2,4-ペンタンジオンのマウスを用いた
吸入による 2 週間毒性試験報告書

試験番号：0583

APPENDICES

APPENDICES

APPENDICES (CONTINUED)

APPENDIX A 1

IDENTITY OF 2,4-PENTANEDIONE

IN THE 2-WEEK INHALATION STUDY

IDENTITY OF 2,4-PENTANEDIONE IN THE 2-WEEK INHALATION STUDY

Test Substance : 2,4-Pentanedione (Wako Pure Chemical Industries, Ltd.)

Lot No. : CHE5187

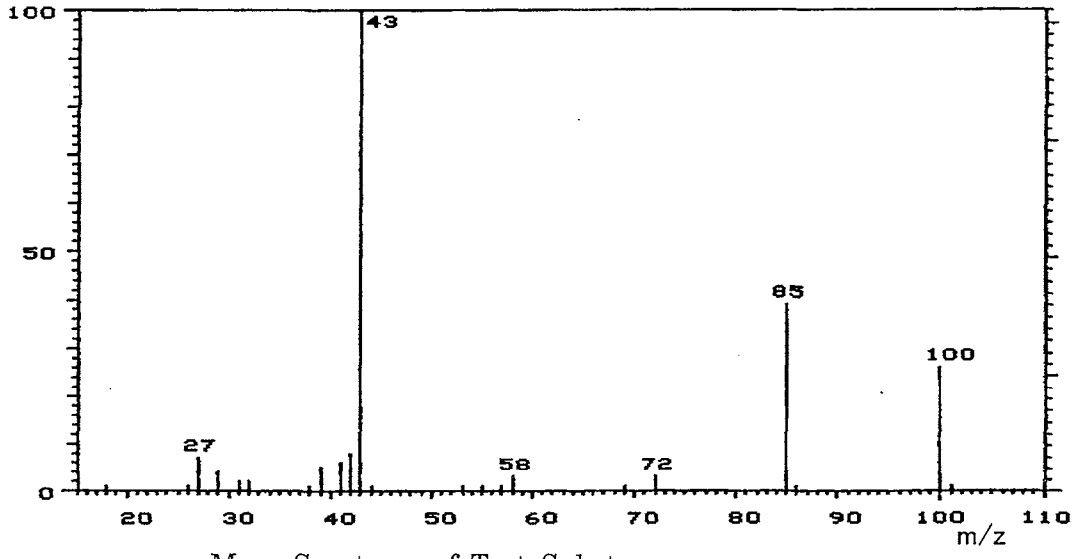
1. Spectral Data

Mass Spectrometry

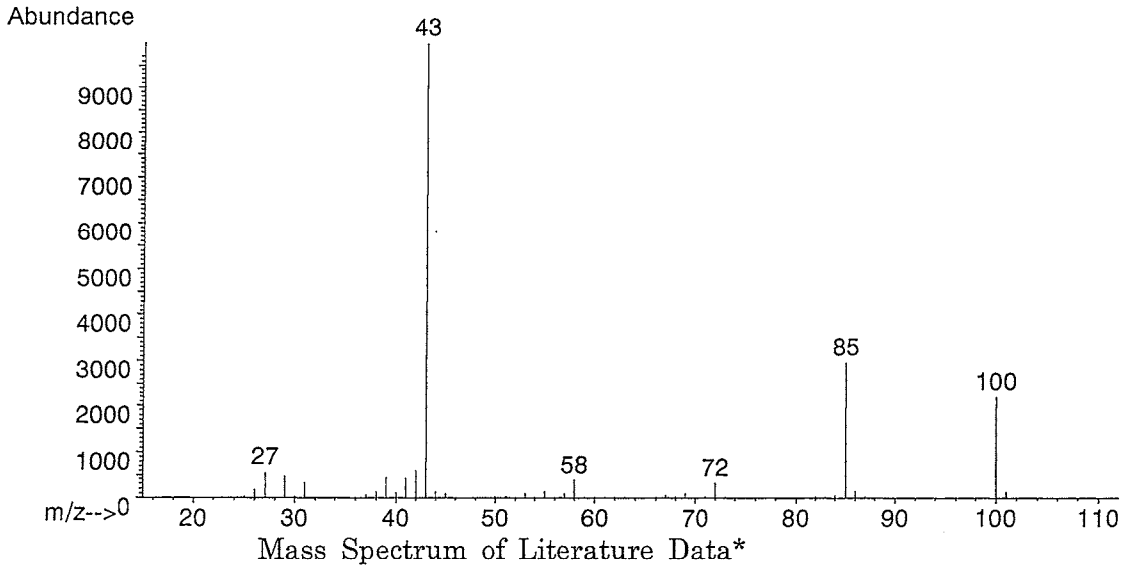
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Result: The mass spectrum was consistent with literature spectrum.

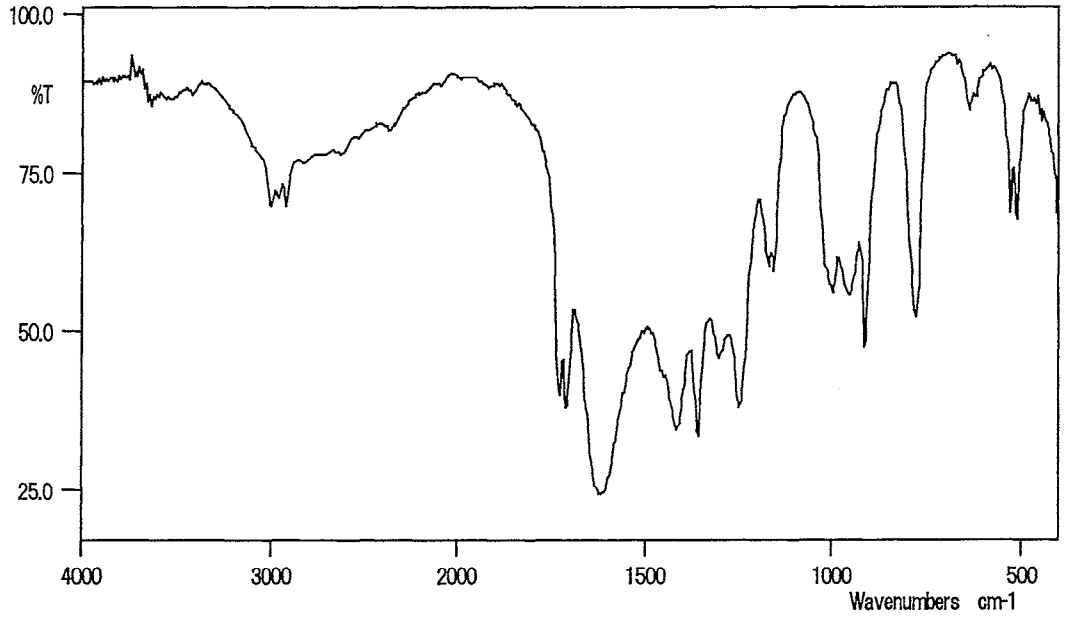
(*McLafferty FW, ed. 1994. Wiley Registry of Mass Spectral Data. 6th ed. New York, NY:John Wiley and Sons.)

Infrared Spectrometry

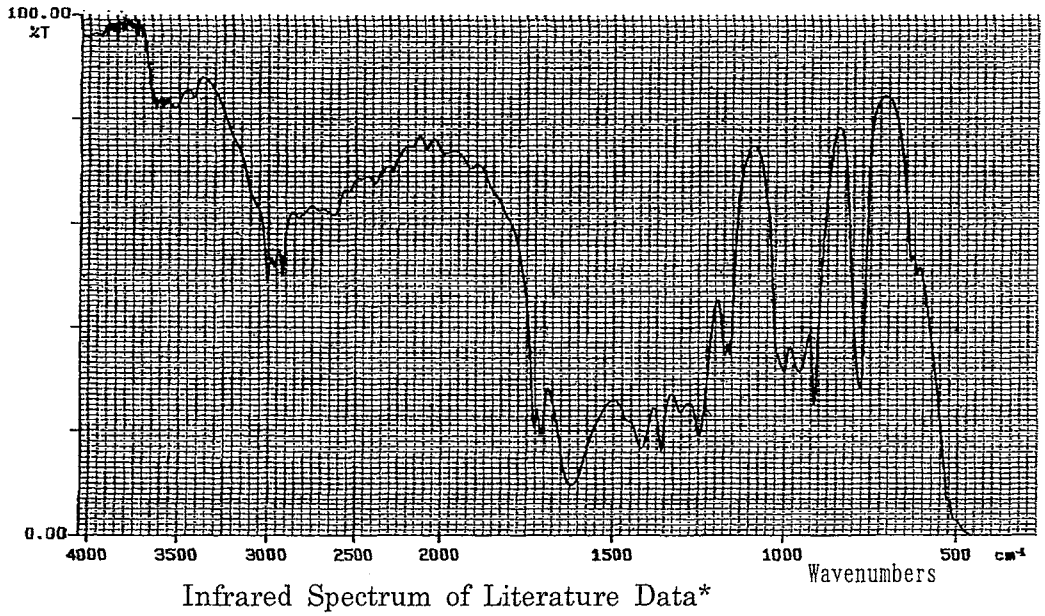
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

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. Conclusion: The test substance was identified as 2,4-pentanedione by mass spectrum and infrared spectrum.

APPENDIX A 2

STABILITY OF 2,4-PENTANEDIONE IN THE 2-WEEK INHALATION STUDY

STABILITY OF 2,4-PENTANEDIONE IN THE 2-WEEK INHALATION STUDY

Test Substance : 2,4-Pentanedione (Wako Pure Chemical Industries, Ltd.)

Lot No. : CHE5187

1. Sample : This lot was used from 2005.3.8 to 2005.3.21. Test substance was stored in a dark place at room temperature.

2. Gas Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : INNOWAX (0.53 mmϕ × 60 m)

Column Temperature: 150° C

Flow Rate : 3 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
2005.02.28	1	6.133	100
2005.03.23	1	6.146	100

Result: Gas chromatography indicated one major peak (peak No.1) analyzed on 2005.2.28 and one major peak (peak No.1) analyzed on 2005.3.23. No new trace impurity peak in the test substance analyzed on 2005.3.23 was detected.

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

APPENDIX B

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Group Name	Temperature (℃) Mean ± S.D.	Humidity (%) Mean ± S.D.	Ventilation Rate (L/min) Mean ± S.D.	Air Change (time/h) Mean
Control	22.1 ± 0.2	56.9 ± 1.0	104.5 ± 0.3	12.1
50 ppm	21.9 ± 0.2	55.3 ± 1.5	104.1 ± 0.4	12.0
100 ppm	21.9 ± 0.1	54.7 ± 1.4	105.0 ± 0.3	12.1
200 ppm	21.8 ± 0.2	55.9 ± 2.2	104.3 ± 0.4	12.0
400 ppm	22.0 ± 0.2	57.2 ± 2.6	104.5 ± 0.3	12.1
800 ppm	21.9 ± 0.2	54.9 ± 3.8	104.4 ± 0.8	12.0

APPENDIX C 1

CLINICAL OBSERVATION : MALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-1 2	1-2 1	1-2 2	1-3 2	1-4 1	1-4 2	1-7 1	2-3 1	2-3 2	2-7 1
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	0	0	0	0	0	0	0	0	1	0
NOISY	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	0	0	0	0	0	0	0	0	3	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	0	0	0	0	0	0	0	0	1	0

APPENDIX C 2

CLINICAL OBSERVATION : FEMALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-1 2	1-2 1	1-2 2	1-3 2	1-4 1	1-4 2	1-7 1	2-3 1	2-3 2	2-7 1
DEATH	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	0	0	0	3	3	4	5	-	-	-
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	2	0	4	2	0	0	-	-	-	-
PRONE	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	1	0	3	1	0	1	-	-	-	-
LATERAL	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	1	0	0	1	0	1	-	-	-	-
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	0	0	0	2	0	0	-	-	-	-
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	0	0	0	1	0	1	-	-	-	-

Clinical sign	Group Name	Administration Week-day 1-1 2	1-2 1	1-2 2	1-3 2	1-4 1	1-4 2	1-7 1	2-3 1	2-3 2	2-7 1
BRADYPNEA	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	2	0	3	0	0	1	-	-	-	-
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	0	0	0	2	0	1	-	-	-	-
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0
	50ppm	0	0	0	0	0	0	0	0	0	0
	100ppm	0	0	0	0	0	0	0	0	0	0
	200ppm	0	0	0	0	0	0	0	0	0	0
	400ppm	0	0	0	0	0	0	0	0	0	0
	800ppm	2	0	3	0	0	1	-	-	-	-

APPENDIX D 1

BODY WEIGHT CHANGES : MALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-2	1-4	1-7	2-3	2-7
Control	24.3± 1.2	24.1± 1.0	24.2± 1.3	25.0± 1.1	25.6± 1.5	26.1± 1.1
50ppm	24.3± 1.1	24.5± 1.2	24.5± 1.1	25.2± 1.2	25.8± 1.3	26.3± 1.2
100ppm	24.2± 1.4	24.6± 1.7	24.6± 1.7	25.3± 1.7	25.6± 2.3	26.0± 2.0
200ppm	24.2± 1.3	24.1± 1.5	24.4± 1.4	25.1± 1.6	25.7± 1.6	25.9± 1.5
400ppm	24.3± 1.2	24.7± 1.2	24.7± 1.4	25.3± 1.3	25.5± 1.3	25.9± 1.4
800ppm	24.3± 1.2	23.3± 1.2	23.4± 1.0	24.1± 1.3	24.0± 1.4	24.6± 1.4

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

APPENDIX D 2

BODY WEIGHT CHANGES : FEMALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-2	1-4	1-7	2-3	2-7
Control	19.2± 0.8	19.9± 1.0	20.4± 0.9	21.0± 0.6	21.2± 0.9	21.4± 0.7
50ppm	19.2± 0.8	19.5± 1.0	19.9± 0.8	20.8± 1.2	20.9± 0.2	21.4± 0.6
100ppm	19.2± 0.8	19.7± 0.8	20.1± 1.1	20.7± 1.0	21.0± 1.6	21.9± 1.4
200ppm	19.2± 0.7	19.5± 0.5	19.9± 0.2	20.1± 0.6	21.1± 0.6	21.6± 0.5
400ppm	19.2± 0.8	19.4± 0.7	20.0± 0.9	20.5± 1.1	20.4± 1.1	21.4± 1.0
800ppm	19.2± 0.8	17.8± 1.2**	16.2 ?	-	-	-

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

? : Significant test is not applied, because No. of data in this group is less than 3.

APPENDIX E 1

FOOD CONSUMPTION CHANGES : MALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration 1-7(6)	week-day(effective) 2-7(7)
Control	4.5± 0.3	4.5± 0.3
50ppm	4.5± 0.5	4.6± 0.4
100ppm	4.6± 0.3	4.4± 0.3
200ppm	4.4± 0.4	4.5± 0.3
400ppm	4.4± 0.3	4.2± 0.3
800ppm	3.4± 0.2**	3.9± 0.3*

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX E 2

FOOD CONSUMPTION CHANGES : FEMALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration 1-7(6)	week-day(effective) 2-7(7)
Control	4.1± 0.2	3.8± 0.4
50ppm	3.9± 0.3	4.0± 0.2
100ppm	4.0± 0.2	4.0± 0.3
200ppm	4.0± 0.3	4.0± 0.3
400ppm	4.0± 0.4	3.9± 0.4
800ppm	-	-

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

APPENDIX F 1

HEMATOLOGY : MALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	5	11.41± 0.23	17.1± 0.4	56.2± 1.2	49.3± 0.5	15.0± 0.1	30.4± 0.3	1312± 95
50ppm	5	11.31± 0.21	16.8± 0.5	56.1± 1.1	49.6± 1.1	14.9± 0.2	30.0± 0.8	1290± 106
100ppm	5	11.19± 0.28	16.8± 0.5	55.1± 1.8	49.2± 0.6	15.0± 0.2	30.4± 0.3	1324± 93
200ppm	4	11.57± 0.19	17.1± 0.5	57.2± 2.1	49.4± 1.1	14.8± 0.2	29.9± 0.4	1342± 100
400ppm	5	11.17± 0.11	16.7± 0.2	54.7± 0.3	49.1± 0.7	14.9± 0.2	30.4± 0.4	1266± 79
800ppm	5	11.10± 0.35	16.4± 0.6	53.8± 2.3	48.5± 0.7	14.8± 0.0	30.5± 0.5	1292± 59

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

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	RETICULOCYTE %
Control	5	2.1± 0.1
50ppm	5	2.1± 0.2
100ppm	5	2.2± 0.2
200ppm	4	2.4± 0.1
400ppm	5	2.4± 0.2
800ppm	5	2.9± 0.2**

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

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%)
Control	5	1.90± 0.37	
50ppm	5	2.17± 0.86	
100ppm	5	2.44± 1.37	
200ppm	4	1.75± 0.35	
400ppm	5	1.63± 0.71	
800ppm	5	1.44± 0.59	

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

APPENDIX F 2

HEMATOLOGY : FEMALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV f ℓ	MCH p g	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	5	11.12± 0.24	16.6± 0.3	54.0± 0.8	48.6± 0.9	15.0± 0.3	30.9± 0.2	1109± 31
50ppm	5	11.39± 0.23	16.9± 0.3	55.3± 1.0	48.6± 0.2	14.9± 0.2	30.6± 0.4	1154± 60
100ppm	5	11.01± 0.33	16.5± 0.5	53.8± 2.0	48.8± 0.5	15.0± 0.2	30.7± 0.3	1051± 62
200ppm	5	11.06± 0.12	16.8± 0.1	53.7± 0.6	48.6± 0.6	15.1± 0.2	31.1± 0.5	1078± 103
400ppm	5	10.92± 0.35	16.5± 0.5	53.5± 1.7	48.9± 0.4	15.1± 0.2	30.9± 0.3	1082± 52
800ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	RETICULOCYTE %
Control	5	2.4± 0.4
50ppm	5	2.5± 0.5
100ppm	5	2.6± 0.4
200ppm	5	2.1± 0.2
400ppm	5	2.9± 0.4
800ppm	0	-

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

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%)
Control	5	1.50± 0.42	
50ppm	5	1.74± 1.01	
100ppm	5	1.63± 0.68	
200ppm	5	1.72± 1.17	
400ppm	5	2.68± 1.50	
800ppm	0	-	

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

APPENDIX G 1

BIOCHEMISTRY : MALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	AST IU/ℓ	ALT IU/ℓ
Control	5	5.4± 0.2	3.1± 0.1	234± 53	91± 8	42± 5	15± 3
50ppm	5	5.5± 0.2	3.1± 0.1	233± 28	100± 7	42± 4	18± 1
100ppm	5	5.3± 0.1	3.1± 0.1	275± 37	87± 9	40± 3	16± 1
200ppm	5	5.4± 0.1	3.1± 0.1	284± 33	95± 8	47± 10	20± 6
400ppm	5	5.3± 0.1	3.1± 0.1	244± 22	86± 9	44± 4	17± 3
800ppm	5	5.2± 0.2	3.0± 0.1	278± 13	91± 14	40± 5	19± 4

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

APPENDIX G 2

BIOCHEMISTRY : FEMALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	AST IU/ℓ	ALT IU/ℓ
Control	5	5.5± 0.1	3.4± 0.1	185± 11	82± 10	46± 5	16± 3
50ppm	5	5.6± 0.3	3.5± 0.2	209± 15	79± 12	48± 5	16± 3
100ppm	5	5.3± 0.2	3.3± 0.2	201± 34	84± 19	52± 6	18± 2
200ppm	5	5.4± 0.2	3.4± 0.1	211± 27	74± 12	49± 6	17± 3
400ppm	5	5.3± 0.1	3.3± 0.1	209± 19	74± 6	46± 2	16± 1
800ppm	0	-	-	-	-	-	-

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

APPENDIX H 1

GROSS FINDINGS : MALE

SACRIFICED ANIMALS

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (3W)

Organ	Findings	Group Name / NO. of Animals	Control 5 (%)	50ppm 5 (%)	100ppm 5 (%)	200ppm 5 (%)
spleen	black zone		0 (0)	0 (0)	0 (0)	0 (0)
testis	atrophic		0 (0)	0 (0)	1 (20)	0 (0)

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (3W)

Organ	Findings	Group Name	400ppm	800ppm
		NO. of Animals	5 (%)	5 (%)
spleen	black zone		0 (0)	1 (20)
testis	atrophic		0 (0)	0 (0)

APPENDIX H 2

GROSS FINDINGS : FEMALE

DEAD AND MORIBUND ANIMALS

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0- 3W)

Organ	Findings	Group Name	Control	50ppm	100ppm	200ppm
		NO. of Animals	0 (%)	0 (%)	0 (%)	0 (%)
eye	turbid		- (-)	- (-)	- (-)	- (-)

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0- 3W)

Organ	Findings	Group Name	400ppm	800ppm
		NO. of Animals	0 (%)	5 (%)
eye	turbid		- (-)	2 (40)

APPENDIX I 1

ORGAN WEIGHT, ABSOLUTE : MALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	5	22.1± 1.1	0.040± 0.005	0.011± 0.001	0.199± 0.020	0.128± 0.009	0.133± 0.008
50ppm	5	22.7± 1.1	0.043± 0.004	0.011± 0.002	0.204± 0.013	0.127± 0.012	0.137± 0.006
100ppm	5	22.4± 2.0	0.045± 0.007	0.012± 0.002	0.187± 0.039	0.123± 0.005	0.138± 0.008
200ppm	5	22.3± 1.5	0.042± 0.003	0.013± 0.001	0.209± 0.021	0.124± 0.012	0.136± 0.009
400ppm	5	22.1± 1.3	0.040± 0.006	0.011± 0.001	0.192± 0.015	0.127± 0.012	0.138± 0.007
800ppm	5	21.3± 1.4	0.038± 0.004	0.011± 0.001	0.205± 0.019	0.119± 0.002	0.140± 0.006

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

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	0.359± 0.030	0.042± 0.004	0.952± 0.038	0.429± 0.016
50ppm	5	0.370± 0.025	0.043± 0.003	0.989± 0.058	0.429± 0.006
100ppm	5	0.348± 0.017	0.042± 0.005	0.954± 0.084	0.422± 0.015
200ppm	5	0.358± 0.023	0.043± 0.002	0.991± 0.077	0.426± 0.008
400ppm	5	0.367± 0.013	0.045± 0.006	0.957± 0.045	0.421± 0.013
800ppm	5	0.353± 0.022	0.045± 0.004	0.946± 0.063	0.419± 0.007

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

APPENDIX I 2

ORGAN WEIGHT, ABSOLUTE : FEMALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	5	17.7± 0.5	0.057± 0.003	0.013± 0.001	0.021± 0.003	0.105± 0.006	0.125± 0.006
50ppm	5	17.6± 0.6	0.060± 0.007	0.013± 0.001	0.019± 0.002	0.106± 0.005	0.123± 0.005
100ppm	5	18.2± 1.2	0.061± 0.005	0.014± 0.002	0.019± 0.002	0.107± 0.006	0.123± 0.006
200ppm	5	17.7± 0.3	0.057± 0.005	0.014± 0.002	0.018± 0.003	0.106± 0.010	0.121± 0.007
400ppm	5	17.9± 0.6	0.063± 0.004	0.013± 0.002	0.021± 0.007	0.105± 0.012	0.129± 0.011
800ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	0.259± 0.015	0.050± 0.004	0.735± 0.040	0.420± 0.008
50ppm	5	0.263± 0.009	0.048± 0.007	0.759± 0.025	0.427± 0.017
100ppm	5	0.258± 0.019	0.052± 0.005	0.779± 0.057	0.420± 0.017
200ppm	5	0.252± 0.011	0.046± 0.003	0.786± 0.037	0.421± 0.015
400ppm	5	0.261± 0.025	0.053± 0.009	0.803± 0.043	0.427± 0.011
800ppm	0	-	-	-	-

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

APPENDIX J 1

ORGAN WEIGHT, RELATIVE : MALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	5	22.1± 1.1	0.183± 0.027	0.050± 0.004	0.902± 0.099	0.580± 0.040	0.600± 0.012
50ppm	5	22.7± 1.1	0.189± 0.019	0.048± 0.007	0.898± 0.034	0.561± 0.033	0.603± 0.021
100ppm	5	22.4± 2.0	0.200± 0.034	0.053± 0.011	0.840± 0.191	0.553± 0.057	0.617± 0.055
200ppm	5	22.3± 1.5	0.191± 0.024	0.057± 0.007	0.936± 0.048	0.558± 0.030	0.612± 0.027
400ppm	5	22.1± 1.3	0.178± 0.018	0.050± 0.005	0.869± 0.098	0.573± 0.049	0.623± 0.032
800ppm	5	21.3± 1.4	0.177± 0.023	0.053± 0.008	0.961± 0.065	0.558± 0.027	0.657± 0.033

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

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	1.622± 0.077	0.191± 0.015	4.304± 0.095	1.940± 0.069
50ppm	5	1.632± 0.057	0.188± 0.010	4.364± 0.152	1.895± 0.084
100ppm	5	1.560± 0.085	0.189± 0.011	4.260± 0.068	1.893± 0.134
200ppm	5	1.606± 0.056	0.192± 0.020	4.449± 0.140	1.919± 0.103
400ppm	5	1.662± 0.090	0.201± 0.015	4.328± 0.084	1.909± 0.143
800ppm	5	1.654± 0.075	0.209± 0.011	4.434± 0.168	1.969± 0.138

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

APPENDIX J 2

ORGAN WEIGHT, RELATIVE : FEMALE

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	5	17.7± 0.5	0.324± 0.012	0.076± 0.003	0.116± 0.017	0.593± 0.019	0.710± 0.035
50ppm	5	17.6± 0.6	0.342± 0.028	0.073± 0.009	0.109± 0.014	0.601± 0.035	0.699± 0.039
100ppm	5	18.2± 1.2	0.337± 0.018	0.079± 0.010	0.107± 0.015	0.591± 0.052	0.676± 0.024
200ppm	5	17.7± 0.3	0.325± 0.023	0.079± 0.008	0.102± 0.018	0.602± 0.051	0.683± 0.038
400ppm	5	17.9± 0.6	0.352± 0.032	0.075± 0.009	0.117± 0.036	0.584± 0.062	0.719± 0.048
800ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0583
ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1]
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (3W)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	1.463± 0.053	0.283± 0.019	4.156± 0.178	2.379± 0.082
50ppm	5	1.495± 0.088	0.274± 0.031	4.309± 0.063	2.430± 0.162
100ppm	5	1.424± 0.074	0.284± 0.010	4.290± 0.069	2.319± 0.180
200ppm	5	1.427± 0.053	0.263± 0.020	4.442± 0.173**	2.382± 0.059
400ppm	5	1.456± 0.115	0.295± 0.040	4.472± 0.123**	2.378± 0.027
800ppm	0	-	-	-	-

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

APPENDIX K

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Item	Method	Unit	Decimal place
Hematology			
Red blood cell (RBC)	Light scattering method [1)]	$\times 10^6/\mu L$	2
Hemoglobin(Hgb)	Cyanmethemoglobin method [1)]	g/dL	1
Hematocrit(Hct)	Calculated as RBC×MCV/10 [1)]	%	1
Mean corpuscular volume(MCV)	Light scattering method [1)]	fL	1
Mean corpuscular hemoglobin(MCH)	Calculated as Hgb/RBC×10 [1)]	pg	1
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as Hgb/Hct×100 [1)]	g/dL	1
Platelet	Light scattering method [1)]	$\times 10^3/\mu L$	0
Reticulocyte	Light scattering method [1)]	%	1
White blood cell(WBC)	Light scattering method [1)]	$\times 10^3/\mu L$	2
Biochemistry			
Total protein(TP)	Biuret method [2)]	g/dL	1
Albumin (Alb)	BCG method [2)]	g/dL	1
Glucose	GlcK·G-6-PDH method [2)]	mg/dL	0
T-cholesterol	CE·COD·POD method [2)]	mg/dL	0
Aspartate aminotransferase (AST)	JSCC method [2)]	IU/L	0
Alanine aminotransferase (ALT)	JSCC method [2)]	IU/L	0

1) Automatic blood cell analyzer (ADVIA120 : Bayer Corporation)
2) Automatic analyzer (Hitachi 7080 : Hitachi,Ltd.)