アリルクロリドのラットを用いた
吸入による 13 週間毒性試験報告書

試験番号：0340

APPENDIX

APPENDIXES

APPENDIX A 1 CLINICAL OBSERVATION : SUMMARY, RAT : MALE (13-WEEK STUDY)
APPENDIX A 2 CLINICAL OBSERVATION : SUMMARY, RAT : FEMALE (13-WEEK STUDY)

APPENDIX B 1 BODY WEIGHT CHANGES : SUMMARY, RAT : MALE (13-WEEK STUDY)
APPENDIX B 2 BODY WEIGHT CHANGES : SUMMARY, RAT : FEMALE (13-WEEK STUDY)

APPENDIX C 1 FOOD CONSUMPTION CHANGES : SUMMARY, RAT : MALE (13-WEEK STUDY)
APPENDIX C 2 FOOD CONSUMPTION CHANGES : SUMMARY, RAT : FEMALE (13-WEEK STUDY)

APPENDIX D 1 HEMATOLOGY : SUMMARY, RAT : MALE (13-WEEK STUDY)
APPENDIX D 2 HEMATOLOGY : SUMMARY, RAT : FEMALE (13-WEEK STUDY)

APPENDIX E 1 BIOCHEMISTRY : SUMMARY, RAT : MALE (13-WEEK STUDY)
APPENDIX E 2 BIOCHEMISTRY : SUMMARY, RAT : FEMALE (13-WEEK STUDY)

APPENDIX F 1 URINALYSIS : SUMMARY, RAT : MALE (13-WEEK STUDY)
APPENDIX F 2 URINALYSIS : SUMMARY, RAT : FEMALE (13-WEEK STUDY)

APPENDIXES (CONTINUED)

APPENDIX G 1 GROSS FINDINGS : SUMMARY, RAT : MALE : DEAD AND MORIBUND ANIMALS (13-WEEK STUDY)

APPENDIX G 2 GROSS FINDINGS : SUMMARY, RAT : MALE : SACRIFICED ANIMALS (13-WEEK STUDY)

APPENDIX G 3 GROSS FINDINGS : SUMMARY, RAT : FEMALE : DEAD AND MORIBUND ANIMALS (13-WEEK STUDY)

APPENDIX G 4 GROSS FINDINGS : SUMMARY, RAT : FEMALE : SACRIFICED ANIMALS (13-WEEK STUDY)

APPENDIX H 1 ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : MALE (13-WEEK STUDY)

APPENDIX H 2 ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : FEMALE (13-WEEK STUDY)

APPENDIX I 1 ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : MALE (13-WEEK STUDY)

APPENDIX I 2 ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : FEMALE (13-WEEK STUDY)

APPENDIX J 1 HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY, RAT : MALE : DEAD AND MORIBUND ANIMALS (13-WEEK STUDY)

APPENDIX J 2 HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY, RAT : MALE : SACRIFICED ANIMALS (13-WEEK STUDY)

APPENDIX J 3 HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY, RAT : FEMALE : DEAD AND MORIBUND ANIMALS (13-WEEK STUDY)

APPENDIX J 4 HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY, RAT : FEMALE : SACRIFICED ANIMALS (13-WEEK STUDY)

APPENDIXES (CONTINUED)

APPENDIX K 1 IDENTITY OF ALLYL CHLORIDE IN THE 13-WEEK INHALATION STUDY

APPENDIX K 2 STABILITY OF ALLYL CHLORIDE IN THE 13-WEEK INHALATION STUDY

APPENDIX L 1 CONCENTRATION OF ALLYL CHLORIDE IN THE INHALATION CHAMBER OF THE 13-WEEK INHALATION STUDY

APPENDIX L 2 ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 13-WEEK IN HALATION STUDY OF ALLYL CHLORIDE

APPENDIX M 1 METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALYSIS IN THE 13-WEEK INHALTION STUDY OF ALLYL CHLORIDE

APPENDIX M 2 UNITS AND DECIMARL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 13-WEEK INHALTION STUDY OF ALLYL CHLORIDE

APPENDIX A 1

CLINICAL OBSERVATION : SUMMARY, RAT : MALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	2	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	8	-	-	-	-	-	-	-	-
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	8	-	-	-	-	-	-	-	-
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	8	-	-	-	-	-	-	-	-
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	8	-	-	-	-	-	-	-	-
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	8	-	-	-	-	-	-	-	-

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
ABNORMAL RESPIRA.SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	8	-	-	-	-	-	-	-	-
SALIVATION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	8	-	-	-	-	-	-	-	-

APPENDIX A 2

CLINICAL OBSERVATION : SUMMARY, RAT : FEMALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	5	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	4	-	-	-	-	-	-	-	-
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	3	-	-	-	-	-	-	-	-
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	2	-	-	-	-	-	-	-	-
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	1	-	-	-	-	-	-	-	-
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	4	-	-	-	-	-	-	-	-

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
ABNORMAL RESPIRA.SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	4	-	-	-	-	-	-	-	-
SALIVATION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	1	-	-	-	-	-	-	-	-

APPENDIX B 1

BODY WEIGHT CHANGES :SUMMARY, RAT : MALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7
0 ppm	113± 4	141± 6	171± 8	195± 10	215± 11	233± 13	247± 13
25 ppm	113± 4	139± 3	166± 4	190± 6	209± 8	226± 10	236± 12
50 ppm	113± 4	145± 6	179± 7	203± 8	221± 9	236± 8	247± 9
100 ppm	113± 4	142± 6	173± 7	197± 9	217± 12	235± 13	247± 15
200 ppm	113± 4	138± 7	168± 11	194± 12	212± 13	229± 14	239± 16
400 ppm	113± 4	133± 5**	161± 6*	184± 9*	202± 9	161± 17**	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 7-7	8-7	9-7	10-7	11-7	12-7	13-7
0 ppm	259± 15	271± 16	279± 16	286± 16	287± 18	299± 19	304± 19
25 ppm	248± 13	261± 13	268± 14	274± 13	275± 13	288± 14	291± 15
50 ppm	260± 10	274± 11	279± 10	284± 12	287± 13	299± 14	298± 13
100 ppm	259± 16	271± 17	281± 17	287± 17	287± 17	298± 18	304± 18
200 ppm	253± 18	261± 18	269± 20	279± 21	277± 19	292± 21	298± 21
400 ppm	-	-	-	-	-	-	-

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

APPENDIX B 2

BODY WEIGHT CHANGES : SUMMARY, RAT : FEMALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7
0 ppm	97± 3	110± 4	123± 4	133± 5	139± 6	149± 6	154± 7
25 ppm	97± 2	110± 4	124± 4	134± 4	142± 5	149± 5	155± 6
50 ppm	97± 3	114± 3*	129± 5*	139± 4	145± 5	153± 6	159± 7
100 ppm	97± 2	112± 4	128± 5	138± 6	144± 6	152± 6	156± 8
200 ppm	97± 3	111± 4	125± 6	134± 7	139± 6	145± 7	148± 6
400 ppm	97± 3	108± 3	121± 4	129± 7	132± 9	104± 14**	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 7-7	8-7	9-7	10-7	11-7	12-7	13-7
0 ppm	159± 8	163± 8	166± 9	171± 9	167± 9	175± 10	178± 10
25 ppm	160± 8	164± 7	169± 8	170± 8	170± 11	175± 10	176± 10
50 ppm	165± 6	172± 7*	173± 7	178± 10	176± 9	184± 9	183± 10
100 ppm	163± 9	164± 8	171± 10	171± 8	172± 8	178± 9	182± 9
200 ppm	154± 7	157± 9	158± 8	163± 9	161± 9	167± 10	171± 12
400 ppm	-	-	-	-	-	-	-

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

APPENDIX C 1

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : MALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 1-7(6)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
0 ppm	14.0± 0.6	15.1± 0.5	15.9± 0.4	16.6± 0.9	16.6± 0.8	16.3± 0.8	16.4± 1.0
25 ppm	13.8± 0.6	14.5± 0.7	15.2± 1.0	15.8± 0.8	15.5± 0.9	15.1± 0.9*	15.4± 0.9
50 ppm	14.0± 0.7	16.2± 1.0	16.5± 1.2	16.7± 1.1	16.9± 0.9	15.0± 1.1*	14.9± 0.8**
100 ppm	14.1± 0.7	16.2± 1.0	15.8± 0.7	16.5± 0.8	16.4± 1.2	16.2± 1.2	16.3± 1.0
200 ppm	14.1± 0.9	15.4± 1.1	16.0± 1.5	16.2± 0.8	16.6± 1.1	16.0± 0.9	16.5± 0.9
400 ppm	13.7± 0.8	16.9± 1.4**	17.7± 1.6	18.9± 1.7**	12.3± 4.6*	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
0 ppm	16.6± 0.8	16.1± 0.9	15.9± 0.5	15.4± 1.0	16.0± 0.6	15.6± 0.7
25 ppm	15.6± 1.1	15.3± 0.8	14.9± 0.8	14.4± 0.5	15.3± 0.8	14.8± 1.2
50 ppm	15.7± 0.9	15.6± 0.9	15.3± 1.1	15.3± 1.2	15.7± 1.1	14.7± 1.0
100 ppm	16.5± 1.2	16.5± 1.2	16.0± 0.9	15.6± 1.0	15.9± 1.2	15.6± 0.8
200 ppm	16.3± 1.1	16.4± 1.3	16.3± 1.3	16.1± 1.2	17.0± 1.6	16.4± 1.4
400 ppm	-	-	-	-	-	-

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

APPENDIX C 2

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : FEMALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 1-7(6)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
0 ppm	11.2± 0.8	11.1± 0.6	11.3± 0.6	11.0± 0.6	11.8± 1.1	11.2± 0.8	11.2± 0.9
25 ppm	11.4± 0.8	11.3± 0.6	11.1± 0.6	11.4± 0.6	11.7± 0.8	11.5± 1.5	11.3± 0.9
50 ppm	11.7± 0.4	12.6± 0.8**	11.9± 0.7	12.1± 0.5	12.0± 0.6	11.5± 1.0	11.5± 0.9
100 ppm	12.2± 0.8*	13.0± 1.2**	11.8± 1.1	11.3± 0.9	11.8± 0.9	11.8± 1.1	11.9± 1.3
200 ppm	12.0± 1.0	12.4± 1.2**	11.5± 1.1	11.3± 0.9	11.6± 1.1	11.1± 1.0	11.8± 1.2
400 ppm	11.8± 0.6	13.6± 0.8**	13.2± 1.6**	12.4± 2.5	5.6± 3.5*	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
0 ppm	11.0± 0.8	11.2± 1.0	11.1± 0.8	10.7± 0.8	11.0± 0.7	11.4± 1.1
25 ppm	10.8± 0.7	10.7± 0.7	11.0± 0.9	10.6± 1.1	11.0± 1.3	10.8± 1.3
50 ppm	11.8± 1.3	11.6± 0.9	10.9± 0.9	11.2± 0.9	11.8± 0.7	11.3± 0.7
100 ppm	11.5± 1.1	11.9± 1.1	11.1± 0.7	11.4± 0.9	11.3± 0.6	11.8± 0.7
200 ppm	11.4± 1.1	11.2± 0.9	11.7± 1.3	11.1± 1.4	11.2± 1.9	11.8± 1.2
400 ppm	-	-	-	-	-	-

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

APPENDIX D 1

HEMATOLOGY : SUMMARY, RAT : MALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

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 $10^3/\mu\ell$
0 ppm	10	8.95± 0.17	15.1± 0.3	44.7± 0.9	50.0± 0.3	16.9± 0.2	33.8± 0.4	691± 48
25 ppm	10	8.76± 0.98	14.8± 1.7	43.8± 4.4	50.1± 1.1	16.9± 0.2	33.8± 0.8	677± 75
50 ppm	10	8.96± 0.21	15.1± 0.3	44.7± 1.0	49.9± 0.8	16.9± 0.2	33.8± 0.2	677± 61
100 ppm	10	8.92± 0.25	15.0± 0.4	44.2± 1.2	49.6± 0.5	16.8± 0.2	33.9± 0.3	715± 56
200 ppm	10	8.84± 0.19	14.6± 0.4*	43.7± 1.0	49.4± 0.4	16.5± 0.2**	33.5± 0.4	793± 42**
400 ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

Group Name	NO. of Animals	RETICULOCYTE ‰		PROTHROMBIN TIME sec		APTT sec	
0 ppm	10	27±	4	12.2±	1.2	23.1±	2.5
25 ppm	10	34±	28	12.5±	1.5	22.6±	2.0
50 ppm	10	25±	3	12.5±	1.4	22.6±	3.6
100 ppm	10	27±	5	11.9±	1.1	21.2±	3.5
200 ppm	10	37±	8*	12.2±	1.1	22.6±	2.8
400 ppm	0	-		-		-	

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) N-BAND		N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHERS	
0 ppm	10	2.10±	0.77	0±	0	38±	8	1±	1	0±	0	4±	1	57±	9	1±	1
25 ppm	10	2.24±	0.88	0±	0	34±	7	2±	1	0±	0	4±	2	59±	9	1±	1
50 ppm	10	2.17±	0.57	0±	0	34±	7	1±	1	0±	0	4±	2	60±	7	0±	0
100 ppm	10	2.86±	1.16	1±	1	34±	4	1±	1	0±	0	4±	2	59±	4	1±	2
200 ppm	10	3.23±	0.64*	0±	0	29±	5**	1±	1	0±	0	4±	2	64±	5	2±	3
400 ppm	0	-		-		-		-		-		-		-		-	

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

APPENDIX D 2

HEMATOLOGY : SUMMARY, RAT : FEMALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

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 $10^3/\mu\ell$
0 ppm	8	8.15± 0.23	14.9± 0.5	43.4± 1.4	53.2± 0.8	18.2± 0.1	34.3± 0.4	606± 125
25 ppm	9	8.33± 0.17	15.2± 0.4	44.1± 0.9	52.9± 0.6	18.3± 0.2	34.5± 0.4	615± 106
50 ppm	10	8.10± 0.34	15.0± 0.3	42.9± 1.8	52.9± 0.3	18.6± 0.8	35.1± 1.5	641± 86
100 ppm	10	7.92± 0.26	14.6± 0.5	41.8± 1.4	52.8± 0.7	18.4± 0.4	34.8± 0.5	703± 91
200 ppm	10	7.67± 0.22**	14.1± 0.4**	41.5± 1.0*	54.1± 0.8*	18.4± 0.2	34.0± 0.4	793± 72**
400 ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

Group Name	NO. of Animals	RETICULOCYTE ‰		PROTHROMBIN TIME sec		APTT sec	
0 ppm	8	31±	7	10.8±	0.3	17.8±	1.8
25 ppm	9	22±	5*	10.9±	0.3	17.0±	2.2
50 ppm	10	25±	5	10.9±	0.4	17.6±	1.3
100 ppm	10	27±	6	10.7±	0.3	17.0±	1.3
200 ppm	10	38±	7	10.8±	0.2	17.1±	2.2
400 ppm	0	-		-		-	

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) N-BAND		N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHERS	
0 ppm	8	1.57±	1.26	0±	1	36±	9	2±	1	0±	0	5±	2	57±	9	0±	1
25 ppm	9	1.20±	0.45	0±	0	33±	8	2±	1	0±	0	4±	2	61±	6	0±	1
50 ppm	10	1.49±	0.68	0±	1	30±	9	1±	2	0±	0	4±	2	64±	8	1±	1
100 ppm	10	2.22±	0.74	0±	0	27±	6	1±	1	0±	0	4±	2	67±	6	1±	1
200 ppm	10	2.80±	0.85*	0±	1	29±	7	2±	1	0±	0	4±	1	64±	8	1±	1
400 ppm	0	-		-		-		-		-		-		-		-	

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

APPENDIX E 1

BIOCHEMISTRY : SUMMARY, RAT : MALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-2
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (14W)

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
0 ppm	10	6.2± 0.1	3.9± 0.0	1.6± 0.1	0.12± 0.01	166± 14	58± 6	55± 19
25 ppm	10	6.2± 0.1	3.8± 0.1	1.6± 0.1	0.12± 0.01	163± 11	58± 4	47± 16
50 ppm	10	6.2± 0.1	3.8± 0.1	1.6± 0.1	0.12± 0.01	159± 6	59± 3	50± 14
100 ppm	10	6.3± 0.1	3.9± 0.1	1.7± 0.1	0.13± 0.01	165± 11	63± 5	67± 24
200 ppm	10	6.4± 0.2*	4.0± 0.1**	1.7± 0.1	0.13± 0.01	162± 11	63± 7	55± 25
400 ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-2
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (14W)

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
0 ppm	10	105± 10	71± 6	43± 6	175± 25	275± 15	2± 1	114± 18
25 ppm	10	105± 8	76± 11	44± 6	184± 39	267± 25	2± 1	108± 17
50 ppm	10	104± 6	84± 19	47± 8	195± 43	242± 23*	2± 1	103± 10
100 ppm	10	113± 8	71± 7	42± 4	168± 24	247± 14	2± 1	89± 8**
200 ppm	10	110± 12	65± 4	41± 3	141± 19	283± 125**	74± 211	84± 6**
400 ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-2
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (14W)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ	CREATININE mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ	INORGANIC PHOSPHORUS mg/dℓ
0 ppm	10	18.5± 1.1	0.5± 0.0	142± 1	4.0± 0.3	107± 1	10.0± 0.2	5.9± 1.0
25 ppm	10	17.6± 1.1	0.5± 0.0	142± 1	4.0± 0.2	107± 1	10.0± 0.2	5.5± 1.0
50 ppm	10	18.4± 1.5	0.5± 0.1	142± 1	4.0± 0.2	108± 2	10.0± 0.2	5.7± 1.1
100 ppm	10	17.8± 1.1	0.5± 0.1	142± 1	4.0± 0.1	106± 1	10.0± 0.1	5.9± 1.0
200 ppm	10	26.1± 27.7	1.1± 1.7	140± 3	5.0± 2.6	105± 3	10.1± 0.2	7.6± 3.8
400 ppm	0	-	-	-	-	-	-	-

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

APPENDIX E 2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-2
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (14W)

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	
0 ppm	8	6.3±	0.2	3.8±	0.1	1.6±	0.1	0.13±	0.01	134±	8	71±	9	13±	3
25 ppm	9	6.1±	0.2	3.8±	0.1	1.6±	0.1	0.14±	0.01	131±	11	67±	7	13±	3
50 ppm	10	6.1±	0.2	3.8±	0.1	1.6±	0.1	0.14±	0.01	129±	17	69±	8	14±	3
100 ppm	10	6.1±	0.2	3.7±	0.1	1.6±	0.1	0.14±	0.01	137±	8	76±	7	16±	3
200 ppm	10	6.0±	0.1*	3.7±	0.1	1.7±	0.1	0.14±	0.01	135±	10	83±	7**	20±	6**
400 ppm	0	-		-		-		-		-		-		-	

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-2
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (14W)

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
0 ppm	8	131± 14	70± 8	38± 13	289± 112	200± 24	2± 1	139± 26
25 ppm	9	121± 10	75± 8	38± 9	320± 187	207± 19	3± 1	150± 73
50 ppm	10	125± 13	68± 5	32± 6	234± 44	193± 17	2± 1	115± 14
100 ppm	10	134± 12	70± 8	37± 12	259± 60	202± 21	3± 1	117± 19
200 ppm	10	154± 13**	66± 5	32± 5	254± 70	183± 24	2± 1	111± 21
400 ppm	0	-	-	-	-	-	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 014-2
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (14W)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ	CREATININE mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ	INORGANIC PHOSPHORUS mg/dℓ
0 ppm	8	17.7± 1.9	0.5± 0.1	141± 1	3.8± 0.3	108± 2	9.7± 0.3	5.4± 1.4
25 ppm	9	17.9± 0.6	0.5± 0.0	142± 1	3.9± 0.3	109± 2	9.7± 0.2	5.0± 1.4
50 ppm	10	16.1± 1.5	0.5± 0.1	141± 1	3.8± 0.1	108± 1	9.7± 0.2	5.2± 1.1
100 ppm	10	17.1± 1.5	0.5± 0.0	140± 1	3.9± 0.2	107± 2	9.7± 0.3	5.6± 1.0
200 ppm	10	16.4± 1.1	0.5± 0.0	140± 1	4.1± 0.2	109± 2	9.7± 0.3	5.7± 1.0
400 ppm	0	-	-	-	-	-	-	-

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

APPENDIX F 1

URINALYSIS : SUMMARY, RAT : MALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 013-4
SEX : MALE REPORT TYPE : A1

URINALYSIS

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

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

(HCL101)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 013-4
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
0 ppm	10	10	0	0	0	0		10	0	0	0	0	
25 ppm	10	10	0	0	0	0		10	0	0	0	0	
50 ppm	10	9	1	0	0	0		10	0	0	0	0	
100 ppm	10	10	0	0	0	0		10	0	0	0	0	
200 ppm	10	9	0	1	0	0		10	0	0	0	0	
400 ppm	0	-	-	-	-	-		-	-	-	-	-	

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX F 2

URINALYSIS : SUMMARY, RAT : FEMALE

(13 - WEEK STUDY)

STUDY NO. : 0340 URINALYSIS
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 013-4
SEX : FEMALE REPORT TYPE : A1

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

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

STUDY NO. : 0340 URINALYSIS
ANIMAL : RAT F344/DuCrj
SAMPLING DATE : 013-4
SEX : FEMALE REPORT TYPE : A1

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
0 ppm	10	10	0	0	0	0		10	0	0	0	0	
25 ppm	10	10	0	0	0	0		10	0	0	0	0	
50 ppm	10	10	0	0	0	0		10	0	0	0	0	
100 ppm	10	10	0	0	0	0		10	0	0	0	0	
200 ppm	10	10	0	0	0	0		10	0	0	0	0	
400 ppm	0	-	-	-	-	-		-	-	-	-	-	

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX G 1

GROSS FINDINGS : SUMMARY, RAT : MALE

DEAD AND MORIBUND ANIMALS

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name NO. of Animals	0 ppm 0 (%)	25 ppm 0 (%)	50 ppm 0 (%)	100 ppm 0 (%)
lung	red zone		- (-)	- (-)	- (-)	- (-)
	voluminus		- (-)	- (-)	- (-)	- (-)
liver	herniation		- (-)	- (-)	- (-)	- (-)
urin bladd	urine:marked retention		- (-)	- (-)	- (-)	- (-)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name NO. of Animals	200 ppm 0 (%)	400 ppm 10 (%)
lung	red zone		- (-)	10 (100)
	voluminus		- (-)	7 (70)
liver	herniation		- (-)	1 (10)
urin bladd	urine:marked retention		- (-)	9 (90)

APPENDIX G 2

GROSS FINDINGS : SUMMARY, RAT : MALE : SACRIFICED ANIMALS

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (14W)

Organ	Findings	Group Name / NO. of Animals	0 ppm 10 (%)	25 ppm 10 (%)	50 ppm 10 (%)	100 ppm 10 (%)
lung	brown zone		0 (0)	0 (0)	0 (0)	0 (0)
liver	herniation		3 (30)	1 (10)	0 (0)	4 (40)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (14W)

Organ	Findings	Group Name NO. of Animals	200 ppm 10 (%)	400 ppm 0 (%)
lung	brown zone		1 (10)	- (-)
liver	herniation		1 (10)	- (-)

APPENDIX G 3

GROSS FINDINGS : SUMMARY, RAT : FEMALE

DEAD AND MORIBUND ANIMALS

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name / NO. of Animals	0 ppm 0 (%)	25 ppm 0 (%)	50 ppm 0 (%)	100 ppm 0 (%)
lung	red zone		- (-)	- (-)	- (-)	- (-)
	voluminus		- (-)	- (-)	- (-)	- (-)
thymus	atrophic		- (-)	- (-)	- (-)	- (-)
liver	herniation		- (-)	- (-)	- (-)	- (-)
urin bladd	urine:marked retention		- (-)	- (-)	- (-)	- (-)

Organ	Findings	Group Name NO. of Animals	200 ppm 0 (%)	400 ppm 10 (%)
lung	red zone		- (-)	9 (90)
	voluminus		- (-)	6 (60)
thymus	atrophic		- (-)	2 (20)
liver	herniation		- (-)	1 (10)
urin bladd	urine:marked retention		- (-)	5 (50)

APPENDIX G 4

GROSS FINDINGS : SUMMARY, RAT : FEMALE : SACRIFICED ANIMALS

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (14W)

Organ	Findings	Group Name / NO. of Animals	0 ppm 10 (%)	25 ppm 10 (%)	50 ppm 10 (%)	100 ppm 10 (%)
lung	brown zone		0 (0)	0 (0)	0 (0)	0 (0)
liver	herniation		3 (30)	2 (20)	1 (10)	1 (10)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (14W)

Organ	Findings	Group Name / NO. of Animals	200 ppm 10 (%)	400 ppm 0 (%)
lung	brown zone		2 (20)	- (-)
liver	herniation		1 (10)	- (-)

APPENDIX H 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : MALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: g

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

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
0 ppm	10	283± 17	0.236± 0.025	0.052± 0.004	2.929± 0.101	0.875± 0.045	0.952± 0.052
25 ppm	10	271± 14	0.234± 0.031	0.048± 0.005	2.843± 0.149	0.850± 0.044	0.922± 0.072
50 ppm	10	280± 14	0.220± 0.048	0.048± 0.006	2.889± 0.071	0.881± 0.052	0.958± 0.057
100 ppm	10	283± 16	0.252± 0.029	0.051± 0.005	2.863± 0.113	0.896± 0.065	0.980± 0.047
200 ppm	10	276± 19	0.236± 0.038	0.050± 0.004	2.767± 0.096**	0.896± 0.060	1.083± 0.102**
400 ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: g

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
0 ppm	10	1.744± 0.079	0.536± 0.032	7.083± 0.481	1.888± 0.048
25 ppm	10	1.728± 0.112	0.517± 0.047	6.714± 0.497	1.867± 0.023
50 ppm	10	1.882± 0.077*	0.538± 0.016	7.090± 0.355	1.850± 0.091
100 ppm	10	2.027± 0.107**	0.527± 0.032	7.559± 0.466	1.843± 0.045
200 ppm	10	2.102± 0.124**	0.552± 0.031	7.886± 0.498**	1.789± 0.056**
400 ppm	0	-	-	-	-

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

APPENDIX H 2

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : FEMALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

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

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
0 ppm	10	163± 9	0.187± 0.025	0.056± 0.005	0.101± 0.015	0.597± 0.041	0.748± 0.046
25 ppm	10	162± 9	0.190± 0.030	0.057± 0.009	0.100± 0.009	0.575± 0.027	0.728± 0.052
50 ppm	10	169± 9	0.195± 0.022	0.057± 0.006	0.105± 0.012	0.605± 0.031	0.725± 0.037
100 ppm	10	165± 9	0.184± 0.022	0.060± 0.004	0.105± 0.007	0.614± 0.038	0.738± 0.030
200 ppm	10	155± 12	0.180± 0.023	0.054± 0.003	0.100± 0.019	0.572± 0.042	0.795± 0.079
400 ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
0 ppm	10	1.101± 0.056	0.365± 0.028	3.939± 0.316	1.743± 0.040
25 ppm	10	1.124± 0.064	0.351± 0.032	3.805± 0.360	1.770± 0.041
50 ppm	10	1.163± 0.033*	0.362± 0.017	4.000± 0.185	1.743± 0.036
100 ppm	10	1.212± 0.037**	0.362± 0.021	4.028± 0.163	1.695± 0.065
200 ppm	10	1.216± 0.070**	0.365± 0.021	4.029± 0.268	1.664± 0.037**
400 ppm	0	-	-	-	-

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

APPENDIX I 1

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : MALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: %

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

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
0 ppm	10	283± 17	0.084± 0.008	0.019± 0.002	1.036± 0.055	0.309± 0.019	0.336± 0.019
25 ppm	10	271± 14	0.086± 0.012	0.018± 0.002	1.050± 0.059	0.314± 0.013	0.340± 0.025
50 ppm	10	280± 14	0.079± 0.016	0.017± 0.002	1.034± 0.042	0.315± 0.013	0.342± 0.016
100 ppm	10	283± 16	0.089± 0.012	0.018± 0.002	1.012± 0.036	0.317± 0.024	0.347± 0.022
200 ppm	10	276± 19	0.086± 0.011	0.018± 0.001	1.008± 0.066	0.326± 0.016	0.394± 0.033**
400 ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: %

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
0 ppm	10	0.616± 0.024	0.189± 0.009	2.502± 0.053	0.668± 0.040
25 ppm	10	0.637± 0.013	0.191± 0.020	2.475± 0.085	0.690± 0.033
50 ppm	10	0.673± 0.021*	0.192± 0.008	2.534± 0.067	0.661± 0.023
100 ppm	10	0.716± 0.008**	0.186± 0.008	2.670± 0.073**	0.652± 0.036
200 ppm	10	0.764± 0.030**	0.201± 0.009*	2.864± 0.044**	0.651± 0.032
400 ppm	0	-	-	-	-

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

APPENDIX I 2

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : FEMALE

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

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

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
0 ppm	10	163± 9	0.115± 0.013	0.034± 0.004	0.062± 0.008	0.367± 0.021	0.461± 0.031
25 ppm	10	162± 9	0.117± 0.016	0.035± 0.006	0.062± 0.006	0.356± 0.017	0.451± 0.027
50 ppm	10	169± 9	0.115± 0.009	0.034± 0.004	0.062± 0.010	0.358± 0.019	0.429± 0.020
100 ppm	10	165± 9	0.112± 0.013	0.036± 0.004	0.064± 0.004	0.373± 0.026	0.448± 0.023
200 ppm	10	155± 12	0.115± 0.012	0.035± 0.003	0.065± 0.015	0.368± 0.017	0.513± 0.058
400 ppm	0	-	-	-	-	-	-

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
0 ppm	10	0.678± 0.028	0.225± 0.018	2.422± 0.124	1.075± 0.057
25 ppm	10	0.696± 0.029	0.217± 0.011	2.351± 0.139	1.097± 0.054
50 ppm	10	0.688± 0.026	0.214± 0.011	2.365± 0.087	1.032± 0.060
100 ppm	10	0.737± 0.038**	0.220± 0.017	2.447± 0.091	1.031± 0.066
200 ppm	10	0.785± 0.042**	0.236± 0.010	2.597± 0.078**	1.077± 0.086
400 ppm	0	-	-	-	-

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

APPENDIX J 1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : DEAD AND MORIBUND ANIMALS

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name / No. of Animals on Study / Grade	0 ppm 0 1 (%)	0 ppm 0 2 (%)	0 ppm 0 3 (%)	0 ppm 0 4 (%)	25 ppm 0 1 (%)	25 ppm 0 2 (%)	25 ppm 0 3 (%)	25 ppm 0 4 (%)	50 ppm 0 1 (%)	50 ppm 0 2 (%)	50 ppm 0 3 (%)	50 ppm 0 4 (%)	100 ppm 0 1 (%)	100 ppm 0 2 (%)	100 ppm 0 3 (%)	100 ppm 0 4 (%)
[Respiratory system]																		
nasal cavit	thrombus 血栓	< 0>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	cartilaginous metaplasia 軟骨化生		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	goblet cell hyperplasia 杯		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	necrosis:olfactory epithelium		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	deposit of freign body		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
larynx 喉頭	hyperplasia:epithelium	< 0>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
trachea	hyperplasia:epithelium	< 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	200 ppm				400 ppm			
		No. of Animals on Study	0				10			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]										
nasal cavit			< 0>				<10>			
	thrombus		-	-	-	-	1	0	9	0
			(-)	(-)	(-)	(-)	(10)	(0)	(90)	(0)
	cartilaginous metaplasia		-	-	-	-	0	1	0	0
			(-)	(-)	(-)	(-)	(0)	(10)	(0)	(0)
	goblet cell hyperplasia		-	-	-	-	6	0	0	0
			(-)	(-)	(-)	(-)	(60)	(0)	(0)	(0)
	necrosis:olfactory epithelium		-	-	-	-	5	5	0	0
			(-)	(-)	(-)	(-)	(50)	(50)	(0)	(0)
	deposit of freign body		-	-	-	-	2	0	0	0
			(-)	(-)	(-)	(-)	(20)	(0)	(0)	(0)
larynx			< 0>				<10>			
	hyperplasia:epithelium		-	-	-	-	8	0	0	0
			(-)	(-)	(-)	(-)	(80)	(0)	(0)	(0)
trachea			< 0>				<10>			
	hyperplasia:epithelium		-	-	-	-	7	0	0	0
			(-)	(-)	(-)	(-)	(70)	(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	0 ppm				25 ppm				50 ppm				100 ppm			
	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]																	
lung		< 0>				< 0>				< 0>				< 0>			
	bacteria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	bronchopneumonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	deposit of freign body	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Hematopoietic system]																	
thymus		< 0>				< 0>				< 0>				< 0>			
	atrophy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
spleen		< 0>				< 0>				< 0>				< 0>			
	extramedullary hematopoiesis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Digestive system]																	
liver		< 0>				< 0>				< 0>				< 0>			
	herniation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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	200 ppm				400 ppm			
		No. of Animals on Study	0				10			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]										
lung			< 0>				<10>			
	bacteria		-	-	-	-	3	0	0	0
			(-)	(-)	(-)	(-)	(30)	(0)	(0)	(0)
	bronchopneumonia		-	-	-	-	0	0	1	9
			(-)	(-)	(-)	(-)	(0)	(0)	(10)	(90)
	deposit of freign body		-	-	-	-	4	0	0	0
			(-)	(-)	(-)	(-)	(40)	(0)	(0)	(0)
[Hematopoietic system]										
thymus			< 0>				< 8>			
	atrophy		-	-	-	-	0	3	0	0
			(-)	(-)	(-)	(-)	(0)	(38)	(0)	(0)
spleen			< 0>				<10>			
	extramedullary hematopoiesis		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(10)	(0)	(0)	(0)
[Digestive system]										
liver			< 0>				<10>			
	herniation		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(10)	(0)	(0)	(0)

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

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	0 ppm				25 ppm				50 ppm				100 ppm			
		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>			
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Urinary system]																		
kidney			< 0>				< 0>				< 0>				< 0>			
	eosinophilic body		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	mineralization:papilla		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	nuclear enlargement:proximal tubule		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Endocrine system]																		
thyroid			< 0>				< 0>				< 0>				< 0>			
	ultimibranchial body remanet		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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	200 ppm				400 ppm			
		No. of Animals on Study	0				10			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Digestive system]										
liver			< 0>				<10>			
	congestion		-	-	-	-	0	10	0	0
			(-)	(-)	(-)	(-)	(0)	(100)	(0)	(0)
[Urinary system]										
kidney			< 0>				<10>			
	eosinophilic body		-	-	-	-	8	1	0	0
			(-)	(-)	(-)	(-)	(80)	(10)	(0)	(0)
	mineralization:papilla		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(10)	(0)	(0)	(0)
	nuclear enlargement:proximal tubule		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(10)	(0)	(0)	(0)
[Endocrine system]										
thyroid			< 0>				<10>			
	ultimibranchial body remanet		-	-	-	-	2	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	0 ppm				25 ppm				50 ppm				100 ppm			
		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
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Reproductive system]																		
testis			< 0>				< 0>				< 0>				< 0>			
	germ cell necrosis		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
epididymis			< 0>				< 0>				< 0>				< 0>			
	debris of spermatic elements		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
prostate			< 0>				< 0>				< 0>				< 0>			
	inflammation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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	200 ppm				400 ppm			
		No. of Animals on Study	0				10			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Reproductive system]										
testis			< 0>				<10>			
	germ cell necrosis		-	-	-	-	7	0	0	0
			(-)	(-)	(-)	(-)	(70)	(0)	(0)	(0)
epididymis			< 0>				<10>			
	debris of spermatic elements		-	-	-	-	5	1	0	0
			(-)	(-)	(-)	(-)	(50)	(10)	(0)	(0)
prostate			< 0>				<10>			
	inflammation		-	-	-	-	0	4	0	0
			(-)	(-)	(-)	(-)	(0)	(40)	(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 2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE: SACRIFICED ANIMALS

(13 - WEEK STUDY)

STUDY NO. : 0340
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name / No. of Animals on Study / Grade	0 ppm 10				25 ppm 10				50 ppm 10				100 ppm 10			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
[Respiratory system]																		
nasal cavit			<10>				<10>				<10>				<10>			
	eosinophilic change:olfactory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)
	necrosis:olfactory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
lung			<10>				<10>				<10>				<10>			
	perivascular inflammation		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	bronchopneumonia		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	deposit of freign body		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Hematopoietic system]																		
thymus			<10>				<10>				<10>				<10>			
	congestion		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

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

Organ	Findings	Group Name	200 ppm				400 ppm			
		No. of Animals on Study	10				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]										
nasal cavit			<10>				< 0>			
	eosinophilic change:olfactory epithelium		7	0	0	0 **	-	-	-	-
			(70)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	necrosis:olfactory epithelium		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
lung			<10>				< 0>			
	perivascular inflammation		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	bronchopneumonia		0	2	0	0	-	-	-	-
			(0)	(20)	(0)	(0)	(-)	(-)	(-)	(-)
	deposit of freign body		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
[Hematopoietic system]										
thymus			<10>				< 0>			
	congestion		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)

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

Organ	Findings	Group Name	0 ppm				25 ppm				50 ppm				100 ppm			
		No. of Animals on Study	10				10				10				10			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Hematopoietic system]																		
spleen			<10>				<10>				<10>				<10>			
	extramedullary hematopoiesis		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Circulatory system]																		
heart			<10>				<10>				<10>				<10>			
	inflammatory cell nest		2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Digestive system]																		
liver			<10>				<10>				<10>				<10>			
	herniation		3	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0
			(30)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(40)	(0)	(0)	(0)
	granulation		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	perivascular inflammation		2	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0
			(20)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(10)	(0)	(0)	(0)

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

Organ	Findings	Group Name	200 ppm				400 ppm			
		No. of Animals on Study	10				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Hematopoietic system]										
spleen			<10>				< 0>			
	extramedullary hematopoiesis		0	0	0	0	-	-	-	-
			(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
[Circulatory system]										
heart			<10>				< 0>			
	inflammatory cell nest		0	0	0	0	-	-	-	-
			(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
[Digestive system]										
liver			<10>				< 0>			
	herniation		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	granulation		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	perivascular inflammation		3	0	0	0	-	-	-	-
			(30)	(0)	(0)	(0)	(-)	(-)	(-)	(-)

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

Organ	Findings	Group Name	0 ppm				25 ppm				50 ppm				100 ppm			
		No. of Animals on Study	10				10				10				10			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Urinary system]																		
kidney			<10>				<10>				<10>				<10>			
	cyst		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	basophilic change		1	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(30)	(0)	(0)	(0)
	eosinophilic body		2	8	0	0	3	7	0	0	0	9	1	0	0	1	9	0 **
			(20)	(80)	(0)	(0)	(30)	(70)	(0)	(0)	(0)	(90)	(10)	(0)	(0)	(10)	(90)	(0)
	mineralization:papilla		1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	nuclear enlargement:proximal tubule		0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
	腫大		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(40)	(0)	(0)	(0)
[Endocrine system]																		
pituitary			<10>				<10>				<10>				<10>			
	cyst		1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	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)	(10)	(0)	(0)	(0)

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

Organ	Findings	Group Name	200 ppm				400 ppm			
		No. of Animals on Study	10				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Urinary system]										
kidney			<10>				< 0>			
	cyst		0	0	0	0	-	-	-	-
			(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	basophilic change		3	0	0	0	-	-	-	-
			(30)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	eosinophilic body		0	0	10	0 **	-	-	-	-
			(0)	(0)	(100)	(0)	(-)	(-)	(-)	(-)
	mineralization:papilla		5	0	0	0	-	-	-	-
			(50)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	nuclear enlargement:proximal tubule		7	0	0	0 **	-	-	-	-
			(70)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
[Endocrine system]										
pituitary			<10>				< 0>			
	cyst		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	Rathke pouch		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)

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

Organ	Findings	Group Name	0 ppm				25 ppm				50 ppm				100 ppm			
		No. of Animals on Study	10				10				10				10			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Endocrine system]																		
thyroid			<10>				<10>				<10>				<10>			
	ultimibranchial body remanet		1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Special sense organs/appandage]																		
Harder gl			<10>				<10>				<10>				<10>			
	lymphocytic infiltration		2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0
			(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)

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

Organ	Findings	Group Name	200 ppm				400 ppm			
		No. of Animals on Study	10				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Endocrine system]										
thyroid			<10>				< 0>			
	ultimibranchial body remanet		0	0	0	0	-	-	-	-
			(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
[Special sense organs/appandage]										
Harder gl			<10>				< 0>			
	lymphocytic infiltration		2	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
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

APPENDIX J 3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : DEAD AND MORIBUND ANIMALS

(13 - WEEK STUDY)

Organ	Findings	Group Name / No. of Animals on Study / Grade	0 ppm 0 1 (%)	0 ppm 0 2 (%)	0 ppm 0 3 (%)	0 ppm 0 4 (%)	25 ppm 0 1 (%)	25 ppm 0 2 (%)	25 ppm 0 3 (%)	25 ppm 0 4 (%)	50 ppm 0 1 (%)	50 ppm 0 2 (%)	50 ppm 0 3 (%)	50 ppm 0 4 (%)	100 ppm 0 1 (%)	100 ppm 0 2 (%)	100 ppm 0 3 (%)	100 ppm 0 4 (%)
[Respiratory system]																		
nasal cavit		< 0>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	thrombus		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	exudate:neutrophil leukocyte		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	goblet cell hyperplasia		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	necrosis:olfactory epithelium		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	necrosis:respiratory epithelium		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	deposit of freign body		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
larynx		< 0>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	hyperplasia:epithelium		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
trachea		< 0>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	hyperplasia:epithelium		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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	200 ppm				400 ppm			
		No. of Animals on Study	0				10			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]										
nasal cavit			< 0>				<10>			
	thrombus 血栓		-	-	-	-	0	2	4	0
			(-)	(-)	(-)	(-)	(0)	(20)	(40)	(0)
	exudate:neutrophil leukocyte		-	-	-	-	0	1	9	0
	滲出物 好中球		(-)	(-)	(-)	(-)	(0)	(10)	(90)	(0)
	goblet cell hyperplasia		-	-	-	-	3	0	0	0
	杯細胞		(-)	(-)	(-)	(-)	(30)	(0)	(0)	(0)
	necrosis:olfactory epithelium		-	-	-	-	1	8	1	0
			(-)	(-)	(-)	(-)	(10)	(80)	(10)	(0)
	necrosis:respiratory epithelium		-	-	-	-	8	1	0	0
			(-)	(-)	(-)	(-)	(80)	(10)	(0)	(0)
	deposit of freign body		-	-	-	-	8	0	0	0
			(-)	(-)	(-)	(-)	(80)	(0)	(0)	(0)
larynx			< 0>				<10>			
喉頭	hyperplasia:epithelium		-	-	-	-	8	0	0	0
			(-)	(-)	(-)	(-)	(80)	(0)	(0)	(0)
trachea			< 0>				<10>			
	hyperplasia:epithelium		-	-	-	-	6	0	0	0
			(-)	(-)	(-)	(-)	(60)	(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	0 ppm				25 ppm				50 ppm				100 ppm			
		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]																		
lung			< 0>				< 0>				< 0>				< 0>			
	bacteria		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	bronchopneumonia		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	deposit of freign body		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Hematopoietic system]																		
thymus			< 0>				< 0>				< 0>				< 0>			
	atrophy		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	karyorrhexis		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
spleen			< 0>				< 0>				< 0>				< 0>			
	extramedullary hematopoiesis		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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

Organ	Findings	Group Name	200 ppm				400 ppm			
		No. of Animals on Study	0				10			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]										
lung			< 0>				<10>			
	bacteria		-	-	-	-	4	0	0	0
			(-)	(-)	(-)	(-)	(40)	(0)	(0)	(0)
	bronchopneumonia 気管支肺炎		-	-	-	-	0	0	2	8
			(-)	(-)	(-)	(-)	(0)	(0)	(20)	(80)
	deposit of freign body 異物		-	-	-	-	9	0	0	0
			(-)	(-)	(-)	(-)	(90)	(0)	(0)	(0)
[Hematopoietic system]										
thymus			< 0>				< 7>			
	atrophy 萎縮		-	-	-	-	0	4	1	0
			(-)	(-)	(-)	(-)	(0)	(57)	(14)	(0)
	karyorrhexis 核崩壊		-	-	-	-	0	0	2	0
			(-)	(-)	(-)	(-)	(0)	(0)	(29)	(0)
spleen			< 0>				<10>			
	extramedullary hematopoiesis 髄外造血		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(10)	(0)	(0)	(0)

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

Organ	Findings	Group Name	0 ppm				25 ppm				50 ppm				100 ppm			
		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>			
	herniation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Urinary system]																		
kidney			< 0>				< 0>				< 0>				< 0>			
	tubular necrosis		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	mineralization:cortico-medullary junction		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	mineralization:papilla		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Nervous system]																		
brain			< 0>				< 0>				< 0>				< 0>			
	bacteria		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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	200 ppm				400 ppm			
		No. of Animals on Study	0				10			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Digestive system]										
liver			< 0>				<10>			
	herniation		-	-	-	-	2	0	0	0
			(-)	(-)	(-)	(-)	(20)	(0)	(0)	(0)
	congestion うっ血		-	-	-	-	5	5	0	0
			(-)	(-)	(-)	(-)	(50)	(50)	(0)	(0)
[Urinary system]										
kidney			< 0>				<10>			
	tubular necrosis 尿細管壊死		-	-	-	-	0	1	0	0
			(-)	(-)	(-)	(-)	(0)	(10)	(0)	(0)
	mineralization:cortico-medullary junction 鉱質沈着 皮髄境界		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(10)	(0)	(0)	(0)
	mineralization:papilla 乳頭		-	-	-	-	2	0	0	0
			(-)	(-)	(-)	(-)	(20)	(0)	(0)	(0)
[Nervous system]										
brain			< 0>				<10>			
	bacteria		-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(10)	(0)	(0)	(0)

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

Organ	Findings	Group Name	0 ppm				25 ppm				50 ppm				100 ppm			
		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
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Nervous system]																		
brain			< 0>				< 0>				< 0>				< 0>			
	necrosis:focal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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	200 ppm				400 ppm			
		No. of Animals on Study	0				10			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Nervous system]										
brain			< 0>				<10>			
	necrosis:focal		-	-	-	-	0	1	0	0
			(-)	(-)	(-)	(-)	(0)	(10)	(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 4

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : SACRIFICED ANIMALS

(13 - WEEK STUDY)

Organ	Findings	Group Name	0 ppm				25 ppm				50 ppm				100 ppm			
		No. of Animals on Study	10				10				10				10			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
[Respiratory system]																		
nasal cavit			<10>				<10>				<10>				<10>			
	eosinophilic change:olfactory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	5 (50)	0 (0)	0 (0)	0 * (0)	5 (50)	0 (0)	0 (0)	0 * (0)	4 (40)	0 (0)	0 (0)	0 (0)
	inflammation:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
lung			<10>				<10>				<10>				<10>			
	perivascular inflammation		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
	bronchopneumonia		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	deposit of freign body		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Hematopoietic system]																		
bone marrow			<10>				<10>				<10>				<10>			
	granulation		3 (30)	1 (10)	0 (0)	0 (0)	4 (40)	1 (10)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)

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

Organ	Findings	Group Name	200 ppm				400 ppm			
		No. of Animals on Study	10				0			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
[Respiratory system]										
nasal cavit			<10>				< 0>			
	eosinophilic change:olfactory epithelium		9 (90)	0 (0)	0 (0)	0 ** (0)	- (-)	- (-)	- (-)	- (-)
	inflammation:respiratory epithelium		0 (0)	1 (10)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)
lung			<10>				< 0>			
	perivascular inflammation		0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)
	bronchopneumonia		0 (0)	2 (20)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)
	deposit of freign body		1 (10)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)
[Hematopoietic system]										
bone marrow			<10>				< 0>			
	granulation		3 (30)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)

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

Organ	Findings	Group Name	0 ppm				25 ppm				50 ppm				100 ppm			
		No. of Animals on Study	10				10				10				10			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
[Circulatory system]																		
heart	inflammatory cell nest		<10>				<10>				<10>				<10>			
			1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Digestive system]																		
liver	herniation		<10>				<10>				<10>				<10>			
			2 (20)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
	granulation		1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
	perivascular inflammation		2 (20)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Urinary system]																		
kidney	basophilic change		<10>				<10>				<10>				<10>			
			0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)

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

Organ	Findings	Group Name	200 ppm				400 ppm			
		No. of Animals on Study	10				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Circulatory system]										
heart			<10>				< 0>			
	inflammatory cell nest		0	0	0	0	-	-	-	-
			(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
[Digestive system]										
liver			<10>				< 0>			
	herniation		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	granulation		0	0	0	0	-	-	-	-
			(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	perivascular inflammation		2	0	0	0	-	-	-	-
			(20)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
[Urinary system]										
kidney			<10>				< 0>			
	basophilic change		0	0	0	0	-	-	-	-
			(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)

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

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

Organ	Findings	Group Name / No. of Animals on Study / Grade	0 ppm 10				25 ppm 10				50 ppm 10				100 ppm 10			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
[Urinary system]																		
kidney			<10>				<10>				<10>				<10>			
	mineralization:cortico-medullary junction		3 (30)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	5 (50)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)
	mineralization:papilla		3 (30)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	4 (40)	0 (0)	0 (0)	0 (0)
	nuclear enlargement:proximal tubule		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	7 (70)	0 (0)	0 (0)	0 ** (0)
	eosinophilic droplet:proximal tubule		0 (0)	0 (0)	0 (0)	0 (0)	4 (40)	0 (0)	0 (0)	0 (0)	10 (100)	0 (0)	0 (0)	0 ** (0)	10 (100)	0 (0)	0 (0)	0 ** (0)
[Endocrine system]																		
thyroid			<10>				<10>				<10>				<10>			
	ultimibranchial body remanet		0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Special sense organs/appandage]																		
Harder gl			<10>				<10>				<10>				<10>			
	lymphocytic infiltration		1 (10)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)

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

Organ	Findings	Group Name	200 ppm				400 ppm			
		No. of Animals on Study	10				0			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Urinary system]										
kidney			<10>				< 0>			
	mineralization:cortico-medullary junction		4	0	0	0	-	-	-	-
			(40)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	mineralization:papilla		0	0	0	0	-	-	-	-
			(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	nuclear enlargement:proximal tubule		8	0	0	0 **	-	-	-	-
			(80)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
	eosinophilic droplet:proximal tubule		10	0	0	0 **	-	-	-	-
			(100)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
[Endocrine system]										
thyroid			<10>				< 0>			
	ultimibranchial body remanet		1	0	0	0	-	-	-	-
			(10)	(0)	(0)	(0)	(-)	(-)	(-)	(-)
[Special sense organs/appandage]										
Harder gl			<10>				< 0>			
	lymphocytic infiltration		2	1	0	0	-	-	-	-
			(20)	(10)	(0)	(0)	(-)	(-)	(-)	(-)

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

APPENDIX K 1

IDENTITY OF ALLYL CHLORIDE IN THE 13 - WEEK INHALATION STUDY

IDENTITY OF ALLYL CHLORIDE IN THE 13-WEEK INHALATION STUDY

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

A:Lot No. : SKL4453

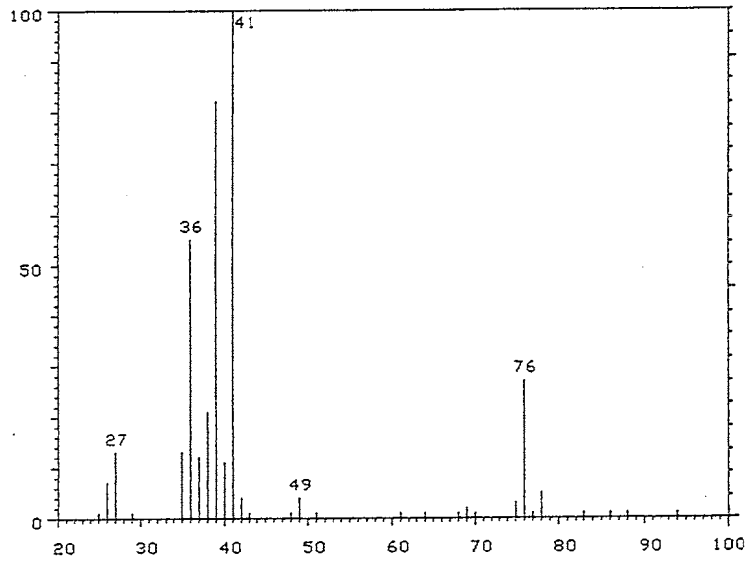
1. Spectral data

Mass Spectrometry

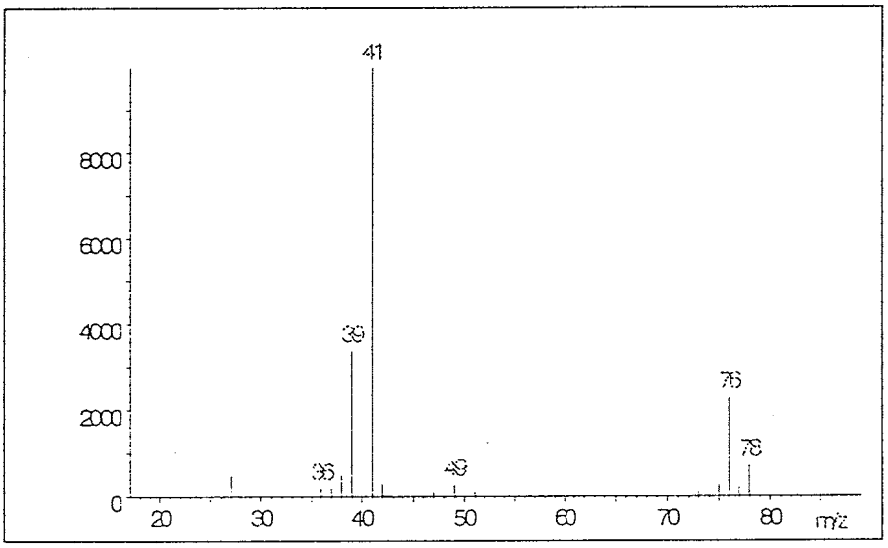
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI(Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance m/Z



Mass Spectrum of Allyl chloride(Literature data*)

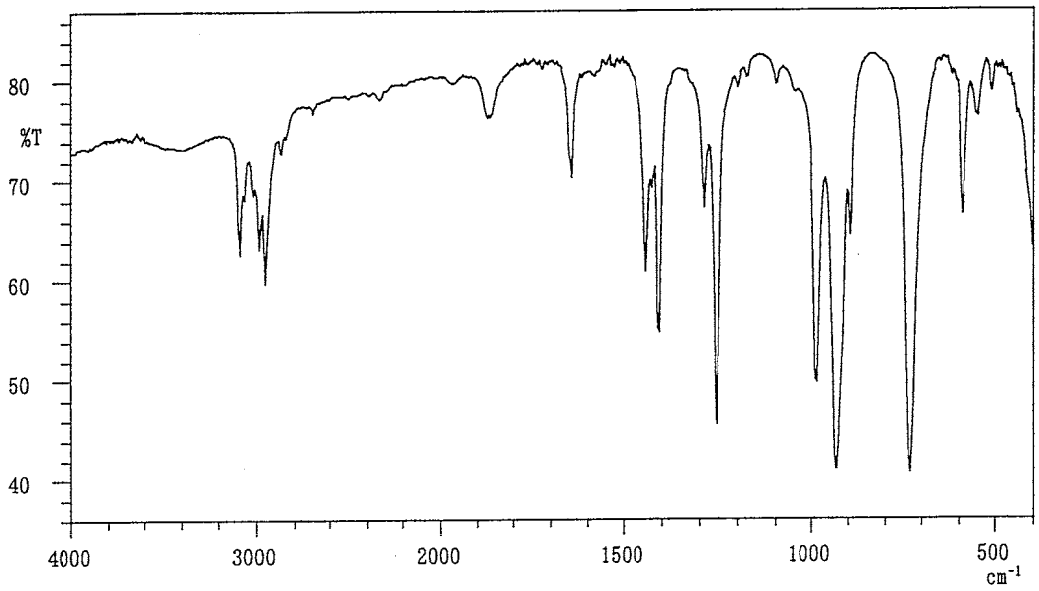
Results: The mass spectrum was consistent with literature spectrum.

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

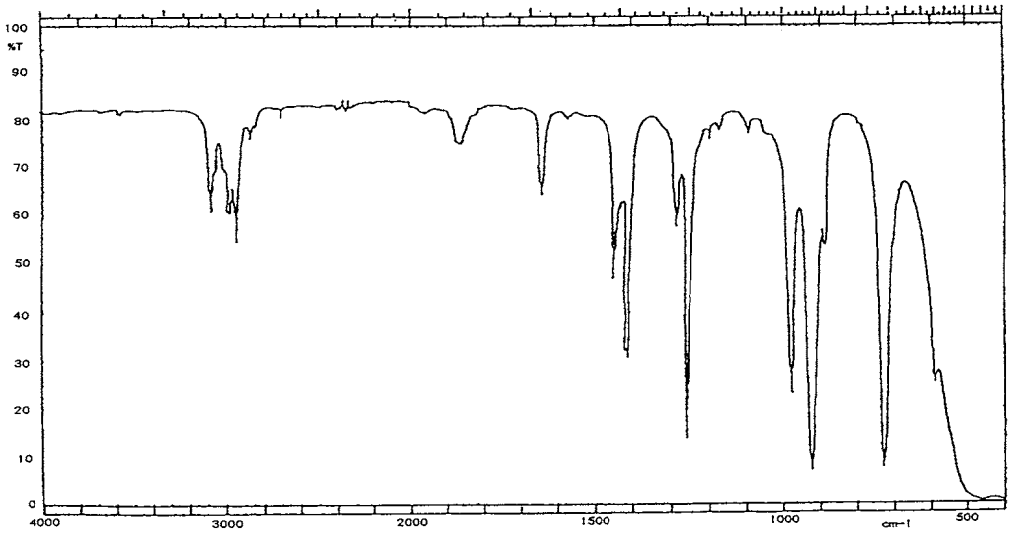
Infrared Spectrometry

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.

B:Lot No. : WTK5293

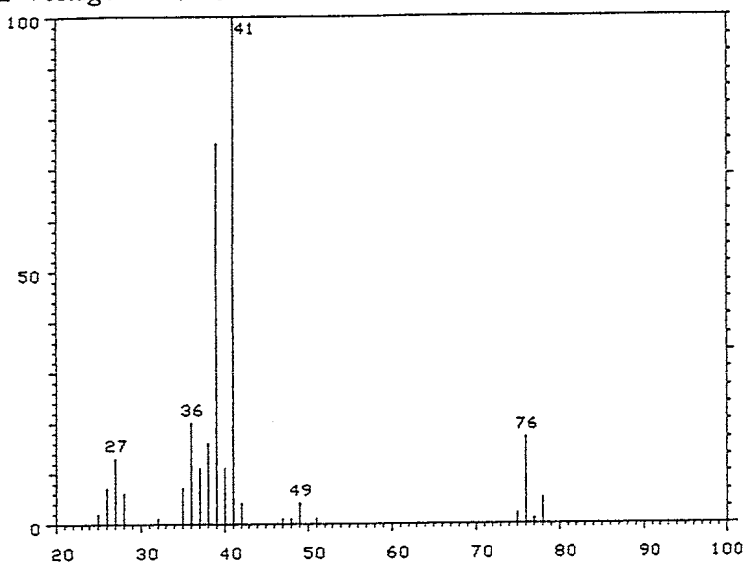
1. Spectral data

Mass Spectrometry

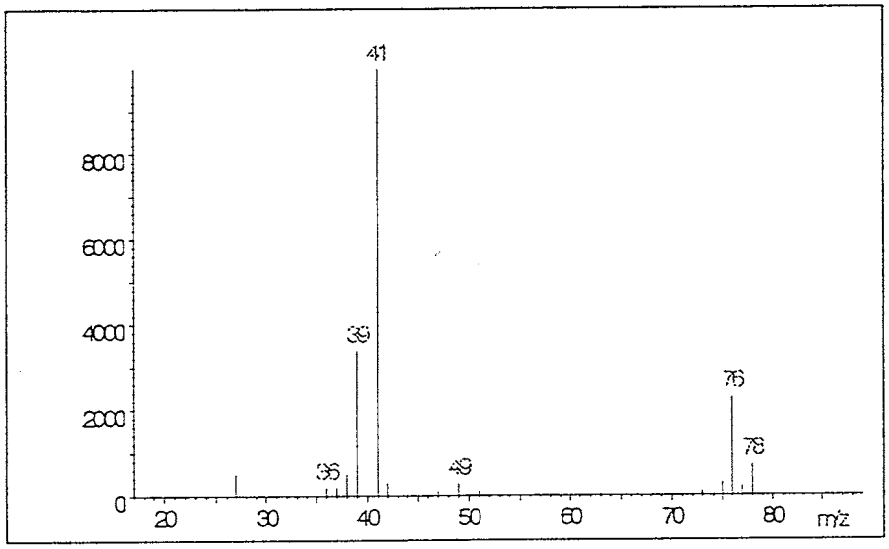
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI(Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance m/Z



Mass Spectrum of Allyl chloride(Literature data*)

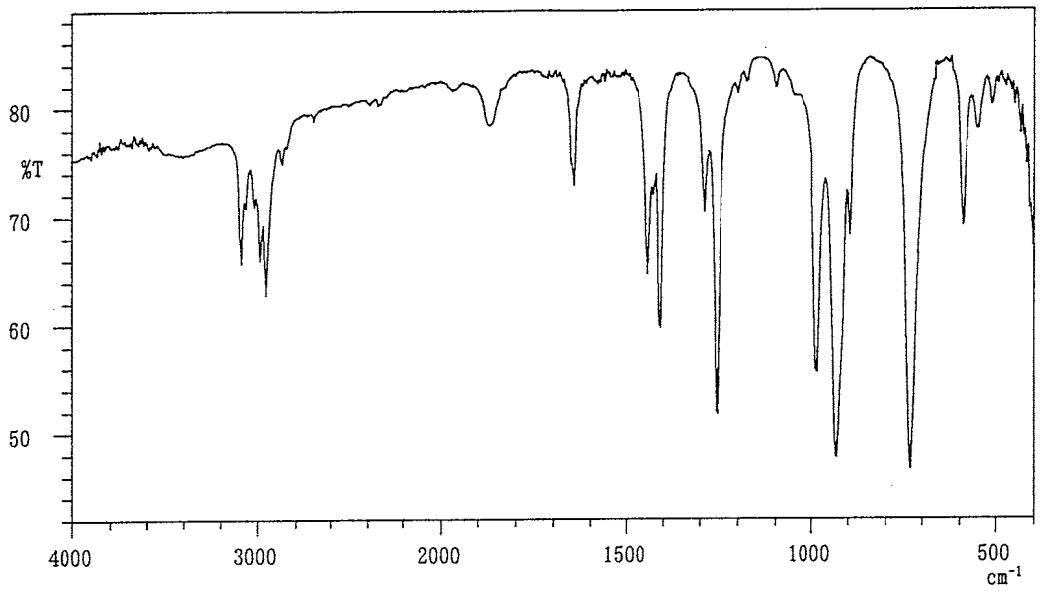
Results: The mass spectrum was consistent with literature spectrum.

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

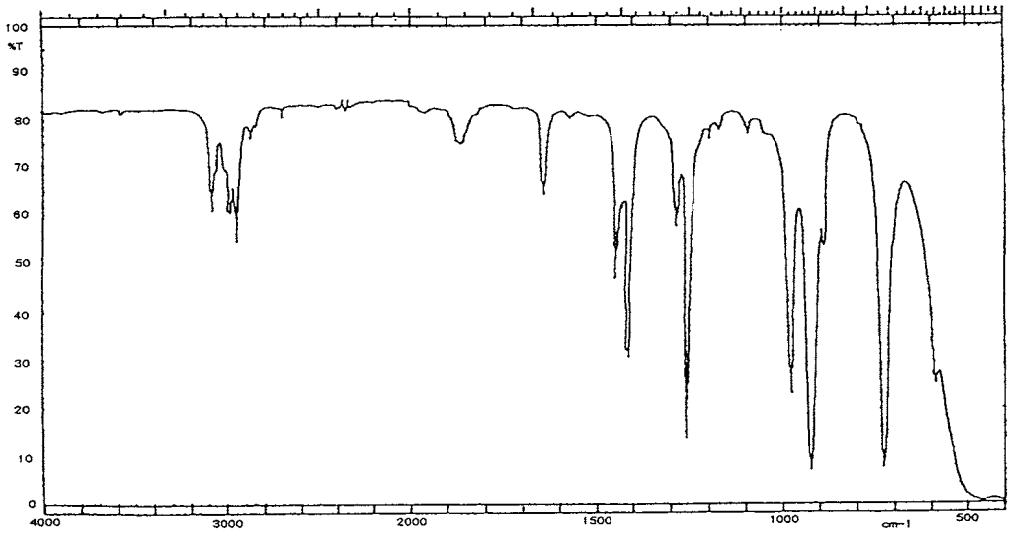
Infrared Spectrometry

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 K 2

STABILITY OF ALLYL CHLORIDE IN THE 13 - WEEK INHALATION STUDY

STABILITY OF ALLYL CHLORIDE IN THE 13-WEEK INHALATION STUDY

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

A:Lot No. : SKL4453

1.Sample: This lot was used from 1997.9.2 to 1997.9.12. Test substance was stored at room temperature .

2. Gas Chromatography

Instrument : Hewlett Packard 6890

Column : Hewlett Packard INNOWAX(0.53mm ϕ × 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 1997.9.1 and one major peak(peak No.3) and three impurities(peak No.1,2,4 < 2% of total area) analyzed at 1997.9.12. 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 0.14% and 0.39% and 0.005% at 1997.9.1. No new trace impurity peak in the test substance analyzed at 1997.9.12 was detected.

Date (date analyzed)	Peak No.	Retention Time(min)	AREA(%)
1997.09.01	1	2.621	0.606
	2	2.893	0.829
	3	3.225	98.553
	4	5.233	0.012
1997.09.12	1	2.630	0.608
	2	2.903	0.866
	3	3.249	98.515
	4	5.254	0.011

3. Conclusions: The test substance was stable for about 2 weeks in the dark at room temperature.

B:Lot No. : WTK5293

1.Sample: This lot was used from 1997.9.13 to 1997.12.1. Test substance was stored at room temperature .

2. Gas Chromatography

Instrument : Hewlett Packard 6890

Column : Hewlett Packard INNOWAX(0.53mm ϕ × 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 1997.9.12 and one major peak(peak No.3) and three impurities(peak No.1,2,4 < 2% of total area) analyzed at 1997.12.19. 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 0.12% and 0.25% and 0.004% at 1997.9.12. No new trace impurity peak in the test substance analyzed at 1997.12.19 was detected.

Date (date analyzed)	Peak No.	Retention Time(min)	AREA(%)
1997.09.12	1	2.629	0.519
	2	2.901	0.512
	3	3.249	98.961
	4	5.246	0.008
1997.12.19	1	2.626	0.525
	2	2.898	0.517
	3	3.224	98.952
	4	5.234	0.006

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

APPENDIX L 1

CONCENTRATION OF ALLYL CHLORIDE IN THE INHALATION CHAMBER OF THE 13-WEEK INHALATION STUDY

CONCENTRATION OF ALLYL CHLORIDE IN THE INHALATION CHAMBER OF THE 13-WEEK INHALATION STUDY

Group Name	Concentration(ppm) Mean ± S.D.
0ppm(Control)	0.0 ± 0.0
25ppm	25.0 ± 0.1
50ppm	50.0 ± 0.2
100ppm	100.3 ± 0.2
200ppm	199.9 ± 0.9
400ppm	400.8 ± 1.1

APPENDIX L 2

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE

13 - WEEK INHALATION STUDY OF ALLYL CHLORIDE

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 13-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)	22.5 ± 0.1	54.2 ± 0.4	266.6 ± 0.3	15.1
25ppm	23.0 ± 0.2	56.5 ± 0.6	265.8 ± 0.4	15.0
50ppm	22.8 ± 0.1	54.6 ± 0.3	266.5 ± 0.2	15.1
100ppm	22.3 ± 0.1	52.1 ± 0.3	265.1 ± 0.7	15.0
200ppm	22.5 ± 0.1	53.3 ± 0.2	265.1 ± 0.8	15.0
400ppm	22.5 ± 0.7	52.9 ± 0.2	265.6 ± 0.9	15.0

APPENDIX M 1

METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALYSIS IN THE 13 - WEEK INHALATION STUDY OF ALLYL CHLORIDE

METHODS FOR HEMATOLOGY,BIOCHEMISTRY AND URINALYSIS IN THE 13-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]
Reticulocyte	Pattern recognition method [3] (New methyleneblue staining)
Prothrombin time	Quick one stage method [2]
Activated partial thromboplastin time (APTT)	Ellagic acid activaterd method [2]
White blood cell (WBC)	Light scattering method [1]
Differential WBC	Pattern recognition method [3] (May-Grunwald-Giemsa staining)
Biochemistry	
Total protein (TP)	Biuret method [4]
Albumin (Alb)	BCG method [4]
A/G ratio	Calculated as Alb/(TP－Alb) [4]
T-bilirubin	Alkaline azobilirubin method [4]
Glucose	Enzymatic method (GLK・G-6-PDH) [4]
T-cholesterol	Enzymatic method (CE・COD・POD) [4]
Triglyceride	Enzymatic method (LPL・GK・GPO・POD) [4]
Phospholipid	Enzymatic method (PLD・COD・POD) [4]
Glutamic oxaloacetic transaminase (GOT)	UV・Rate method [4]
Glutamic pyruvic transaminase (GPT)	UV・Rate method [4]
Lactate dehydrogenase (LDH)	UV・Rate method [4]
Alkaline phosphatase (ALP)	p-Nitrophenylphosphate method [4]
γ-Glutamyl transpeptidase (γ-GTP)	L-γ-Glutamyl-p-nitroanilide method [4]
Creatine phosphokinase (CPK)	UV・Rate method [4]
Urea nitrogen	Enzymatic method (Urease・GLDH) [4]
Creatinine	Jaffe method [4]
Sodium	Ion selective electrode method [4]
Potassium	Ion selective electrode method [4]
Chloride	Ion selective electrode method [4]
Calcium	OCPC method [4]
Inorganic phosphorus	Enzymatic method (PNP・XOD・POD) [4]
Urinalysis	
pH,Protein,Glucose,Ketone body,Bilirubin,Occult Blood, Urobilinogen	Urinalysis reagent paper method [5]

1) Automatic blood cell analyzer (Technicon H・1 : Technicon Instruments Corporation,USA)
2) Automatic coagulometer (Sysmex CA-5000 : Toa Medical Electronics Co.,Ltd.,Japan)
3) Automatic blood cell differential analyzer (Hitachi 8200 : Hitachi,Ltd.,Japan)
4) Automatic analyzer (Hitachi 7070 : Hitachi,Ltd.,Japan)
5) Ames reagent strips for urinalysis (Multistix : Bayer-Sankyo Co.,Ltd.,Japan)

APPENDIX M 2

UNITS AND DECIMARL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 13 - WEEK INHALATION STUDY OF ALLYL CHLORIDE

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 13-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
Reticulocyte	‰	0
Prothrombin time	sec	1
Activated partial thromboplastin time (APTT)	sec	1
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
Creatinine	mg/dL	1
Sodium	mEq/L	0
Potassium	mEq/L	1
Chloride	mEq/L	0
Calcium	mg/dL	1
Inorganic phosphorus	mg/dL	1