1-ブロモ-3-クロロプロバ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：０３８０

APPENDIXES

APPENDIXES

APPENDIXES (CONTINUED)

APPENDIXES (CONTINUED)

APPENDIX A 1

CLINICAL OBSERVATION : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-2	1-4	1-7	2-3	2-7
		1	1	1	1	1
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0
	50ppm	0	0	0	0	0
	100ppm	0	0	0	0	0
	200ppm	0	0	0	0	0
	400ppm	0	0	0	0	0
	800ppm	1	1	1	-	-
WASTING	Control	0	0	0	0	0
	50ppm	0	0	0	0	0
	100ppm	0	0	0	0	0
	200ppm	0	0	0	0	0
	400ppm	0	0	0	0	0
	800ppm	0	1	1	-	-
SUBNORMAL TEMP	Control	0	0	0	0	0
	50ppm	0	0	0	0	0
	100ppm	0	0	0	0	0
	200ppm	0	0	0	0	0
	400ppm	0	0	0	0	0
	800ppm	1	0	1	-	-

APPENDIX B 1

BODY WEIGHT CHANGES :SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	22.2± 0.8	22.7± 1.0	23.2± 1.3	23.9± 0.8	24.1± 1.1	24.8± 1.0
50ppm	22.1± 0.9	22.5± 0.9	22.7± 1.0	23.0± 1.2	23.5± 1.2	23.7± 1.4
100ppm	22.2± 0.8	22.2± 1.0	22.9± 0.9	23.0± 1.0	23.7± 1.4	24.3± 1.4
200ppm	22.2± 0.8	22.2± 0.5	22.6± 0.7	22.7± 0.5	23.4± 0.5	23.8± 1.0
400ppm	22.1± 0.9	22.3± 1.0	23.2± 0.8	22.5± 0.8	22.2± 1.1	22.7± 0.7
800ppm	22.1± 1.0	21.5± 0.0 ?	20.7± 0.0 ?	21.3± 0.0 ?	21.4± 0.0 ?	21.6± 0.0 ?

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 B 2

BODY WEIGHT CHANGES : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	18.8± 0.7	18.8± 0.9	19.3± 0.6	20.1± 1.1	20.2± 0.3	20.6± 0.5
50ppm	18.9± 0.9	18.6± 0.6	19.5± 0.6	19.3± 1.0	20.5± 0.7	20.8± 1.2
100ppm	18.9± 0.8	19.1± 0.8	19.6± 0.9	19.8± 0.9	20.9± 1.0	20.6± 0.9
200ppm	18.9± 0.7	19.0± 0.8	20.0± 1.2	19.7± 1.1	20.8± 0.8	21.1± 0.8
400ppm	18.8± 0.8	18.7± 0.4	19.8± 0.8	19.3± 0.5	19.6± 0.8	19.9± 0.6
800ppm	18.9± 0.9	18.2± 0.9 ?	16.4± 0.0 ?	13.0± 0.0 ?	-	-

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 C 1

FOOD CONSUMPTION CHANGES : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 1-7(6)	2-7(7)
Control	4.6± 0.2	4.3± 0.2
50ppm	4.5± 0.3	4.3± 0.2
100ppm	4.3± 0.3	4.4± 0.3
200ppm	4.2± 0.3	4.4± 0.3
400ppm	4.1± 0.2*	3.9± 0.2
800ppm	3.0± 0.0 ?	3.6± 0.0 ?

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 C 2

FOOD CONSUMPTION CHANGES : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 1-7(6)	2-7(7)
Control	3.9± 0.2	3.7± 0.2
50ppm	3.9± 0.2	4.1± 0.2**
100ppm	3.5± 0.2	3.8± 0.2
200ppm	3.8± 0.4	4.0± 0.1**
400ppm	3.7± 0.2	3.7± 0.1
800ppm	0.2± 0.0 ?	-

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 D 1

HEMATOLOGY : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	11.56± 0.25	17.3± 0.3	56.3± 1.2	48.7± 0.4	15.0± 0.1	30.8± 0.3	1273± 74
50ppm	3	10.88± 0.99	16.1± 1.5	52.5± 4.9	48.2± 0.5	14.9± 0.2	30.8± 0.7	1168± 104
100ppm	3	11.23± 0.03	16.8± 0.2	54.4± 0.5	48.4± 0.5	15.0± 0.1	30.9± 0.3	1320± 45
200ppm	5	11.43± 0.41	17.2± 0.7	55.5± 1.7	48.5± 0.5	15.1± 0.1	31.1± 0.4	1188± 74
400ppm	4	11.06± 0.27	16.8± 0.2	53.8± 0.8	48.7± 1.8	15.2± 0.3	31.3± 0.6	1249± 65
800ppm	1	15.21± 0.00 ?	23.7± 0.0 ?	84.0± 0.0 ?	55.3± 0.0 ?	15.7± 0.0 ?	28.3± 0.0 ?	186± 0 ?

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.

STUDY NO. : 0380
ANIMAL : MOUSE 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 (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	5	1.55± 0.48	2± 1	14± 5	0± 1	0± 0	2± 2	83± 7	0± 0
50ppm	3	1.25± 0.70	1± 1	17± 7	3± 3	0± 0	2± 3	77± 10	0± 0
100ppm	3	2.61± 1.25	1± 1	9± 1	0± 1	0± 0	2± 1	87± 1	0± 0
200ppm	5	1.29± 0.53	0± 1	12± 2	1± 1	0± 0	2± 1	85± 4	0± 0
400ppm	4	1.63± 0.46	2± 1	13± 4	1± 1	0± 0	3± 1	81± 5	0± 0
800ppm	1	1.62± 0.00 ?	7± 0 ?	51± 0 ?	0± 0 ?	0± 0 ?	1± 0 ?	41± 0 ?	0± 0 ?

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 D 2

HEMATOLOGY : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	11.07± 0.21	16.8± 0.0	52.8± 1.4	47.6± 0.5	15.2± 0.3	31.9± 0.9	1170± 80
50ppm	3	11.00± 0.29	16.5± 0.5	52.5± 1.4	47.7± 0.3	15.0± 0.2	31.5± 0.1	1127± 63
100ppm	4	10.96± 0.36	16.2± 0.6	52.5± 2.1	48.0± 0.8	14.8± 0.1	30.9± 0.3*	1154± 85
200ppm	4	10.70± 0.36	16.1± 0.4	51.8± 1.1	48.5± 0.7	15.0± 0.2	31.0± 0.1	1145± 68
400ppm	4	10.87± 0.55	16.4± 1.0	52.4± 2.9	48.2± 0.3	15.1± 0.2	31.3± 0.2	1108± 102
800ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0380
ANIMAL : MOUSE 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 (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	5	1.13± 0.74	1± 1	13± 4	0± 0	0± 0	3± 1	82± 4	0± 0
50ppm	3	0.77± 0.73	0± 0	27± 12*	1± 1	0± 0	2± 3	71± 8*	0± 0
100ppm	4	1.04± 0.37	1± 1	12± 5	1± 1	0± 0	4± 2	83± 5	0± 0
200ppm	4	0.38± 0.26	1± 2	14± 3	0± 0	0± 0	0± 1	85± 4	0± 0
400ppm	4	1.56± 1.06	2± 1	15± 4	5± 3	0± 0	1± 1	78± 5	0± 0
800ppm	0	-	-	-	-	-	-	-	-

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

APPENDIX E 1

BIOCHEMISTRY : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	A/G RATIO	T-BILIRUBIN mg/dl	GLUCOSE mg/dl	T-CHOLESTEROL mg/dl	TRIGLYCERIDE mg/dl
Control	5	5.2± 0.2	3.0± 0.2	1.3± 0.1	0.14± 0.02	218± 36	81± 12	20± 9
50ppm	3	5.1± 0.2	2.8± 0.3	1.2± 0.2	0.14± 0.01	176± 42	68± 6	14± 4
100ppm	4	5.0± 0.1	2.9± 0.1	1.4± 0.1	0.14± 0.03	190± 47	82± 10	14± 4
200ppm	5	5.1± 0.1	2.9± 0.2	1.4± 0.2	0.17± 0.04	204± 43	84± 10	21± 11
400ppm	5	4.8± 0.2**	2.7± 0.2	1.2± 0.2	0.17± 0.02	150± 48	78± 13	14± 3
800ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

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	5	179± 24	41± 5	19± 5	226± 37	245± 25	2± 1	122± 38
50ppm	3	146± 6	37± 3	20± 3	248± 89	237± 16	2± 1	80± 35
100ppm	4	172± 21	34± 2	20± 6	186± 38	248± 20	2± 1	75± 25
200ppm	5	166± 20	38± 5	22± 4	221± 27	245± 19	2± 2	92± 19
400ppm	5	141± 22	35± 6	21± 7	258± 139	214± 7	2± 1	55± 16**
800ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

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	5	26.4± 5.8	151± 2	5.0± 0.3	122± 2	8.6± 0.5	7.3± 0.3
50ppm	3	23.0± 2.0	151± 2	4.7± 0.5	123± 4	8.3± 0.8	7.0± 1.4
100ppm	4	25.5± 5.0	151± 1	4.8± 0.8	125± 3	8.8± 0.7	7.4± 1.0
200ppm	5	22.4± 5.5	151± 1	5.1± 0.4	128± 2**	9.0± 0.3	7.6± 0.8
400ppm	5	18.7± 2.0	150± 2	5.4± 0.2	133± 1**	8.7± 0.9	8.4± 1.0
800ppm	0	-	-	-	-	-	-

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

APPENDIX E 2

BIOCHEMISTRY : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	A/G RATIO	T-BILIRUBIN mg/dl	GLUCOSE mg/dl	T-CHOLESTEROL mg/dl	TRIGLYCERIDE mg/dl
Control	5	5.5± 0.2	3.4± 0.2	1.7± 0.1	0.13± 0.02	164± 19	72± 7	14± 3
50ppm	4	5.3± 0.2	3.3± 0.2	1.7± 0.1	0.13± 0.02	185± 31	78± 7	18± 3
100ppm	5	5.2± 0.1*	3.2± 0.3	1.6± 0.3	0.14± 0.01	184± 33	79± 8	17± 1
200ppm	5	5.2± 0.2	3.2± 0.3	1.6± 0.3	0.14± 0.01	176± 62	82± 8	16± 5
400ppm	4	5.1± 0.1**	3.0± 0.2	1.5± 0.2	0.15± 0.01	164± 49	94± 9**	17± 1
800ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

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	5	150± 18	50± 7	21± 3	232± 50	411± 32	1± 1	132± 82
50ppm	4	162± 17	47± 5	23± 7	209± 58	371± 44	2± 1	152± 92
100ppm	5	157± 16	46± 7	24± 3	197± 35	317± 92	3± 1	84± 13
200ppm	5	148± 15	64± 27	27± 4	360± 146	370± 74	2± 1	181± 110
400ppm	4	163± 17	37± 2*	21± 1	205± 24	300± 34	2± 1	75± 21
800ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

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	5	27.4± 3.6	152± 3	5.1± 0.4	121± 3	9.0± 0.3	7.5± 1.7
50ppm	4	21.7± 3.6	149± 1	5.2± 1.0	123± 2	8.8± 0.4	8.0± 0.9
100ppm	5	20.7± 4.0	149± 2	5.1± 0.5	125± 2	9.0± 0.3	7.7± 1.1
200ppm	5	21.6± 5.8	150± 3	4.8± 0.4	130± 3**	9.0± 0.2	8.3± 1.1
400ppm	4	18.7± 4.0	149± 2	5.1± 0.6	135± 3**	8.3± 0.6	6.9± 0.5
800ppm	0	-	-	-	-	-	-

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

APPENDIX F 1

GROSS FINDINGS : SUMMARY, MOUSE : MALE

DEAD AND MORIBUND ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	Control	50ppm	100ppm	200ppm
		NO. of Animals	0 (%)	0 (%)	0 (%)	0 (%)
lung	red		- (-)	- (-)	- (-)	- (-)
	red zone		- (-)	- (-)	- (-)	- (-)
spleen	black zone		- (-)	- (-)	- (-)	- (-)
liver	pale		- (-)	- (-)	- (-)	- (-)
thoracic ca	pleural fluid		- (-)	- (-)	- (-)	- (-)

Organ	Findings	Group Name	400ppm		800ppm	
		NO. of Animals	0	(%)	4	(%)
lung	red		-	(-)	1	(25)
	red zone		-	(-)	2	(50)
spleen	black zone		-	(-)	1	(25)
liver	pale		-	(-)	1	(25)
thoracic ca	pleural fluid		-	(-)	4	(100)

APPENDIX F 2

GROSS FINDINGS : SUMMARY, MOUSE : MALE

SACRIFICED ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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		1 (20)	0 (0)	0 (0)	0 (0)

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

APPENDIX F 3

GROSS FINDINGS : SUMMARY, MOUSE : FEMALE

DEAD AND MORIBUND ANIMALS

(2-WEEK STUDY)

Organ	Findings	Group Name	Control	50ppm	100ppm	200ppm
		NO. of Animals	0 (%)	0 (%)	0 (%)	0 (%)
lung	red zone		- (-)	- (-)	- (-)	- (-)
thymus	atrophic		- (-)	- (-)	- (-)	- (-)
thoracic ca	pleural fluid		- (-)	- (-)	- (-)	- (-)

Organ	Findings	Group Name	400ppm	800ppm
		NO. of Animals	0 (%)	5 (%)
lung	red zone		- (-)	3 (60)
thymus	atrophic		- (-)	1 (20)
thoracic ca	pleural fluid		- (-)	4 (80)

APPENDIX F 4

GROSS FINDINGS : SUMMARY, MOUSE : FEMALE

SACRIFICED ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (3W)

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

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (3W)

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

APPENDIX G 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	20.7± 0.8	0.040± 0.010	0.010± 0.002	0.188± 0.025	0.125± 0.009	0.137± 0.009
50ppm	5	20.4± 1.3	0.042± 0.008	0.008± 0.001	0.164± 0.027	0.129± 0.009	0.135± 0.009
100ppm	5	20.7± 1.3	0.044± 0.007	0.008± 0.001	0.189± 0.018	0.127± 0.004	0.144± 0.004
200ppm	5	20.7± 0.8	0.033± 0.010	0.009± 0.002	0.179± 0.022	0.123± 0.006	0.142± 0.006
400ppm	5	19.7± 1.0	0.023± 0.003*	0.008± 0.001	0.174± 0.027	0.125± 0.007	0.139± 0.009
800ppm	1	19.3± 0.0 ?	0.030± 0.000 ?	0.018± 0.000 ?	0.165± 0.000 ?	0.137± 0.000 ?	0.203± 0.000 ?

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.

STUDY NO. : 0380
ANIMAL : MOUSE 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	0.367± 0.050	0.040± 0.003	0.954± 0.028	0.436± 0.007
50ppm	5	0.367± 0.024	0.038± 0.005	0.929± 0.037	0.436± 0.016
100ppm	5	0.375± 0.020	0.041± 0.010	0.980± 0.073	0.445± 0.020
200ppm	5	0.370± 0.009	0.038± 0.006	0.948± 0.084	0.446± 0.013
400ppm	5	0.378± 0.014	0.032± 0.004	0.921± 0.055	0.440± 0.013
800ppm	1	0.398± 0.000 ?	0.032± 0.000 ?	1.086± 0.000 ?	0.432± 0.000 ?

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 G 2

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	16.6± 0.5	0.064± 0.016	0.011± 0.001	0.023± 0.008	0.106± 0.006	0.129± 0.007
50ppm	5	17.1± 1.2	0.067± 0.011	0.013± 0.002	0.028± 0.010	0.110± 0.005	0.139± 0.011
100ppm	5	17.8± 1.0	0.065± 0.004	0.011± 0.003	0.022± 0.004	0.109± 0.002	0.141± 0.009
200ppm	5	17.9± 0.6	0.052± 0.005	0.011± 0.002	0.024± 0.007	0.118± 0.008**	0.133± 0.010
400ppm	5	17.2± 0.4	0.039± 0.006**	0.012± 0.001	0.023± 0.006	0.106± 0.006	0.136± 0.002
800ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0380
ANIMAL : MOUSE 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	0.255± 0.017	0.041± 0.005	0.748± 0.036	0.452± 0.015
50ppm	5	0.272± 0.018	0.043± 0.009	0.808± 0.055	0.465± 0.010
100ppm	5	0.276± 0.016	0.043± 0.002	0.815± 0.049	0.449± 0.017
200ppm	5	0.281± 0.015	0.040± 0.007	0.829± 0.034	0.454± 0.017
400ppm	5	0.272± 0.009	0.040± 0.001	0.795± 0.066	0.439± 0.015
800ppm	0	-	-	-	-

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

APPENDIX H 1

ORGAN WEIGHT, RELATIVE : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	20.7± 0.8	0.190± 0.047	0.049± 0.009	0.910± 0.129	0.601± 0.046	0.661± 0.044
50ppm	5	20.4± 1.3	0.207± 0.038	0.041± 0.006	0.806± 0.154	0.634± 0.027	0.663± 0.039
100ppm	5	20.7± 1.3	0.214± 0.019	0.037± 0.005	0.913± 0.090	0.617± 0.046	0.700± 0.050
200ppm	5	20.7± 0.8	0.159± 0.042	0.043± 0.007	0.869± 0.116	0.597± 0.041	0.689± 0.022
400ppm	5	19.7± 1.0	0.117± 0.019*	0.043± 0.005	0.882± 0.138	0.634± 0.046	0.708± 0.050
800ppm	1	19.3± 0.0 ?	0.155± 0.000 ?	0.093± 0.000 ?	0.855± 0.000 ?	0.710± 0.000 ?	1.052± 0.000 ?

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.

STUDY NO. : 0380
ANIMAL : MOUSE 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	1.773± 0.262	0.191± 0.009	4.602± 0.058	2.105± 0.059
50ppm	5	1.798± 0.075	0.188± 0.018	4.561± 0.138	2.145± 0.143
100ppm	5	1.816± 0.107	0.196± 0.037	4.738± 0.324	2.154± 0.162
200ppm	5	1.790± 0.046	0.183± 0.024	4.583± 0.253	2.162± 0.101
400ppm	5	1.919± 0.035	0.163± 0.027	4.670± 0.104	2.233± 0.100
800ppm	1	2.062± 0.000 ?	0.166± 0.000 ?	5.627± 0.000 ?	2.238± 0.000 ?

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 H 2

ORGAN WEIGHT, RELATIVE : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE 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	16.6± 0.5	0.385± 0.096	0.066± 0.009	0.135± 0.044	0.637± 0.048	0.776± 0.026
50ppm	5	17.1± 1.2	0.389± 0.053	0.073± 0.010	0.160± 0.049	0.645± 0.054	0.811± 0.036
100ppm	5	17.8± 1.0	0.367± 0.033	0.060± 0.013	0.123± 0.027	0.612± 0.036	0.791± 0.026
200ppm	5	17.9± 0.6	0.292± 0.035	0.063± 0.010	0.135± 0.043	0.661± 0.023	0.742± 0.044
400ppm	5	17.2± 0.4	0.228± 0.038**	0.067± 0.006	0.132± 0.033	0.619± 0.027	0.790± 0.009
800ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0380
ANIMAL : MOUSE 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	1.531± 0.102	0.245± 0.027	4.493± 0.156	2.718± 0.093
50ppm	5	1.589± 0.044	0.247± 0.040	4.714± 0.066	2.722± 0.142
100ppm	5	1.551± 0.042	0.241± 0.010	4.579± 0.117	2.525± 0.144*
200ppm	5	1.572± 0.046	0.223± 0.031	4.637± 0.276	2.539± 0.080
400ppm	5	1.586± 0.031	0.234± 0.010	4.622± 0.318	2.557± 0.101
800ppm	0	-	-	-	-

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

APPENDIX I 1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE : MALE : DEAD AND MORIBUND ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0- 3W)

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 (%)
{Respiratory system}																		
nasal cavit			< 0>				< 0>				< 0>				< 0>			
	necrosis:olfactory epithelium		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	degeneration:respiratory epithelium		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
lung			< 0>				< 0>				< 0>				< 0>			
	congestion		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
{Hematopoietic system}																		
spleen			< 0>				< 0>				< 0>				< 0>			
	deposit of melanin		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
{Circulatory system}																		
heart			< 0>				< 0>				< 0>				< 0>			
	thrombus		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

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

Organ	Findings	Group Name	400ppm				800ppm			
		No. of Animals on Study	0				4			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Respiratory system}										
nasal cavit			< 0>				< 4>			
	necrosis:olfactory epithelium		-	-	-	-	0	1	3	0
			(-)	(-)	(-)	(-)	(0)	(25)	(75)	(0)
	degeneration:respiratory epithelium		-	-	-	-	4	0	0	0
			(-)	(-)	(-)	(-)	(100)	(0)	(0)	(0)
lung			< 0>				< 4>			
	congestion		-	-	-	-	3	0	0	0
			(-)	(-)	(-)	(-)	(75)	(0)	(0)	(0)
{Hematopoietic system}										
spleen			< 0>				< 4>			
	deposit of melanin		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(25)	(0)	(0)	(0)
{Circulatory system}										
heart			< 0>				< 4>			
	thrombus		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(25)	(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

APPENDIX I 2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE : MALE: SACRIFICED ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0380
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (3W)

Organ	Findings	Group Name	Control				50ppm				100ppm				200ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Respiratory system}																		
nasal cavit			< 5>				< 5>				< 5>				< 5>			
	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)
	degeneration: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)	(0)	(0)
{Hematopoietic system}																		
spleen			< 5>				< 5>				< 5>				< 5>			
	deposit of melanin		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Circulatory system}																		
heart			< 5>				< 5>				< 5>				< 5>			
	mineralization		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
{Digestive system}																		
stomach			< 5>				< 5>				< 5>				< 5>			
	ulcer:forestomach		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(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

Organ	Findings	Group Name	400ppm				800ppm			
		No. of Animals on Study	5				1			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
nasal cavit			< 5>				< 1>			
	necrosis:olfactory epithelium		0	0	0	0	0	0	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(100)	(0)
	degeneration:respiratory epithelium		0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
{Hematopoietic system}										
spleen			< 5>				< 1>			
	deposit of melanin		0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Circulatory system}										
heart			< 5>				< 1>			
	mineralization		0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Digestive system}										
stomach			< 5>				< 1>			
	ulcer:forestomach		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

Organ	Findings	Group Name	Control				50ppm				100ppm				200ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
stomach			< 5>				< 5>				< 5>				< 5>			
	hyperplasia:forestomach		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
{Endocrine system}																		
pituitary			< 5>				< 5>				< 5>				< 5>			
	Rathke pouch		0	0	0	0	0	0	0	0	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			< 5>				< 5>				< 5>				< 5>			
	accesory cortical nodule		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)

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

Organ	Findings	Group Name	400ppm				800ppm			
		No. of Animals on Study	5				1			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}										
stomach			< 5>				< 1>			
	hyperplasia:forestomach		1	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Endocrine system}										
pituitary			< 5>				< 1>			
	Rathke pouch		1	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
adrenal			< 5>				< 1>			
	accesory cortical nodule		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

APPENDIX I 3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE : FEMALE : DEAD AND MORIBUND ANIMALS

(2-WEEK STUDY)

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
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			< 0>				< 0>				< 0>				< 0>			
	necrosis:olfactory epithelium		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	degeneration:respiratory epithelium		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
lung			< 0>				< 0>				< 0>				< 0>			
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
{Hematopoietic system}																		
thymus			< 0>				< 0>				< 0>				< 0>			
	atrophy		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
{Digestive system}																		
stomach			< 0>				< 0>				< 0>				< 0>			
	ulcer:forestomach		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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

Organ	Findings	Group Name	400ppm				800ppm			
		No. of Animals on Study	0				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
nasal cavit			< 0>				< 5>			
	necrosis:olfactory epithelium		-	-	-	-	0	2	3	0
			(-)	(-)	(-)	(-)	(0)	(40)	(60)	(0)
	degeneration:respiratory epithelium		-	-	-	-	3	1	0	0
			(-)	(-)	(-)	(-)	(60)	(20)	(0)	(0)
lung			< 0>				< 5>			
	congestion		-	-	-	-	5	0	0	0
			(-)	(-)	(-)	(-)	(100)	(0)	(0)	(0)
{Hematopoietic system}										
thymus			< 0>				< 5>			
	atrophy		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(20)	(0)	(0)	(0)
{Digestive system}										
stomach			< 0>				< 5>			
	ulcer:forestomach		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(20)	(0)	(0)	(0)

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

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
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			< 0>				< 0>				< 0>				< 0>			
	necrosis:central		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	degeneration:central		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
{Endocrine system}																		
adrenal			< 0>				< 0>				< 0>				< 0>			
	necrosis		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	accesory cortical nodule		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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

Organ	Findings	Group Name	400ppm				800ppm			
		No. of Animals on Study	0				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}										
liver			< 0>				< 5>			
	necrosis:central		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(20)	(0)	(0)	(0)
	degeneration:central		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(20)	(0)	(0)	(0)
{Endocrine system}										
adrenal			< 0>				< 5>			
	necrosis		-	-	-	-	0	1	0	0
			(-)	(-)	(-)	(-)	(0)	(20)	(0)	(0)
	accesory cortical nodule		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(20)	(0)	(0)	(0)

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

APPENDIX I 4

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE : FEMALE: SACRIFICED ANIMALS

(2-WEEK STUDY)

Organ	Findings	Group Name	Control				50ppm				100ppm				200ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			< 5>				< 5>				< 5>				< 5>			
	exudate		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Hematopoietic system}																		
spleen			< 5>				< 5>				< 5>				< 5>			
	deposit of melanin		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Digestive system}																		
stomach			< 5>				< 5>				< 5>				< 5>			
	ulcer:forestomach		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:forestomach		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
{Endocrine system}																		
pituitary			< 5>				< 5>				< 5>				< 5>			
	Rathke pouch		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)

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

Organ	Findings	Group Name	400ppm				800ppm			
		No. of Animals on Study	5				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
nasal cavit			< 5>				< 0>			
	exudate		0	0	0	0	-	-	-	-
			(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
{Hematopoietic system}										
spleen			< 5>				< 0>			
	deposit of melanin		1	0	0	0	-	-	-	-
			(20)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
{Digestive system}										
stomach			< 5>				< 0>			
	ulcer:forestomach		1	0	0	0	-	-	-	-
			(20)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	hyperplasia:forestomach		2	0	0	0	-	-	-	-
			(40)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
{Endocrine system}										
pituitary			< 5>				< 0>			
	Rathke pouch		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

Organ	Findings	Group Name	Control				50ppm				100ppm				200ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Endocrine system}																		
adrenal			< 5>				< 5>				< 5>				< 5>			
	accesory cortical nodule		1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)

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

Organ	Findings	Group Name	400ppm				800ppm			
		No. of Animals on Study	5				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}										
adrenal			< 5>				< 0>			
	accesory cortical nodule		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

APPENDIX J 1

IDENTITY OF 1-BROMO-3-CHLOROPROPANE

IN THE 2-WEEK INHALATION STUDY

IDENTITY AND IMPURITY OF 1-BROMO-3-CHLOROPROPANE IN THE 2-WEEK INHALATION STUDY

Test Substance : 1-Bromo-3-chloropropane (Wako Pure Chemical Industries, Ltd.)

Lot No. : CKR4612

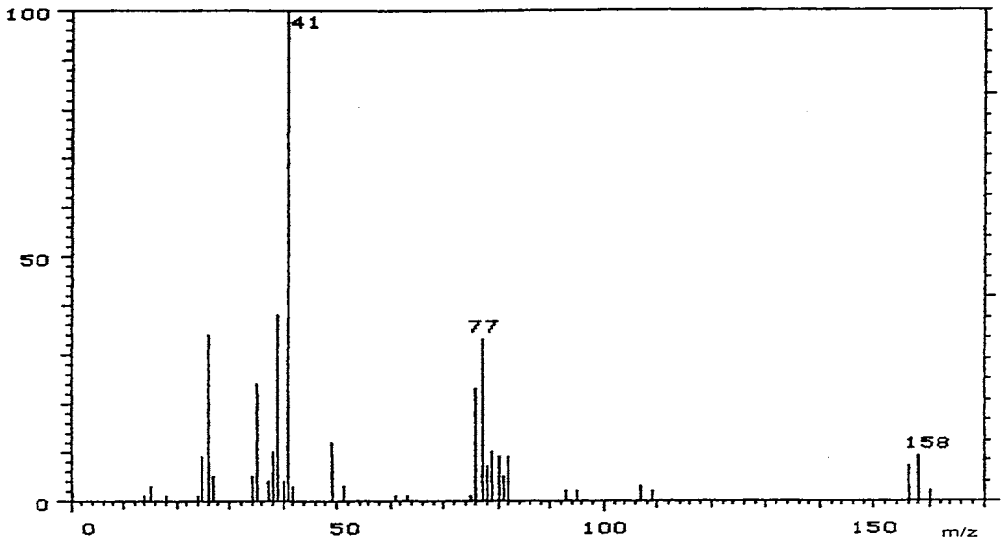
1. Spectral data

Mass Spectrometry

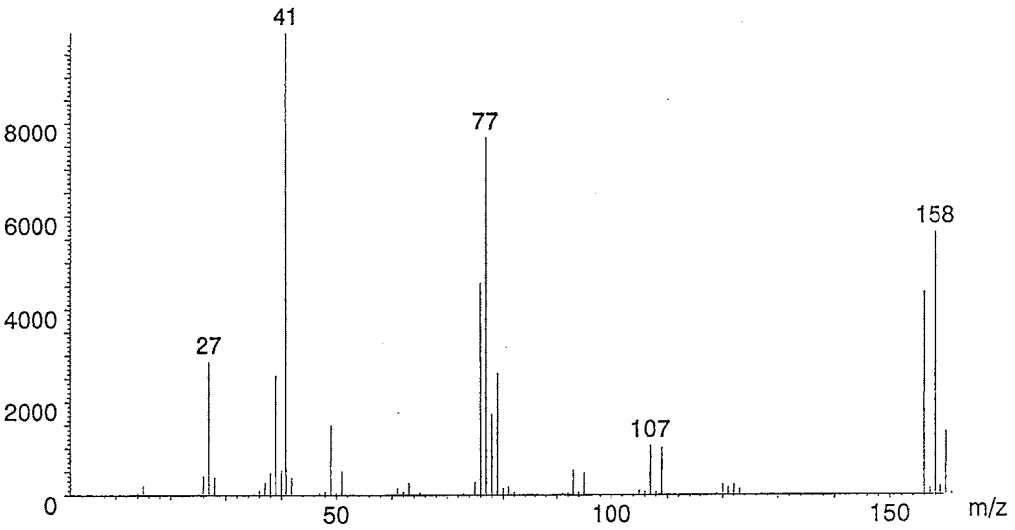
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Results: The mass spectrum was consistent with literature spectrum.

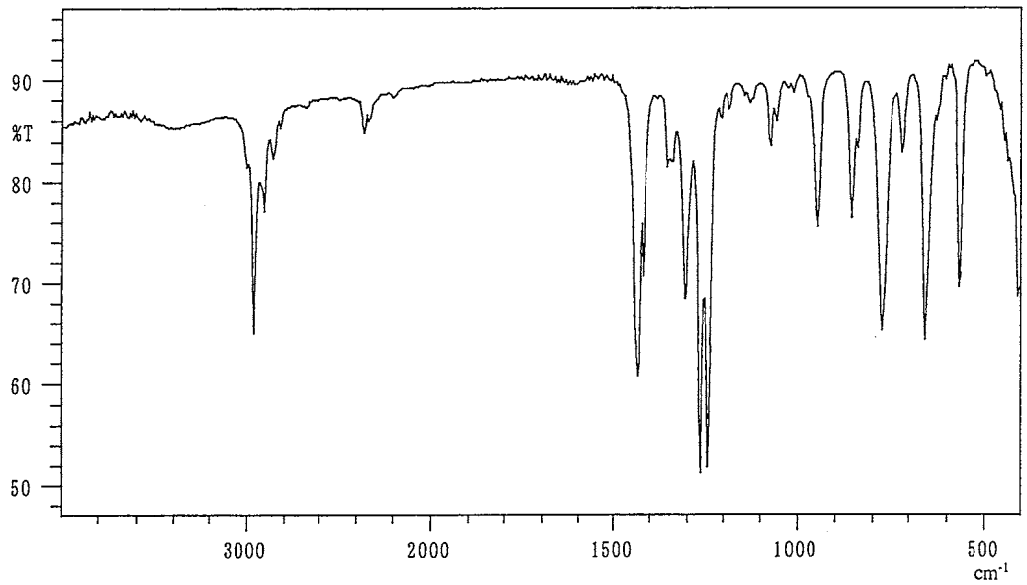
(*Fred W. McLafferty (1994) Wiley Registry of Mass Spectral Data, 6th edition. John Wiley and Sons, Inc. (U.S.), Entry Number 41048)

Infrared Spectrometry

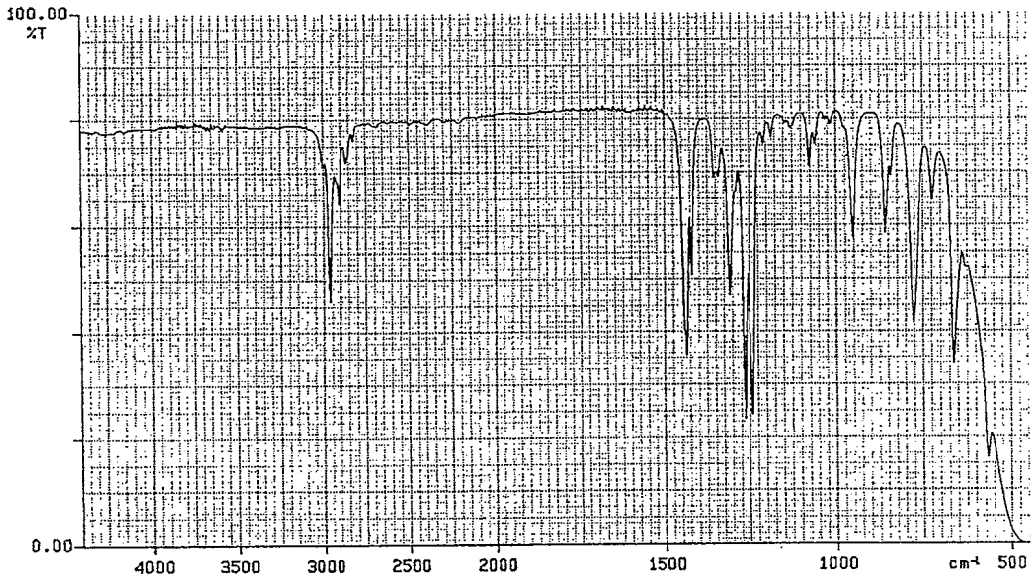
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1}



Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data*

Results: The infrared spectrum was consistent with literature spectrum.

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

2. Conclusions: The test substance was identified as 1-bromo-3-chloropropane, by the mass spectrum and the infrared spectrum.

APPENDIX J 2

STABILITY OF 1-BROMO-3-CHLOROPROPANE

IN THE 2-WEEK INHALATION STUDY

STABILITY OF 1-BROMO-3-CHLOROPROPANE IN THE 2-WEEK INHALATION STUDY

Test Substance : 1-Bromo-3-chloropropane (Wako Pure Chemical Industries, Ltd.)

Lot No. : CKR4612

1. Sample : This lot was used from 1999.3.24 to 1999.4.6. Test substance was stored at room temperature.

2. Gas Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 100° C

Flow Rate : 20 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
1999.03.01	1	1.987	0.033
	2	6.956	99.967
1999.04.07	1	1.986	0.034
	2	6.961	99.966

Results: Gas chromatography indicated one major peak (peak No.2) and one impurity (peak No.1 < 0.1% of total area) analyzed at 1999.3.1 and one major peak (peak No.2) and one impurity (peak No.1 < 0.1% of total area) analyzed at 1999.4.7. No new trace impurity peak in the test substance analyzed at 1999.4.7 was detected.

3. Conclusions: The test substance was stable for about 1 month at room temperature.

APPENDIX K 1

CONCENTMOUSEION OF 1-BROMO-3-CHLOROPROPANE IN THE INHALATION CHAMBER OF THE 2-WEEK INHALATION STUDY

CONCENTRATION OF 1-BROMO-3-CHLOROPROPANE IN THE INHALATION CHAMBER OF THE 2-WEEK INHALATION STUDY

Group Name	Concentration(ppm) Mean ± S.D.
Control	0.0 ± 0.0
50ppm	50.1 ± 0.6
100ppm	100.7 ± 0.6
200ppm	200.5 ± 1.5
400ppm	400.2 ± 1.7
800ppm	801.3 ± 2.7

APPENDIX K 2

ENVORONMENTAL CONDITIONS OF INHALATION CHAMBER

IN THE 2-WEEK INHALATION STUDY OF 1-BROMO-3-CHLOROPROPANE

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2-WEEK INHALATION STUDY OF 1-BROMO-3-CHLOROPROPANE

Group Name	Temperature(℃) Mean ± S.D.	Humidity(%) Mean ± S.D.	Ventilation Rate(L/min) Mean ± S.D.	Air Change(time/h) Mean
Control	22.3 ± 0.2	58.8 ± 1.4	104.2 ± 0.2	12.0
50ppm	22.1 ± 0.1	57.8 ± 1.1	104.2 ± 0.4	12.0
100ppm	22.4 ± 0.1	57.0 ± 1.3	104.2 ± 0.2	12.0
200ppm	22.1 ± 0.1	57.3 ± 1.1	104.4 ± 0.3	12.0
400ppm	22.1 ± 0.1	57.8 ± 1.3	104.6 ± 0.2	12.1
800ppm	21.7 ± 0.3	57.7 ± 1.8	104.4 ± 0.3	12.0

APPENDIX L 1

METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF 1-BROMO-3-CHLOROPROPANE

METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF 1-BROMO-3-CHLOROPROPANE

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

1) Automatic blood cell analyzer (Technicon H・1 : Bayer Corporation,USA)

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

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

APPENDIX L 2

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF 1-BROMO-3-CHLOROPROPANE

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF 1-BROMO-3-CHLOROPROPANE

Item	Unit	Decimal place
Hematology		
Red blood cell (RBC)	$\times 10^6/\mu L$	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	$\times 10^3/\mu L$	0
White blood cell (WBC)	$\times 10^3/\mu L$	2
Differential WBC	%	0
Biochemistry		
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 transminase (GOT)	IU/L	0
Glutamic pyruvic transaminase (GPT)	IU/L	0
Lactate dehydrogenase (LDH)	IU/L	0
Alkaline phosphatase (ALP)	IU/L	0
γ-Glutamyl transpeptidase (γ-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