アリルクロリドのマウスを用いた
吸入による２週間毒性試験報告書

試験番号：０３３３

APPENDIX

APPENDIXES

APPENDIXES (CONTINUED)

APPENDIXES (CONTINUED)

APPENDIX A 1

CLINICAL OBSERVATION : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-2	1-4	1-7	2-3	2-7
DEATH	0ppm	0	0	0	0	0
	62.5ppm	0	0	0	0	0
	125.0ppm	0	0	0	0	0
	250.0ppm	0	0	0	0	0
	500.0ppm	2	7	8	10	-
	1000.0ppm	10	-	-	-	-
LOCOMOTOR MOVEMENT DECR	0ppm	0	0	0	0	0
	62.5ppm	0	0	0	0	0
	125.0ppm	0	0	0	0	0
	250.0ppm	0	0	0	0	0
	500.0ppm	3	2	1	0	-
	1000.0ppm	0	-	-	-	-
PILOERECTION	0ppm	0	0	0	0	0
	62.5ppm	0	0	0	0	0
	125.0ppm	0	0	0	0	0
	250.0ppm	0	0	0	0	0
	500.0ppm	2	0	1	0	-
	1000.0ppm	0	-	-	-	-
RED URINE	0ppm	0	0	0	0	0
	62.5ppm	0	0	0	0	0
	125.0ppm	0	0	0	0	0
	250.0ppm	0	0	0	0	0
	500.0ppm	0	2	0	0	-
	1000.0ppm	0	-	-	-	-
SUBNORMAL TEMP	0ppm	0	0	0	0	0
	62.5ppm	0	0	0	0	0
	125.0ppm	0	0	0	0	0
	250.0ppm	0	0	0	0	0
	500.0ppm	3	0	0	0	-
	1000.0ppm	0	-	-	-	-

APPENDIX A 2

CLINICAL OBSERVATION : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

Clinical sign	Group Name	Administration Week-day 1-2	1-4	1-7	2-3	2-7
DEATH	0ppm	0	0	0	0	0
	62.5ppm	0	0	0	0	0
	125.0ppm	0	0	0	0	0
	250.0ppm	0	0	0	0	0
	500.0ppm	0	0	0	10	-
	1000.0ppm	6	9	-	-	-
TREMOR	0ppm	0	0	0	0	0
	62.5ppm	0	0	0	0	0
	125.0ppm	0	0	0	0	0
	250.0ppm	0	0	0	0	0
	500.0ppm	0	0	0	0	-
	1000.0ppm	0	1	-	-	-
IRREGULAR BREATHING	0ppm	0	0	0	0	0
	62.5ppm	0	0	0	0	0
	125.0ppm	0	0	0	0	0
	250.0ppm	0	0	0	0	0
	500.0ppm	0	0	0	0	-
	1000.0ppm	0	1	-	-	-

APPENDIX B 1

BODY WEIGHT CHANGES :SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0333
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
0ppm	22.6± 0.9	23.2± 1.1	23.9± 1.0	24.5± 0.9	24.7± 1.1	25.2± 1.4
62.5ppm	22.6± 0.9	22.7± 1.4	23.1± 1.5	23.5± 1.6	23.5± 1.3	23.9± 1.5
125.0ppm	22.6± 0.9	22.9± 0.7	23.2± 1.0	23.1± 0.9	23.3± 1.2	23.3± 0.9*
250.0ppm	22.6± 0.9	22.3± 1.0	22.9± 1.2	23.9± 1.5	25.3± 1.8	25.7± 1.6
500.0ppm	22.5± 0.9	20.2± 1.4**	19.2± 0.6**	17.7± 1.5 ?	-	-
1000.0ppm	22.6± 0.9	-	-	-	-	-

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. : 0333
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
0ppm	18.6± 0.6	18.9± 0.9	19.5± 1.1	19.8± 1.1	20.1± 1.1	20.2± 0.9
62.5ppm	18.6± 0.6	18.1± 0.7	18.9± 0.6	19.6± 0.7	19.9± 1.0	19.9± 0.8
125.0ppm	18.6± 0.6	18.6± 0.8	19.1± 0.5	19.4± 0.6	19.6± 0.8	20.4± 0.5
250.0ppm	18.5± 0.7	18.2± 0.5	19.2± 0.7	20.2± 0.6	21.5± 0.9**	21.0± 0.8*
500.0ppm	18.5± 0.6	17.6± 0.6**	17.4± 0.8**	17.6± 1.5*	-	-
1000.0ppm	18.6± 0.6	16.8± 1.1**	15.1± 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. : 0333
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)
0ppm	4.7± 0.3	4.2± 0.4
62.5ppm	4.3± 0.4	3.9± 0.4
125.0ppm	4.3± 0.4	4.2± 0.5
250.0ppm	4.0± 0.4**	4.8± 0.4**
500.0ppm	1.5± 0.8 ?	-
1000.0ppm	-	-

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. : 0333
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)
0ppm	3.8± 0.3	3.6± 0.2
62.5ppm	3.8± 0.2	3.4± 0.2
125.0ppm	3.8± 0.3	3.6± 0.2
250.0ppm	4.0± 0.3	4.2± 0.2**
500.0ppm	3.0± 0.4**	-
1000.0ppm	-	-

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

APPENDIX D 1

HEMATOLOGY : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0333
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 $10^3/\mu\ell$
0ppm	5	11.02± 0.52	16.5± 0.4	51.8± 2.1	47.0± 2.1	15.0± 0.5	31.9± 0.6	1382± 87
62.5ppm	5	10.95± 0.51	16.7± 0.7	52.0± 1.6	47.5± 0.9	15.2± 0.3	32.0± 0.5	1286± 135
125.0ppm	5	10.57± 0.23	16.0± 0.5	50.2± 1.4	47.5± 0.3	15.2± 0.2	31.9± 0.4	1264± 148
250.0ppm	5	9.47± 0.40**	14.4± 0.6**	46.7± 2.1**	49.3± 0.2*	15.2± 0.1	30.8± 0.3**	1491± 59
500.0ppm	0	-	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-	-

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

(HCL070)

STUDY NO. : 0333
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	OTHERS
0ppm	5	1.13± 0.71	0± 0	26± 12	1± 1	0± 0	2± 1	71± 13	0± 0
62.5ppm	5	1.10± 0.98	1± 1	32± 17	0± 1	0± 0	2± 1	65± 16	0± 0
125.0ppm	5	0.70± 0.44	1± 1	27± 9	0± 0	0± 0	1± 1	70± 9	0± 0
250.0ppm	5	1.12± 0.41	2± 1	17± 3	3± 2	0± 0	1± 1	77± 6	0± 1
500.0ppm	0	-	-	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-	-	-

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

APPENDIX D 2

HEMATOLOGY : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0333
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 $10^3/\mu\ell$
0ppm	5	10.78± 0.44	16.5± 0.5	50.7± 2.5	47.0± 0.6	15.3± 0.3	32.6± 1.0	1178± 37
62.5ppm	5	10.53± 0.42	16.0± 0.5	49.1± 1.9	46.7± 0.7	15.2± 0.8	32.6± 1.9	1144± 106
125.0ppm	5	10.87± 0.30	16.0± 0.2	49.1± 2.5	45.2± 3.3	14.7± 0.5	32.7± 1.5	1120± 90
250.0ppm	5	9.12± 0.18**	14.1± 0.3**	45.9± 0.7**	50.4± 0.4*	15.4± 0.1	30.6± 0.3*	1414± 53**
500.0ppm	0	-	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0333
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	OTHERS
0ppm	5	0.67± 0.35	1± 1	16± 3	1± 1	0± 0	3± 1	79± 3	0± 0
62.5ppm	5	0.76± 0.20	1± 1	18± 3	1± 1	0± 0	3± 2	78± 3	0± 0
125.0ppm	5	0.75± 0.30	0± 1	17± 6	1± 1	0± 0	2± 1	80± 6	0± 0
250.0ppm	5	1.23± 0.70	1± 1	10± 2	2± 1	0± 0	3± 1	84± 3	0± 1
500.0ppm	0	-	-	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-	-	-

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

APPENDIX E 1

BIOCHEMISTRY : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0333
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
0ppm	5	5.6± 0.5	3.1± 0.0	1.2± 0.2	0.17± 0.01	219± 42	102± 38	40± 23
62.5ppm	5	5.3± 0.4	3.0± 0.2	1.3± 0.1	0.19± 0.04	193± 8	82± 21	20± 8
125.0ppm	5	5.1± 0.4	2.9± 0.1	1.4± 0.3	0.22± 0.05	196± 11	78± 33	19± 13
250.0ppm	5	5.0± 0.1	2.8± 0.1**	1.3± 0.1	0.30± 0.02**	225± 16	99± 6	24± 4
500.0ppm	0	-	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0333
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
0ppm	5	202± 50	41± 3	19± 2	255± 53	273± 76	2± 1	75± 26
62.5ppm	5	161± 37	43± 6	19± 2	317± 98	296± 29	1± 1	84± 39
125.0ppm	5	142± 34	45± 4	23± 5	339± 133	259± 73	1± 1	66± 20
250.0ppm	5	175± 10	60± 29	35± 19	232± 29	214± 18	1± 1	38± 7
500.0ppm	0	-	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0333
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	
0ppm	5	31.3±	4.5	152±	1	4.2±	0.2	119±	3	9.4±	0.8	7.0±	1.3
62.5ppm	5	30.3±	6.4	151±	2	4.5±	0.2	120±	3	9.0±	0.7	6.5±	1.7
125.0ppm	5	28.2±	6.1	152±	1	4.4±	0.5	121±	1	8.9±	0.4	6.6±	1.5
250.0ppm	5	13.5±	0.5**	151±	1	4.7±	0.3	120±	1	9.0±	0.1	6.5±	1.0
500.0ppm	0	-		-		-		-		-		-	
1000.0ppm	0	-		-		-		-		-		-	

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

APPENDIX E 2

BIOCHEMISTRY : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0333
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	
0ppm	5	5.4±	0.2	3.5±	0.2	1.8±	0.1	0.17±	0.01	175±	23	67±	8	18±	7
62.5ppm	5	5.2±	0.2	3.1±	0.1**	1.5±	0.1**	0.21±	0.12	180±	27	71±	9	17±	3
125.0ppm	5	5.3±	0.1	3.2±	0.1*	1.6±	0.1*	0.19±	0.01	197±	23	74±	4	17±	3
250.0ppm	5	5.1±	0.2*	3.1±	0.1**	1.6±	0.1**	0.30±	0.02**	217±	24	85±	5**	13±	2
500.0ppm	0	-		-		-		-		-		-		-	
1000.0ppm	0	-		-		-		-		-		-		-	

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

STUDY NO. : 0333
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
0ppm	5	140± 20	55± 3	22± 4	235± 22	490± 57	1± 1	69± 20
62.5ppm	5	142± 12	53± 7	20± 3	325± 182	436± 41	1± 1	94± 25
125.0ppm	5	147± 11	50± 5	21± 2	266± 53	418± 20*	0± 1	74± 13
250.0ppm	5	148± 7	46± 4	18± 1	222± 28	324± 16**	2± 2	41± 7
500.0ppm	0	-	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0333
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	
0ppm	5	26.2±	2.2	153±	1	4.8±	0.5	122±	1	9.1±	0.2	6.9±	1.5
62.5ppm	5	24.0±	3.6	152±	1	4.1±	0.3*	121±	1	9.1±	0.2	6.3±	1.0
125.0ppm	5	26.1±	3.8	152±	2	4.2±	0.1*	120±	1**	9.1±	0.2	6.5±	1.7
250.0ppm	5	13.7±	1.5**	151±	2	4.3±	0.4	120±	1*	9.1±	0.1	6.4±	1.2
500.0ppm	0	-		-		-		-		-		-	
1000.0ppm	0	-		-		-		-		-		-	

Significant defference ; * : 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. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	0ppm	62.5ppm	125.0ppm	250.0ppm
		NO. of Animals	0 (%)	0 (%)	0 (%)	0 (%)
kidney	white zone		- (-)	- (-)	- (-)	- (-)

STUDY NO. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	500.0ppm	1000.0ppm
		NO. of Animals	10 (%)	10 (%)
kidney	white zone		1 (10)	0 (0)

APPENDIX F 2

GROSS FINDINGS : SUMMARY, MOUSE : MALE SACRIFICED ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (3W)

Organ	Findings	Group Name / NO. of Animals	0ppm 10 (%)	62.5ppm 10 (%)	125.0ppm 10 (%)	250.0ppm 10 (%)
spleen	black zone		0 (0)	1 (10)	1 (10)	0 (0)
kidney	hydronephrosis		1 (10)	2 (20)	0 (0)	1 (10)

STUDY NO. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (3W)

Organ	Findings	Group Name	500.0ppm	1000.0ppm
		NO. of Animals	0 (%)	0 (%)
spleen	black zone		- (-)	- (-)
kidney	hydronephrosis		- (-)	- (-)

APPENDIX F 3

GROSS FINDINGS : SUMMARY, MOUSE : FEMALE

DEAD AND MORIBUND ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name	0ppm	62.5ppm	125.0ppm	250.0ppm
		NO. of Animals	0 (%)	0 (%)	0 (%)	0 (%)
lung	red		- (-)	- (-)	- (-)	- (-)
	red zone		- (-)	- (-)	- (-)	- (-)

STUDY NO. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name	500.0ppm		1000.0ppm	
		NO. of Animals	10	(%)	10	(%)
lung	red		0	(0)	1	(10)
	red zone		1	(10)	0	(0)

APPENDIX F 4

GROSS FINDINGS : SUMMARY, MOUSE : FEMALE SACRIFICED ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (3W)

Organ	Findings	Group Name / NO. of Animals	0ppm 10 (%)	62.5ppm 10 (%)	125.0ppm 10 (%)	250.0ppm 10 (%)
spleen	black zone		2 (20)	0 (0)	2 (20)	0 (0)
kidney	hydronephrosis		0 (0)	1 (10)	0 (0)	0 (0)

Organ	Findings	Group Name	500.0ppm	1000.0ppm
		NO. of Animals	0 (%)	0 (%)
spleen	black zone		- (-)	- (-)
kidney	hydronephrosis		- (-)	- (-)

APPENDIX G 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOUSE : MALE

(2-WEEK STUDY)

STUDY NO. : 0333
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
0ppm	5	20.9± 0.9	0.046± 0.006	0.008± 0.001	0.179± 0.006	0.133± 0.009	0.141± 0.010
62.5ppm	5	19.5± 0.7	0.037± 0.007	0.009± 0.001	0.175± 0.027	0.129± 0.008	0.134± 0.006
125.0ppm	5	19.4± 1.1*	0.029± 0.008**	0.008± 0.002	0.168± 0.016	0.119± 0.007	0.137± 0.006
250.0ppm	5	21.6± 0.7	0.027± 0.004**	0.008± 0.002	0.184± 0.018	0.129± 0.014	0.157± 0.015*
500.0ppm	0	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0333
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
0ppm	5	0.397± 0.081	0.051± 0.015	0.935± 0.053	0.430± 0.018
62.5ppm	5	0.470± 0.164	0.049± 0.012	0.863± 0.064	0.435± 0.007
125.0ppm	5	0.422± 0.115	0.039± 0.007	0.859± 0.047	0.438± 0.019
250.0ppm	5	0.421± 0.020	0.044± 0.003	0.977± 0.106	0.429± 0.010
500.0ppm	0	-	-	-	-
1000.0ppm	0	-	-	-	-

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

APPENDIX G 2

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0333
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
0ppm	5	17.3± 0.9	0.057± 0.009	0.011± 0.002	0.022± 0.002	0.112± 0.009	0.126± 0.005
62.5ppm	5	16.6± 0.6	0.065± 0.011	0.012± 0.002	0.022± 0.007	0.104± 0.008	0.126± 0.007
125.0ppm	5	17.0± 0.5	0.066± 0.008	0.010± 0.002	0.019± 0.004	0.108± 0.009	0.124± 0.008
250.0ppm	5	17.1± 0.5	0.046± 0.008	0.014± 0.003	0.017± 0.001	0.105± 0.007	0.132± 0.009
500.0ppm	0	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0333
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
0ppm	5	0.254± 0.012	0.045± 0.004	0.759± 0.048	0.436± 0.015
62.5ppm	5	0.313± 0.137	0.044± 0.009	0.708± 0.036	0.433± 0.004
125.0ppm	5	0.260± 0.009	0.047± 0.007	0.771± 0.052	0.436± 0.014
250.0ppm	5	0.273± 0.012	0.048± 0.001	0.804± 0.026	0.420± 0.018
500.0ppm	0	-	-	-	-
1000.0ppm	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. : 0333
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
0ppm	5	20.9± 0.9	0.218± 0.024	0.043± 0.005	0.859± 0.058	0.637± 0.027	0.674± 0.053
62.5ppm	5	19.5± 0.7	0.190± 0.034	0.045± 0.007	0.899± 0.163	0.662± 0.032	0.688± 0.041
125.0ppm	5	19.4± 1.1*	0.147± 0.035**	0.043± 0.010	0.867± 0.087	0.615± 0.058	0.710± 0.036
250.0ppm	5	21.6± 0.7	0.127± 0.017**	0.039± 0.007	0.853± 0.068	0.597± 0.048	0.725± 0.059
500.0ppm	0	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0333
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
0ppm	5	1.916± 0.464	0.247± 0.082	4.479± 0.116	2.061± 0.084
62.5ppm	5	2.436± 0.924	0.254± 0.066	4.424± 0.189	2.237± 0.078
125.0ppm	5	2.198± 0.675	0.204± 0.036	4.441± 0.249	2.273± 0.197*
250.0ppm	5	1.947± 0.044	0.205± 0.011	4.519± 0.403	1.985± 0.066
500.0ppm	0	-	-	-	-
1000.0ppm	0	-	-	-	-

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

APPENDIX H 2

ORGAN WEIGHT, RELATIVE : SUMMARY, MOUSE : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0333
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
0ppm	5	17.3± 0.9	0.325± 0.045	0.063± 0.009	0.128± 0.010	0.646± 0.044	0.727± 0.038
62.5ppm	5	16.6± 0.6	0.394± 0.062	0.071± 0.009	0.133± 0.038	0.627± 0.044	0.762± 0.042
125.0ppm	5	17.0± 0.5	0.388± 0.036	0.056± 0.010	0.112± 0.023	0.635± 0.049	0.728± 0.033
250.0ppm	5	17.1± 0.5	0.269± 0.047	0.079± 0.015	0.101± 0.007	0.612± 0.042	0.771± 0.052
500.0ppm	0	-	-	-	-	-	-
1000.0ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0333
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
0ppm	5	1.466± 0.028	0.258± 0.017	4.379± 0.203	2.518± 0.127
62.5ppm	5	1.885± 0.801*	0.265± 0.047	4.277± 0.161	2.617± 0.074
125.0ppm	5	1.528± 0.019	0.276± 0.034	4.521± 0.232	2.557± 0.052
250.0ppm	5	1.596± 0.092**	0.283± 0.005	4.705± 0.207	2.454± 0.107
500.0ppm	0	-	-	-	-
1000.0ppm	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. : 0333
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	0ppm				62.5ppm				125.0ppm				250.0ppm			
		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	necrosis:olfactory epithelium		< 0>				< 0>				< 0>				< 0>			
			- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
lung	congestion うっ血		< 0>				< 0>				< 0>				< 0>			
			- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	hemorrhage 出血		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	edema 浮腫		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Hematopoietic system]																		
thymus	atrophy		< 0>				< 0>				< 0>				< 0>			
			- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	karyorrhexis		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

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	500.0ppm				1000.0ppm			
		No. of Animals on Study	3				2			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]										
nasal cavit			< 3>				< 2>			
	necrosis:olfactory epithelium		2	0	0	0	0	0	0	0
			(67)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
lung			< 3>				< 2>			
	congestion		1	0	0	0	2	0	0	0
			(33)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
	hemorrhage		1	0	0	0	1	0	0	0
			(33)	(0)	(0)	(0)	(50)	(0)	(0)	(0)
	edema		0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)
[Hematopoietic system]										
thymus			< 2>				< 2>			
	atrophy		0	0	1	0	0	0	0	0
			(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)
	karyorrhexis		1	0	1	0	1	0	0	0
			(50)	(0)	(50)	(0)	(50)	(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	0ppm	62.5ppm	125.0ppm	250.0ppm
		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
			(%) (%) (%) (%)	(%) (%) (%) (%)	(%) (%) (%) (%)	(%) (%) (%) (%)
[Hematopoietic system]						
spleen			< 0>	< 0>	< 0>	< 0>
	atrophy		- - - -	- - - -	- - - -	- - - -
			(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)
	congestion		- - - -	- - - -	- - - -	- - - -
			(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)
	karyorrhexis		- - - -	- - - -	- - - -	- - - -
			(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)
	extramedullary hematopoiesis		- - - -	- - - -	- - - -	- - - -
			(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)
[Circulatory system]						
heart			< 0>	< 0>	< 0>	< 0>
	necrosis		- - - -	- - - -	- - - -	- - - -
			(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)
[Digestive system]						
stomach			< 0>	< 0>	< 0>	< 0>
	hyperplasia:forestomach		- - - -	- - - -	- - - -	- - - -
			(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)	(-) (-) (-) (-)

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

Organ	Findings	Group Name	500.0ppm				1000.0ppm			
		No. of Animals on Study	3				2			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Hematopoietic system]										
spleen			< 3>				< 2>			
	atrophy		1	0	0	0	0	0	0	0
			(33)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	congestion		1	0	0	0	2	0	0	0
			(33)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
	karyorrhexis		1	0	0	0	2	0	0	0
			(33)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
	extramedullary hematopoiesis		0	1	0	0	0	0	0	0
			(0)	(33)	(0)	(0)	(0)	(0)	(0)	(0)
[Circulatory system]										
heart			< 3>				< 2>			
	necrosis		0	0	1	0	0	0	0	0
			(0)	(0)	(33)	(0)	(0)	(0)	(0)	(0)
[Digestive system]										
stomach			< 3>				< 2>			
	hyperplasia:forestomach		0	1	0	0	0	0	0	0
			(0)	(33)	(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	0ppm				62.5ppm				125.0ppm				250.0ppm			
		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 (%)
[Urinary system]																		
kidney			< 0>				< 0>				< 0>				< 0>			
	tubular necrosis:proximale tubule		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Reproductive system]																		
testis			< 0>				< 0>				< 0>				< 0>			
	germ cell necrosis		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
epididymis			< 0>				< 0>				< 0>				< 0>			
	debris of spermatic elements		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

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	500.0ppm				1000.0ppm			
		No. of Animals on Study	3				2			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Urinary system]										
kidney			< 3>				< 2>			
	tubular necrosis:proximale tubule		0	2	0	0	0	0	0	0
			(0)	(67)	(0)	(0)	(0)	(0)	(0)	(0)
[Reproductive system]										
testis			< 3>				< 2>			
	germ cell necrosis		1	1	0	0	0	0	0	0
			(33)	(33)	(0)	(0)	(0)	(0)	(0)	(0)
epididymis			< 3>				< 2>			
	debris of spermatic elements		2	0	0	0	0	0	0	0
			(67)	(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 2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE : MALE: SACRIFICED ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	0ppm				62.5ppm				125.0ppm				250.0ppm			
		No. of Animals on Study	2				2				2				2			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Hematopoietic system]																		
spleen			< 2>				< 2>				< 2>				< 2>			
	deposit of melanin		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)	(50)	(0)	(0)	(0)	(0)	(0)	(0)
[Urinary system]																		
kidney			< 2>				< 2>				< 2>				< 2>			
	hydronephrosis		0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(50)	(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	500.0ppm				1000.0ppm			
		No. of Animals on Study	0				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Hematopoietic system]										
spleen			< 0>				< 0>			
	deposit of melanin		-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Urinary system]										
kidney			< 0>				< 0>			
	hydronephrosis		-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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	0ppm				62.5ppm				125.0ppm				250.0ppm			
		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		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
lung			< 0>				< 0>				< 0>				< 0>			
	congestion		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	hemorrhage		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	edema		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Hematopoietic system]																		
thymus			< 0>				< 0>				< 0>				< 0>			
	atrophy		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	karyorrhexis		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

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	500.0ppm				1000.0ppm			
		No. of Animals on Study	2				3			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
[Respiratory system]										
nasal cavit			< 2>				< 3>			
	necrosis:olfactory epithelium		2 (100)	0 (0)	0 (0)	0 (0)	3 (100)	0 (0)	0 (0)	0 (0)
lung			< 2>				< 3>			
	congestion		1 (50)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)
	hemorrhage		0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)
	edema		1 (50)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)
[Hematopoietic system]										
thymus			< 1>				< 3>			
	atrophy		0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)
	karyorrhexis		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	1 (33)	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	0ppm				62.5ppm				125.0ppm				250.0ppm			
		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 (%)
[Hematopoietic system]																		
spleen			< 0>				< 0>				< 0>				< 0>			
	atrophy		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	karyorrhexis		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	extramedullary hematopoiesis		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Urinary system]																		
kidney			< 0>				< 0>				< 0>				< 0>			
	tubular necrosis:proximale tubule		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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	500.0ppm				1000.0ppm			
		No. of Animals on Study	2				3			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Hematopoietic system]										
spleen			< 2>				< 3>			
	atrophy		0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(33)	(0)	(0)
	congestion		0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(33)	(0)	(0)	(0)
	karyorrhexis		0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(67)	(0)	(0)	(0)
	extramedullary hematopoiesis		0	2	0	0	0	0	0	0
			(0)	(100)	(0)	(0)	(0)	(0)	(0)	(0)
[Urinary system]										
kidney			< 2>				< 3>			
	tubular necrosis:proximale tubule		0	0	0	0	2	0	1	0
			(0)	(0)	(0)	(0)	(67)	(0)	(33)	(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)

STUDY NO. : 0333
ANIMAL : MOUSE Crj:BDF1
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name	0ppm				62.5ppm				125.0ppm				250.0ppm			
		No. of Animals on Study	2				2				2				2			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]																		
lung			< 2>				< 2>				< 2>				< 2>			
	perivascular inflammation		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Hematopoietic system]																		
spleen			< 2>				< 2>				< 2>				< 2>			
	deposit of melanin		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Digestive system]																		
stomach			< 2>				< 2>				< 2>				< 2>			
	erosion:forestomach		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)
	hyperplasia:forestomach		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(50)	(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	500.0ppm				1000.0ppm			
		No. of Animals on Study	0				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]										
lung			< 0>				< 0>			
	perivascular inflammation		-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Hematopoietic system]										
spleen			< 0>				< 0>			
	deposit of melanin		-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Digestive system]										
stomach			< 0>				< 0>			
	erosion:forestomach		-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	hyperplasia: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

APPENDIX J 1

IDENTITY OF ALLYL CHLORIDE

IN THE 2-WEEK INHALATION STUDY

IDENTITY OF ALLYL CHLORIDE IN THE 2-WEEK INHALATION STUDY

Test Substance : Allyl chloride(Wako Pure Chemical Industries, LTD.)

Lot No. : SKL4453

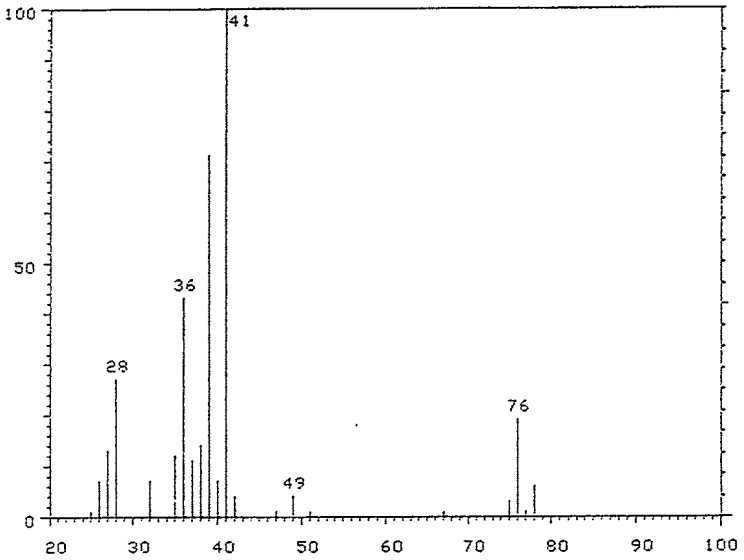
1. Spectral data

Mass Spectrometry

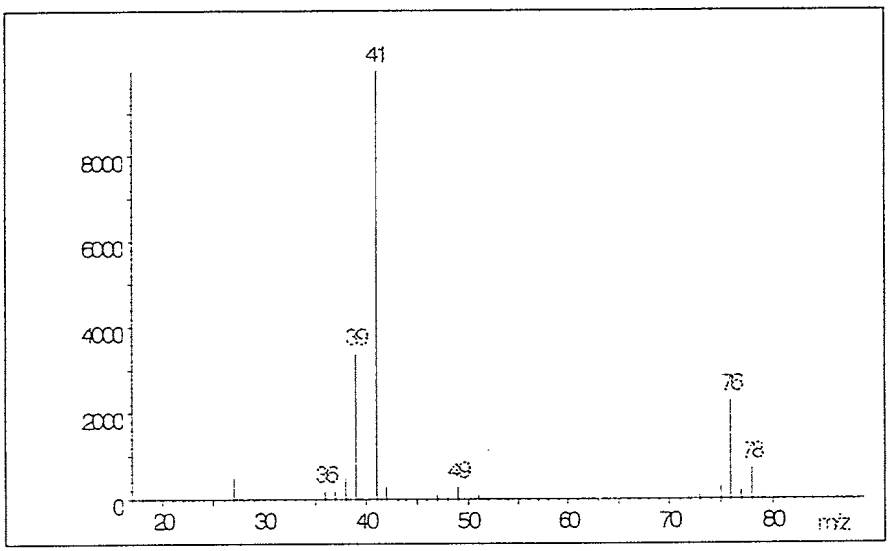
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI(Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance m/Z



Mass Spectrum of Allyl chloride(Literature data*)

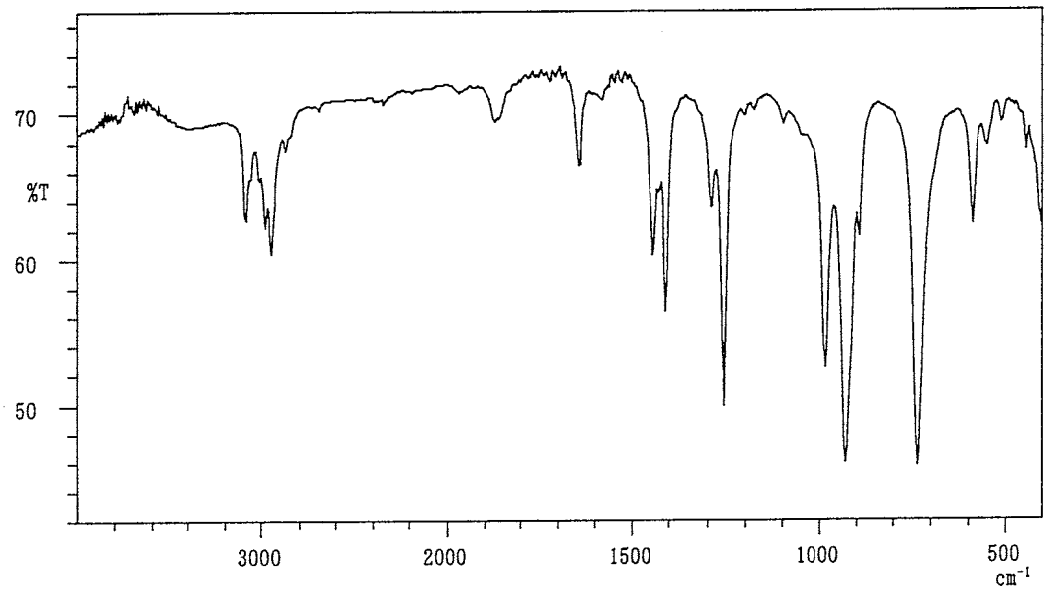
Results: The mass spectrum was consistent with literature spectrum.

*Wiley 138K Mass Spectral Data Base Entry Number 1989(1990)
John Wiley and Sons Inc.,U.K.

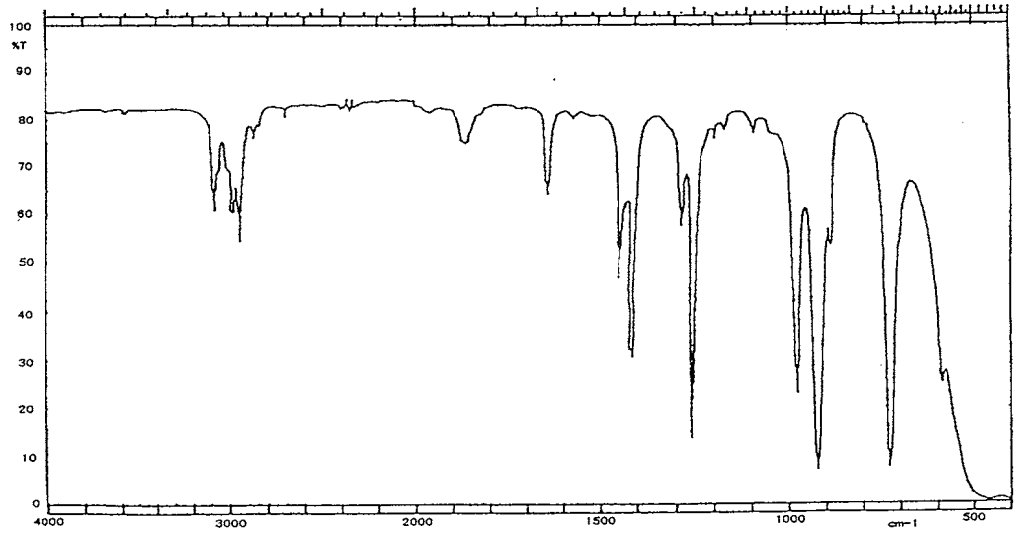
Infrared Spectrometry

Instrument : Shimazdu FT-IR 8200PC Infrared Spectrometer

Cell : KBr



Infrared Spectrum of Test Substance



Infrared Spectrum of Allyl chloride(Literature data*)

*Performed by Wako Pure Chemical Industries, LTD.

Results: The infrared spectrum was consistent with literature spectrum.

2. Conclusions: The test substance was identified as Allyl chloride, by the mass spectrum and the infrared spectrum.

APPENDIX J 2

STABILITY OF ALLYL CHLORIDE

IN THE 2-WEEK INHALATION STUDY

STABILITY OF ALLYL CHLORIDE IN THE 2-WEEK INHALATION STUDY

Test Substance : Allyl chloride(Wako Pure Chemical Industries, LTD.)

Lot No. : SKL4453

1.Sample: This lot was used from 1997.4.9 to 1997.4.22. Test substance was stored at room temperature .

2. Gas Chromatography

Instrument : Hewlett Packard 6890

Column : Hewlett Packard INNOWAX(0.53mmϕ×60m)

Column Temperature : 50°C

Flow Rate : 10 ml/min

Detector : FID(Flame Ionization Detector)

Injection Volume : 1 μl

Results : Gas chromatography indicated one major peak(peak No.3) and three impurities(peak No.1,2,4 < 2% of total area) analyzed at 1997.3.24 and one major peak(peak No.3) and three impurities(peak No.1,2,4 < 2% of total area) analyzed at 1997.4.25. It was identified only by comparing its gas chlomatograph with that of the 1-chloropropene(peak No.1) and 1,5-hexadiene(peak No.2) and 2-propanol(peak No.4) in the allyl chloride, the amount in the test substance were 0.22% and 0.51% and 0.007% at 1997.3.24. No new trace impurity peak in the test substance analyzed at 1997.4.25 was detected.

Date (date analyzed)	Peak No.	Retention Time(min)	AREA(%)
1997.03.24	1	2.540	0.700
	2	2.888	0.919
	3	3.313	98.369
	4	5.482	0.012
1997.04.25	1	2.541	0.695
	2	2.888	0.918
	3	3.315	98.375
	4	5.484	0.012

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

APPENDIX K 1

CONCENTMOUSEION OF ALLYL CHLORIDE IN THE INHALATION CHAMBER OF THE 2-WEEK INHALATION STUDY

CONCENTRATION OF ALLYL CHLORIDE IN THE INHALATION CHAMBER OF THE 2-WEEK INHALATION STUDY

Group Name	Concentration(ppm) Mean ± S.D.
0ppm(Control)	0.0 ± 0.0
62.5ppm	62.4 ± 0.3
125.0ppm	125.0 ± 0.7
250.0ppm	248.6 ± 2.0
500.0ppm	498.1 ± 1.8
1000.0ppm	1001.0 ± 5.2

APPENDIX K 2

ENVORONMENTAL CONDITIONS OF INHALATION CHAMBER

IN THE 2-WEEK INHALATION STUDY OF ALLYL CHLORIDE

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2-WEEK INHALATION STUDY OF ALLYL CHLORIDE

Group Name	Temperature(℃) Mean ± S.D.	Humidity(%) Mean ± S.D.	Ventilation Rate(L/min) Mean ± S.D.	Air Change(time/h) Mean
0ppm(Control)	22.1 ± 0.1	51.1 ± 0.5	104.9 ± 0.3	12.1
62.5ppm	22.2 ± 0.1	49.3 ± 0.5	104.6 ± 0.2	12.1
125.0ppm	21.8 ± 0.1	51.9 ± 0.6	105.2 ± 0.2	12.1
250.0ppm	21.7 ± 0.1	51.2 ± 0.5	104.9 ± 0.4	12.1
500.0ppm	21.3 ± 0.3	50.7 ± 0.7	105.5 ± 0.3	12.2
1000.0ppm	21.2 ± 0.3	50.3 ± 0.7	103.7 ± 0.6	12.0

APPENDIX L 1

METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF ALLYL CHLORIDE

METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF ALLYL CHLORIDE

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] (May-Grunwald-Giemsa 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	Enzymatic method (GLK・G-6-PDH) [3]
T-cholesterol	Enzymatic method (CE・COD・POD) [3]
Triglyceride	Enzymatic method (LPL・GK・GPO・POD) [3]
Phospholipid	Enzymatic method (PLD・COD・POD) [3]
Glutamic oxaloacetic transaminase (GOT)	UV・Rate method [3]
Glutamic pyruvic transaminase (GPT)	UV・Rate method [3]
Lactate dehydrogenase (LDH)	UV・Rate method [3]
Alkaline phosphatase (ALP)	p-Nitrophenylphosphate method [3]
γ-Glutamyl transpeptidase (γ-GTP)	L-γ-Glutamyl-p-nitroanilide method [3]
Creatine phosphokinase (CPK)	UV・Rate method [3]
Urea nitrogen	Enzymatic method (Urease・GLDH) [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	Enzymatic method (PNP・XOD・POD) [3]

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

2) Automatic blood cell differential analyzer (Hitachi 8200 : Hitachi,Ltd.,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 ALLYL CHLORIDE

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF ALLYL CHLORIDE

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 transaminase (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