppm	4.4± 0.2	4.3± 0.2**	4.4± 0.2*	4.2± 0.3**	4.4± 0.2	4.4± 0.3
2000ppm	4.0± 0.2**	3.9± 0.3**	4.1± 0.2**	3.9± 0.4**	4.0± 0.3**	3.8± 0.3**
4000ppm	3.9± 0.2**	3.9± 0.2**	4.0± 0.3**	4.0± 0.3**	4.0± 0.2**	4.0± 0.3**

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

Test of Dunnett

APPENDIX F 1

HEMATOLOGY : MALE

STUDY NO. : 0559

ANIMAL : MOUSE B6D2F1/CrLj[Crj:BDF1]

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)

ALL ANIMALS (14W)

PAGE : 1

Group Name	NO. of Animals	RED BLOOD CELL 10 ⁶ /μl		HEMOGLOBIN g/dl		HEMATOCRIT %		MCV fl		MCH pg		MCHC g/dl		PLATELET 10 ³ /μl	
Control	9	10.91±	0.44	16.1±	0.7	51.6±	1.2	47.3±	1.0	14.7±	0.3	31.2±	0.6	1356±	89
250ppm	8	10.88±	0.15	15.9±	0.5	51.0±	1.3	46.8±	1.2	14.6±	0.5	31.1±	0.7	1324±	93
500ppm	9	10.71±	0.22	16.0±	0.2	51.1±	1.2	47.7±	0.8	14.9±	0.2	31.3±	0.5	1278±	39
1000ppm	9	10.91±	0.26	16.1±	0.3	51.9±	0.9	47.6±	0.6	14.8±	0.2	31.1±	0.4	1305±	61
2000ppm	10	11.08±	0.23	16.6±	0.4	52.8±	1.3	47.6±	0.5	15.0±	0.1	31.5±	0.5	1358±	66
4000ppm	9	11.14±	0.33	16.9±	0.5*	54.3±	2.0**	48.7±	1.0**	15.2±	0.1**	31.3±	0.6	1369±	93

Significant difference ; * : P ≤ 0.05

** : P ≤ 0.01

Test of Dunnett

(HCL070)

BAIS 4

STUDY NO. : 0559

ANIMAL : MOUSE B6D2F1/CrLj[Crj:BDF1]

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)

ALL ANIMALS (14W)

PAGE : 2

Group Name	NO. of Animals	RETICULOCYTE %	
Control	9	2.2±	0.3
250ppm	8	2.3±	0.3
500ppm	9	2.4±	0.3
1000ppm	9	2.2±	0.2
2000ppm	10	2.2±	0.3
4000ppm	9	2.1±	0.2

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS 4

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/CrJ[Crj:BDF1]
 MEASURE. TIME : 1
 SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (14W)

Group Name	NO. of Animals	WBC		Differential		WBC (%)		EOSINO	BASO	MONO	LYMPHO	OTHER					
		1 O ³ /μℓ		N-BAND		N-SEG											
Control	9	2.00±	0.72	1±	1	13±	3	2±	2	0±	0	3±	2	81±	4	0±	0
250ppm	8	2.14±	0.75	0±	0	15±	3	1±	1	0±	0	2±	1	81±	3	0±	0
500ppm	9	2.01±	0.64	0±	1	13±	3	1±	1	0±	0	3±	1	83±	3	0±	0
1000ppm	9	1.94±	0.58	0±	1	12±	3	2±	1	0±	0	2±	1	84±	3	0±	0
2000ppm	10	2.16±	0.79	0±	0	14±	3	2±	1	0±	0	2±	1	82±	3	0±	0
4000ppm	9	1.80±	0.70	1±	1	13±	6	2±	1	0±	0	3±	1	82±	6	0±	0

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

Test of Dunnett

APPENDIX F 2

HEMATOLOGY : FEMALE

STUDY NO. : 0559

ANIMAL : MOUSE B6D2F1/CrLj[Crj:BDF1]

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)

ALL ANIMALS (14W)

PAGE : 4

Group Name	NO. of Animals	RED BLOOD CELL 10 ⁶ /μl		HEMOGLOBIN g/dl		HEMATOCRIT %		MCV fl		MCH pg		MCHC g/dl		PLATELET 10 ³ /μl	
Control	10	10.70±	0.23	16.1±	0.4	50.8±	1.8	47.5±	1.0	15.1±	0.2	31.8±	1.0	1233±	91
250ppm	10	10.55±	0.31	15.7±	0.6	50.1±	1.5	47.5±	0.5	14.9±	0.1	31.4±	0.5	1196±	72
500ppm	9	10.84±	0.33	16.5±	0.6	51.5±	1.5	47.5±	0.7	15.2±	0.2	32.1±	0.6	1231±	120
1000ppm	10	10.97±	0.19	16.6±	0.4	52.2±	1.0	47.6±	0.7	15.1±	0.1	31.8±	0.5	1206±	54
2000ppm	10	10.89±	0.15	16.7±	0.3	52.5±	0.9	48.2±	0.5	15.3±	0.2*	31.8±	0.4	1217±	80
4000ppm	9	10.78±	0.46	16.8±	0.8	53.2±	2.0**	49.3±	0.5**	15.6±	0.2**	31.5±	0.6	1213±	108

Significant difference ; * : P ≤ 0.05

** : P ≤ 0.01

Test of Dunnett

(HCL070)

BAIS 4

STUDY NO. : 0559
ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
MEASURE. TIME : 1
SEX : FEMALE

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

REPORT TYPE : A1

PAGE : 5

Group Name	NO. of Animals	RETICULOCYTE %	
Control	10	2.0±	0.3
250ppm	10	2.3±	0.5
500ppm	9	2.2±	0.5
1000ppm	10	2.3±	0.3
2000ppm	10	2.0±	0.3
4000ppm	9	2.1±	0.6

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

Test of Dunnett

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 MEASURE. TIME : 1
 SEX : FEMALE

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

Group Name	NO. of Animals	WBC		Differential		WBC (%)		EOSINO	BASO	MONO	LYMPHO	OTHER					
		1 O ³ /μl		N-BAND		N-SEG											
Control	10	1.25±	0.73	0±	0	17±	6	1±	1	0±	0	2±	2	80±	6	0±	0
250ppm	10	0.98±	0.65	0±	0	17±	5	1±	1	0±	0	1±	1	81±	4	0±	0
500ppm	9	1.62±	0.91	1±	1	13±	3	2±	2	0±	0	1±	1	83±	4	0±	0
1000ppm	10	1.64±	0.90	0±	0	16±	4	1±	1	0±	0	2±	3	81±	4	0±	0
2000ppm	10	1.71±	0.93	0±	1	12±	4	1±	1	0±	0	2±	1	85±	5	0±	0
4000ppm	9	1.91±	0.74	0±	0	14±	4	2±	1	0±	0	1±	0	83±	4	0±	0

Significant difference ; * : P ≤ 0.05

** : P ≤ 0.01

Test of Dunnett

APPENDIX G 1

BIOCHEMISTRY : MALE

STUDY NO. : 0559

ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)

ALL ANIMALS (14W)

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	9	5.3±	0.2	2.9±	0.1	1.2±	0.1	0.18±	0.07	235±	43	86±	10	22±	7
250ppm	8	5.2±	0.2	2.8±	0.2	1.2±	0.2	0.15±	0.02	207±	24	81±	16	15±	5
500ppm	9	5.1±	0.2	2.8±	0.2	1.3±	0.1	0.15±	0.01	184±	29	76±	13	18±	6
1000ppm	10	5.1±	0.1	2.8±	0.1	1.3±	0.1	0.17±	0.04	206±	29	75±	8	21±	11
2000ppm	10	5.2±	0.2	2.9±	0.1	1.3±	0.1	0.15±	0.02	226±	56	81±	15	22±	9
4000ppm	9	5.4±	0.2	3.0±	0.1	1.3±	0.1	0.17±	0.03	210±	47	80±	12	15±	7

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS 4

STUDY NO. : 0559

ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)

ALL ANIMALS (14W)

PAGE : 2

Group Name	NO. of Animals	PHOSPHOLIPID mg/dl		AST IU/l		ALT IU/l		LDH IU/l		ALP IU/l		G-GTP IU/l		CK IU/l	
Control	9	175±	20	49±	11	21±	9	256±	125	152±	14	1±	0	100±	101
250ppm	8	161±	29	57±	14	19±	4	263±	69	141±	21	1±	0	123±	57
500ppm	9	156±	22	56±	15	19±	3	235±	56	146±	9	1±	1	98±	53
1000ppm	10	155±	15	47±	5	17±	2	262±	97	148±	12	1±	1	80±	33
2000ppm	10	161±	20	55±	23	20±	5	238±	69	141±	6	1±	0	111±	69
4000ppm	9	157±	17	48±	14	18±	5	231±	54	145±	9	0±	1	89±	37

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS 4

STUDY NO. : 0559

ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]

MEASURE TIME : 1

SEX : MALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)

ALL ANIMALS (14W)

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	9	25.5±	4.2	151±	1	4.6±	0.3	121±	2	8.7±	0.2	6.7±	0.8
250ppm	8	25.6±	3.7	152±	1	4.7±	0.3	122±	2	8.7±	0.4	6.7±	0.8
500ppm	9	26.8±	3.3	152±	1	4.6±	0.3	122±	1	8.5±	0.3	5.9±	0.7
1000ppm	10	27.9±	3.2	152±	2	4.7±	0.3	123±	1	8.7±	0.2	6.5±	0.9
2000ppm	10	24.7±	1.5	152±	1	4.6±	0.3	122±	1	8.6±	0.2	6.1±	0.8
4000ppm	9	25.2±	3.9	151±	1	4.7±	0.5	122±	2	8.7±	0.2	6.0±	0.8

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS 4

APPENDIX G 2

BIOCHEMISTRY : FEMALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 MEASURE. TIME : 1
 SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

PAGE : 4

Group Name	NO. of Animals	TOTAL PROTEIN		ALBUMIN		A/G RATIO		T-BILIRUBIN		GLUCOSE		T-CHOLESTEROL		TRIGLYCERIDE	
		g/dl		g/dl				mg/dl		mg/dl		mg/dl		mg/dl	
Control	10	5.5±	0.3	3.3±	0.1	1.5±	0.1	0.19±	0.09	190±	20	72±	11	14±	5
250ppm	10	5.3±	0.2	3.2±	0.1	1.6±	0.1	0.16±	0.02	175±	31	74±	10	16±	7
500ppm	9	5.4±	0.1	3.2±	0.1	1.5±	0.1	0.16±	0.03	187±	20	81±	12	17±	9
1000ppm	10	5.5±	0.2	3.3±	0.1	1.5±	0.1	0.17±	0.04	188±	24	86±	13*	21±	7
2000ppm	10	5.4±	0.2	3.3±	0.1	1.5±	0.1	0.19±	0.05	192±	23	76±	9	15±	3
4000ppm	9	5.4±	0.1	3.2±	0.1	1.5±	0.1	0.18±	0.05	207±	27	88±	9**	15±	5

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

Test of Dunnett

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 MEASURE. TIME : 1
 SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

Group Name	NO. of Animals	PHOSPHOLIPID mg/dl		AST IU/l		ALT IU/l		LDH IU/l		ALP IU/l		G-GTP IU/l		CK IU/l	
Control	10	145±	13	84±	32	29±	10	340±	150	260±	31	1±	1	130±	104
250ppm	10	140±	24	80±	29	28±	8	348±	138	252±	40	0±	1	175±	142
500ppm	9	154±	15	66±	24	24±	4	272±	68	228±	31	1±	1	137±	111
1000ppm	10	167±	25*	73±	29	24±	8	326±	130	243±	37	1±	0	169±	111
2000ppm	10	149±	15	60±	15	22±	4	319±	107	223±	18*	1±	1	193±	142
4000ppm	9	163±	12	57±	14	22±	4	274±	62	193±	20**	1±	0	165±	81

Significant difference ; * : P ≤ 0.05

** : P ≤ 0.01

Test of Dunnett

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 MEASURE. TIME : 1
 SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (14W)

REPORT TYPE : A1

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	23.4±	2.7	151±	1	4.5±	0.2	121±	2	8.7±	0.3	6.1±	1.0
250ppm	10	24.1±	5.5	152±	2	4.4±	0.4	123±	2	8.5±	0.3	6.5±	0.9
500ppm	9	20.9±	1.3	151±	2	4.6±	0.4	121±	1	8.7±	0.2	5.9±	0.5
1000ppm	10	22.3±	4.2	152±	1	4.5±	0.3	122±	1	8.8±	0.2	5.6±	0.5
2000ppm	10	20.7±	2.8	151±	2	4.6±	0.2	121±	1	8.8±	0.2	6.0±	0.8
4000ppm	9	20.7±	2.2	150±	2	4.7±	0.3	121±	3	8.9±	0.4	6.0±	0.4

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

APPENDIX H 1

URINALYSIS : MALE

STUDY NO. : 0559

ANIMAL : MOUSE B6D2F1/CrIj[Crj:BDF1]

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

URINALYSIS

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+
Control	10	0	3	1	1	2	3	0		0	4	6	0	0	0		10	0	0	0	0	0		5	3	2	0	0	0		9	0	0	0	1
250ppm	9	0	1	1	1	1	4	1		0	4	4	1	0	0		9	0	0	0	0	0		2	4	3	0	0	0		9	0	0	0	0
500ppm	9	0	0	3	0	4	1	1		0	3	5	1	0	0		9	0	0	0	0	0		2	2	4	1	0	0		9	0	0	0	0
1000ppm	10	0	0	1	0	3	5	1		0	1	8	1	0	0		10	0	0	0	0	0		4	3	3	0	0	0		10	0	0	0	0
2000ppm	9	0	0	1	3	2	2	1		0	3	5	1	0	0		9	0	0	0	0	0		5	1	3	0	0	0		9	0	0	0	0
4000ppm	10	0	0	0	3	3	3	1		0	4	6	0	0	0		10	0	0	0	0	0		3	3	3	1	0	0		10	0	0	0	0

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

Test of CHI SQUARE

STUDY NO. : 0559

URINALYSIS

ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

PAGE : 2

Group Name	NO. of Animals	Urobilinogen				CHI
		±	+	2+	3+ 4+	
Control	10	10	0	0	0	0
250ppm	9	9	0	0	0	0
500ppm	9	9	0	0	0	0
1000ppm	10	10	0	0	0	0
2000ppm	9	9	0	0	0	0
4000ppm	10	10	0	0	0	0

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of CHI SQUARE

(HCL101)

BAIS 4

APPENDIX H 2

URINALYSIS : FEMALE

STUDY NO. : 0559

URINALYSIS

ANIMAL : MOUSE B6D2F1/Crj[Crj:BDF1]

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

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+
Control	10	0	0	0	1	2	6	1		0	2	7	1	0	0		10	0	0	0	0	0		1	8	1	0	0	0		10	0	0	0	0
250ppm	10	0	0	0	1	0	9	0		0	3	6	1	0	0		10	0	0	0	0	0		3	5	1	1	0	0		10	0	0	0	0
500ppm	10	0	0	0	0	2	8	0		0	4	6	0	0	0		10	0	0	0	0	0		6	4	0	0	0	0		10	0	0	0	0
1000ppm	10	0	0	0	0	2	8	0		0	3	7	0	0	0		10	0	0	0	0	0		4	5	1	0	0	0		10	0	0	0	0
2000ppm	10	0	0	3	0	1	5	1		0	4	6	0	0	0		10	0	0	0	0	0		4	6	0	0	0	0		10	0	0	0	0
4000ppm	10	0	0	0	2	2	5	1		0	5	5	0	0	0		10	0	0	0	0	0		4	6	0	0	0	0		10	0	0	0	0

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

Test of CHI SQUARE

STUDY NO. : 0559

URINALYSIS

ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

PAGE : 4

Group Name	NO. of Animals	Urobilinogen				CHI
		±	+	2+	3+	
Control	10	10	0	0	0	0
250ppm	10	10	0	0	0	0
500ppm	10	10	0	0	0	0
1000ppm	10	10	0	0	0	0
2000ppm	10	10	0	0	0	0
4000ppm	10	10	0	0	0	0

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

Test of CHI SQUARE

APPENDIX I 1

GROSS FINDINGS : MALE

STUDY NO. : 0559
ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
REPORT TYPE : A1
SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name NO. of Animals	Control		250ppm		500ppm		1000ppm	
			10	(%)	10	(%)	10	(%)	10	(%)
thymus	atrophic		0	(0)	1	(10)	0	(0)	0	(0)
spleen	black zone		2	(20)	0	(0)	0	(0)	0	(0)
kidney	white zone		0	(0)	1	(10)	0	(0)	0	(0)
	hydronephrosis		4	(40)	3	(30)	1	(10)	1	(10)

(HPT080)

BAIS 4

STUDY NO. : 0559
ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name NO. of Animals	2000ppm		4000ppm	
			10	(%)	10	(%)
thymus	atrophic		0	(0)	0	(0)
spleen	black zone		0	(0)	0	(0)
kidney	white zone		0	(0)	0	(0)
	hydronephrosis		0	(0)	1	(10)

APPENDIX I 2

GROSS FINDINGS : FEMALE

STUDY NO. : 0559
ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name NO. of Animals	Control		250ppm		500ppm		1000ppm	
			10	(%)	10	(%)	10	(%)	10	(%)
spleen	black zone		0	(0)	2	(20)	1	(10)	0	(0)
ovary	cyst		0	(0)	1	(10)	0	(0)	0	(0)

STUDY NO. : 0559
ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 4

Organ	Findings	Group Name NO. of Animals	2000ppm		4000ppm	
			10	(%)	10	(%)
spleen	black zone		1	(10)	0	(0)
ovary	cyst		1	(10)	0	(0)

(HPT080)

BAIS 4

APPENDIX J 1

ORGAN WEIGHT, ABSOLUTE : MALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: g

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

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	29.1± 2.1	0.032± 0.006	0.013± 0.002	0.239± 0.039	0.155± 0.015	0.159± 0.012
250ppm	9	27.3± 1.9	0.029± 0.003	0.014± 0.003	0.227± 0.019	0.150± 0.014	0.151± 0.011
500ppm	10	28.7± 2.0	0.032± 0.006	0.013± 0.002	0.238± 0.013	0.160± 0.010	0.158± 0.007
1000ppm	10	28.0± 2.8	0.031± 0.006	0.013± 0.002	0.231± 0.031	0.152± 0.013	0.152± 0.006
2000ppm	10	28.1± 2.5	0.031± 0.005	0.013± 0.002	0.243± 0.015	0.149± 0.008	0.155± 0.009
4000ppm	10	27.5± 2.2	0.031± 0.005	0.014± 0.003	0.229± 0.036	0.147± 0.016	0.156± 0.011

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

Test of Dunnett

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: g

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

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	10	0.666±	0.464	0.061±	0.016	1.131±	0.070	0.442±	0.013
250ppm	9	0.598±	0.364	0.057±	0.015	1.121±	0.070	0.444±	0.015
500ppm	10	0.485±	0.103	0.054±	0.007	1.148±	0.080	0.441±	0.018
1000ppm	10	0.500±	0.177	0.052±	0.003	1.093±	0.091	0.435±	0.010
2000ppm	10	0.443±	0.018	0.050±	0.006	1.116±	0.075	0.437±	0.011
4000ppm	10	0.461±	0.091	0.049±	0.007	1.137±	0.105	0.434±	0.013

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

Test of Dunnett

APPENDIX J 2

ORGAN WEIGHT, ABSOLUTE : FEMALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT: g

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

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	10	21.1± 1.2	0.036± 0.008	0.015± 0.001	0.030± 0.004	0.127± 0.006	0.147± 0.012
250ppm	10	20.9± 1.1	0.035± 0.005	0.015± 0.001	0.031± 0.007	0.124± 0.007	0.144± 0.010
500ppm	10	22.0± 1.0	0.037± 0.008	0.016± 0.002	0.030± 0.004	0.130± 0.009	0.148± 0.013
1000ppm	10	21.9± 1.6	0.041± 0.006	0.016± 0.001	0.028± 0.004	0.128± 0.008	0.149± 0.010
2000ppm	10	21.6± 1.0	0.039± 0.006	0.016± 0.002	0.030± 0.008	0.121± 0.003	0.144± 0.011
4000ppm	10	22.3± 1.0	0.042± 0.005	0.016± 0.002	0.029± 0.003	0.123± 0.010	0.148± 0.010

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

Test of Dunnett

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[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	0.302±	0.019	0.057±	0.008	0.907±	0.041	0.457±	0.016
250ppm	10	0.305±	0.009	0.057±	0.010	0.882±	0.093	0.451±	0.008
500ppm	10	0.312±	0.019	0.063±	0.007	0.975±	0.051	0.453±	0.008
1000ppm	10	0.309±	0.020	0.062±	0.010	0.945±	0.102	0.453±	0.014
2000ppm	10	0.296±	0.011	0.058±	0.007	0.918±	0.049	0.449±	0.011
4000ppm	10	0.305±	0.016	0.060±	0.007	0.998±	0.063*	0.435±	0.011**

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

Test of Dunnett

APPENDIX K 1

ORGAN WEIGHT, RELATIVE : MALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: %

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

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	29.1± 2.1	0.110± 0.017	0.045± 0.006	0.824± 0.148	0.535± 0.063	0.548± 0.031
250ppm	9	27.3± 1.9	0.107± 0.015	0.051± 0.010	0.836± 0.085	0.550± 0.039	0.554± 0.050
500ppm	10	28.7± 2.0	0.113± 0.014	0.046± 0.008	0.834± 0.068	0.560± 0.047	0.551± 0.026
1000ppm	10	28.0± 2.8	0.109± 0.013	0.046± 0.008	0.831± 0.126	0.546± 0.048	0.549± 0.054
2000ppm	10	28.1± 2.5	0.110± 0.014	0.046± 0.008	0.875± 0.105	0.534± 0.035	0.554± 0.058
4000ppm	10	27.5± 2.2	0.113± 0.017	0.050± 0.010	0.840± 0.150	0.536± 0.049	0.570± 0.034

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

Test of Dunnett

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE
 UNIT: %

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	2.374± 1.924	0.213± 0.067	3.885± 0.123	1.525± 0.136
250ppm	9	2.199± 1.314	0.211± 0.066	4.116± 0.174*	1.633± 0.124
500ppm	10	1.698± 0.376	0.188± 0.022	4.008± 0.211	1.544± 0.085
1000ppm	10	1.802± 0.677	0.189± 0.022	3.916± 0.180	1.567± 0.144
2000ppm	10	1.588± 0.124	0.180± 0.031	3.990± 0.224	1.569± 0.161
4000ppm	10	1.687± 0.374	0.179± 0.026	4.139± 0.179*	1.587± 0.119

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

Test of Dunnett

APPENDIX K 2

ORGAN WEIGHT, RELATIVE : FEMALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/CrLj[Crj:BDF1]
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT: %

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

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	10	21.1 ± 1.2	0.171 ± 0.030	0.073 ± 0.007	0.141 ± 0.019	0.604 ± 0.029	0.695 ± 0.040
250ppm	10	20.9 ± 1.1	0.165 ± 0.022	0.073 ± 0.008	0.150 ± 0.032	0.593 ± 0.042	0.689 ± 0.038
500ppm	10	22.0 ± 1.0	0.169 ± 0.035	0.071 ± 0.007	0.137 ± 0.013	0.593 ± 0.048	0.674 ± 0.058
1000ppm	10	21.9 ± 1.6	0.186 ± 0.019	0.074 ± 0.009	0.129 ± 0.024	0.587 ± 0.036	0.682 ± 0.039
2000ppm	10	21.6 ± 1.0	0.178 ± 0.021	0.074 ± 0.007	0.139 ± 0.037	0.560 ± 0.027*	0.666 ± 0.046
4000ppm	10	22.3 ± 1.0	0.189 ± 0.023	0.072 ± 0.010	0.129 ± 0.014	0.553 ± 0.039*	0.663 ± 0.047

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

Test of Dunnett

STUDY NO. : 0559
ANIMAL : MOUSE B6D2F1/Cr1j[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	1.432± 0.074	0.271± 0.023	4.303± 0.175	2.168± 0.089
250ppm	10	1.462± 0.082	0.273± 0.034	4.217± 0.353	2.167± 0.125
500ppm	10	1.422± 0.081	0.286± 0.028	4.438± 0.162	2.066± 0.117
1000ppm	10	1.415± 0.085	0.279± 0.031	4.303± 0.223	2.076± 0.149
2000ppm	10	1.371± 0.043	0.268± 0.029	4.249± 0.186	2.078± 0.065
4000ppm	10	1.369± 0.061	0.267± 0.034	4.477± 0.287	1.955± 0.100**

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

Test of Dunnett

APPENDIX L 1

HISTOPATHOLOGICAL FINDINGS :
NON-NEOPLASTIC LESIONS : MALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/CrIj[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name No. of Animals on Study Grade	Control 10				250ppm 10				500ppm 10				1000ppm 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)
{Hematopoietic system}																		
thymus			<10>				<10>				<10>				<10>			
	atrophy		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
spleen			<10>				<10>				<10>				<10>			
	deposit of melanin		2	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)
{Digestive system}																		
tongue			<10>				<10>				<10>				<10>			
	inflammatory infiltration		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name		2000ppm				4000ppm			
		No. of Animals on Study		10				10			
		Grade		1	2	3	4	1	2	3	4
				(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}											
nasal cavit	respiratory metaplasia:olfactory epithelium	<10>				<10>					
		0	0	0	0	10	0	0	0	0 **	
		(0)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(0)	
	atrophy:olfactory epithelium	10	0	0	0 **	10	0	0	0	0 **	
		(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(0)	
{Hematopoietic system}											
thymus	atrophy	<10>				<10>					
		0	0	0	0	0	0	0	0	0	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
spleen	deposit of melanin	<10>				<10>					
		0	0	0	0	0	0	0	0	0	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
{Digestive system}											
tongue	inflammatory infiltration	<10>				<10>					
		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. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name No. of Animals on Study Grade	Control 10				250ppm 10				500ppm 10				1000ppm 10			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver	granulation		<10>				<10>				<10>				<10>			
			1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(10)	(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)	(0)	(0)	(0)	(0)
{Urinary system}																		
kidney	inflammatory polyp		<10>				<10>				<10>				<10>			
			0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0
			(0)	(10)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hydronephrosis		0				0				0				0			
			0	0	4	0	0	1	2	0	0	0	1	0	0	0	1	0
			(0)	(0)	(40)	(0)	(0)	(10)	(20)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(10)	(0)
{Endocrine system}																		
thyroid	arteritis		<10>				< 9>				<10>				<10>			
			0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(11)	(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. : 0559
 ANIMAL : MOUSE B6D2F1/Cr-lj[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name		2000ppm				4000ppm			
		No. of Animals on Study		10				10			
		Grade		1	2	3	4	1	2	3	4
				(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}											
liver	granulation	<10>				<10>					
		0	0	0	0	0	0	0	0	0	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hepatocellular hypertrophy:central										
		0	0	0	0	1	0	0	0		
		(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)
{Urinary system}											
kidney	inflammatory polyp	<10>				<10>					
		0	0	0	0	0	1	0	0		
		(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)
	hydronephrosis										
		0	0	0	0	0	0	1	0		
		(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
{Endocrine system}											
thyroid	arteritis	<10>				<10>					
		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. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Control				250ppm				500ppm				1000ppm				
		No. of Animals on Study				10				10				10				
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

{Endocrine system}

adrenal	spindle-cell hyperplasia	<10>				<10>				<10>				<10>			
		2	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0
		(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(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. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name No. of Animals on Study Grade	2000ppm				4000ppm			
			10				10			
			1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	

{Endocrine system}

adrenal	spindle-cell hyperplasia		<10>				<10>			
		1	0	0	0	1	0	0	0	
		(10)	(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

APPENDIX L 2

HISTOPATHOLOGICAL FINDINGS :
NON-NEOPLASTIC LESIONS : FEMALE

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name No. of Animals on Study Grade	Control 10				250ppm 10				500ppm 10				1000ppm 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>			
	eosinophilic change:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	eosinophilic change:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	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)	
(Hematopoietic system)																		
spleen			<10>				<10>				<10>				<10>			
	deposit of melanin		0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	
(Digestive system)																		
liver			<10>				<10>				<10>				<10>			
	granulation		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
			(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	

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

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name No. of Animals on Study				2000ppm				4000ppm			
		Grade				10				10			
		1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
{Respiratory system}													
nasal cavit		<10>				<10>							
	eosinophilic change:olfactory epithelium	1	0	0	0	1	0	0	0	1	0	0	0
		(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	eosinophilic change:respiratory epithelium	8	0	0	0 **	5	2	0	0 **	5	2	0	0 **
		(80)	(0)	(0)	(0)	(50)	(20)	(0)	(0)	(50)	(20)	(0)	(0)
	respiratory metaplasia:olfactory epithelium	1	0	0	0	10	0	0	0 **	10	0	0	0 **
		(10)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
	atrophy:olfactory epithelium	9	0	0	0 **	10	0	0	0 **	10	0	0	0 **
		(90)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
{Hematopoietic system}													
spleen		<10>				<10>							
	deposit of melanin	1	0	0	0	1	0	0	0	1	0	0	0
		(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
{Digestive system}													
liver		<10>				<10>							
	granulation	0	0	0	0	1	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(10)	(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. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Control				250ppm				500ppm				1000ppm			
		No. of Animals on Study				10				10				10			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

{Endocrine system}

adrenal	spindle-cell hyperplasia	<10>				<10>				<10>				<10>			
		10	0	0	0	9	0	0	0	10	0	0	0	8	0	0	0
		(100)	(0)	(0)	(0)	(90)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(80)	(0)	(0)	(0)

{Reproductive system}

ovary	cyst	<10>				<10>				<10>				<10>			
		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

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

b : Number of animals with lesion

(c) c : b / a * 100

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

STUDY NO. : 0559
 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	2000ppm				4000ppm			
		No. of Animals on Study				No. of Animals on Study			
		1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

{Endocrine system}

adrenal	spindle-cell hyperplasia	<10>				<10>			
		10	0	0	0	8	0	0	0
		(100)	(0)	(0)	(0)	(80)	(0)	(0)	(0)

{Reproductive system}

ovary	cyst	<10>				<10>			
		1	0	0	0	0	0	0	0
		(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

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

b : Number of animals with lesion

(c) c : b / a * 100

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

APPENDIX M

METHODS, UNITS AND DECIMAL PLACE FOR
HEMATOLOGY AND BIOCHEMISTRY IN THE 13-WEEK
INHALATION STUDY OF ISOPROPYL ACETATE

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY
IN THE 13-WEEK INHALATION STUDY OF ISOPROPYL ACETATE

Item	Method	Unit	Decimal place
Hematology			
Red blood cell (RBC)	Light scattering method ¹⁾	$\times 10^9/\mu\text{L}$	2
Hemoglobin(Hgb)	Cyanmethemoglobin method ¹⁾	g/dL	1
Hematocrit(Hct)	Calculated as $\text{RBC} \times \text{MCV}/10$ ¹⁾	%	1
Mean corpuscular volume(MCV)	Light scattering method ¹⁾	fL	1
Mean corpuscular hemoglobin(MCH)	Calculated as $\text{Hgb}/\text{RBC} \times 10$ ¹⁾	pg	1
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as $\text{Hgb}/\text{Hct} \times 100$ ¹⁾	g/dL	1
Platelet	Light scattering method ¹⁾	$\times 10^3/\mu\text{L}$	0
Reticulocyte	Light scattering method ¹⁾	%	1
White blood cell(WBC)	Light scattering method ¹⁾	$\times 10^3/\mu\text{L}$	2
Differential WBC	Pattern recognition method ²⁾ (Wright staining)	%	0
Biochemistry			
Total protein(TP)	Biuret method ³⁾	g/dL	1
Albumin (Alb)	BCG method ³⁾	g/dL	1
A/G ratio	Calculated as $\text{Alb}/(\text{TP} - \text{Alb})$ ³⁾	-	1
T-bilirubin	Alkaline azobilirubin method ³⁾	mg/dL	2
Glucose	Glck·G·6-PDH method ³⁾	mg/dL	0
T-cholesterol	CE·COD·POD method ³⁾	mg/dL	0
Triglyceride	LPL·GK·GPO·POD method ³⁾	mg/dL	0
Phospholipid	PLD·ChOD·POD method ³⁾	mg/dL	0
Aspartate aminotransferase (AST)	JSCC method ³⁾	IU/L	0
Alanine aminotransferase (ALT)	JSCC method ³⁾	IU/L	0
Lactate dehydrogenase (LDH)	SFBC method ³⁾	IU/L	0
Alkaline phosphatase (ALP)	GSCC method ³⁾	IU/L	0
γ -Glutamyl transpeptidase (γ -GTP)	JSCC method ³⁾	IU/L	0
Creatine kinase (CK)	JSCC method ³⁾	IU/L	0
Urea nitrogen	Urease·GLDH method ³⁾	mg/dL	1
Sodium	Ion selective electrode method ³⁾	mEq/L	0
Potassium	Ion selective electrode method ³⁾	mEq/L	1
Chloride	Ion selective electrode method ³⁾	mEq/L	0
Calcium	OCPC method ³⁾	mg/dL	1
Inorganic phosphorus	PNP·XOD·POD method ³⁾	mg/dL	1

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

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

3) Automatic analyzer (Hitachi 7080 : Hitachi,Ltd.)