ブチル 2,3-エポキシプロピル エーテルのラット
を用いた吸入による 2 週間毒性試験報告書

試験番号：0411

APPENDICES

APPENDICES

APPENDICES (CONTINUED)

APPENDIX A 1

CLINICAL OBSERVATION : SUMMARY, RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
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
		1	1	1	1	1
PILOERECTION	Control	0	0	0	0	0
	19ppm	0	0	0	0	0
	38ppm	0	0	0	0	0
	75ppm	0	0	0	0	0
	150ppm	0	0	0	0	0
	300ppm	0	0	0	3	0

APPENDIX A 2

CLINICAL OBSERVATION : SUMMARY, RAT : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-2	1-4	1-7	2-3	2-7
		1	1	1	1	1
PILOERECTION	Control	0	0	0	0	0
	19ppm	0	0	0	0	0
	38ppm	0	0	0	0	0
	75ppm	0	0	0	0	0
	150ppm	0	0	0	0	0
	300ppm	0	0	0	4	4
SOILED PERI GENITALIA	Control	0	0	0	0	0
	19ppm	0	0	0	0	0
	38ppm	0	0	0	0	0
	75ppm	0	0	0	0	0
	150ppm	0	0	0	0	0
	300ppm	0	0	0	2	0
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0
	19ppm	0	0	0	0	0
	38ppm	0	0	0	0	0
	75ppm	0	0	0	0	0
	150ppm	0	0	0	0	0
	300ppm	0	0	0	0	1

APPENDIX B 1

BODY WEIGHT CHANGES :SUMMARY, RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-2	1-4	1-7	2-3	2-7
Control	121± 3	127± 5	133± 6	143± 7	154± 9	167± 11
19ppm	121± 3	127± 3	133± 1	145± 4	155± 3	168± 4
38ppm	121± 3	129± 4	136± 5	149± 8	160± 7	177± 11
75ppm	121± 3	128± 4	134± 4	147± 4	157± 4	175± 5
150ppm	121± 3	123± 4	124± 5**	139± 5	141± 4*	159± 4
300ppm	121± 3	117± 4**	113± 3**	125± 4**	125± 4**	138± 3**

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

APPENDIX B 2

BODY WEIGHT CHANGES : SUMMARY, RAT : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-2	1-4	1-7	2-3	2-7
Control	95± 2	97± 4	101± 3	107± 4	109± 4	116± 5
19ppm	95± 3	98± 4	101± 4	106± 4	110± 3	115± 5
38ppm	95± 3	100± 3	105± 5	111± 5	113± 5	121± 5
75ppm	95± 2	98± 3	101± 5	107± 4	111± 4	117± 4
150ppm	95± 3	96± 2	96± 2	103± 2	105± 2	113± 1
300ppm	95± 2	91± 2*	91± 3**	99± 4*	99± 4**	107± 6*

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

APPENDIX C 1

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration 1-7(6)	week-day(effective) 2-7(7)
Control	15.0± 1.3	15.2± 1.6
19ppm	15.1± 0.8	15.1± 0.4
38ppm	14.4± 1.0	15.0± 1.4
75ppm	14.6± 1.3	14.7± 1.1
150ppm	11.9± 0.7**	12.6± 0.7**
300ppm	9.1± 0.3**	11.1± 0.5**

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

APPENDIX C 2

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration 1-7(6)	week-day(effective) 2-7(7)
Control	11.6± 0.6	10.2± 0.3
19ppm	10.9± 0.6	10.4± 0.5
38ppm	11.3± 0.8	10.6± 0.3
75ppm	10.4± 0.8	10.2± 0.7
150ppm	9.6± 0.7**	9.6± 0.2
300ppm	8.4± 0.6**	9.3± 0.9*

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

APPENDIX D 1

HEMATOLOGY : SUMMARY, RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	5	8.74± 0.21	16.4± 0.4	47.9± 1.1	54.8± 0.7	18.7± 0.3	34.2± 0.4	933± 34
19ppm	5	8.73± 0.26	16.3± 0.3	47.6± 1.2	54.6± 0.7	18.7± 0.3	34.2± 0.5	898± 40
38ppm	5	8.46± 0.25	15.9± 0.5	46.3± 1.1	54.7± 0.4	18.8± 0.3	34.3± 0.6	991± 50
75ppm	5	8.40± 0.26	15.7± 0.4*	45.9± 1.3*	54.6± 0.4	18.7± 0.2	34.2± 0.5	970± 15
150ppm	5	8.64± 0.16	16.1± 0.1	47.2± 0.7	54.7± 0.5	18.7± 0.3	34.1± 0.3	862± 53
300ppm	5	8.97± 0.25	16.6± 0.4	48.5± 1.4	54.0± 0.3	18.5± 0.2	34.3± 0.4	770± 80**

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	RETICULOCYTE ‰		PROTHROMBIN TIME sec		APTT sec	
Control	5	23±	6	13.9±	0.9	21.1±	2.0
19ppm	5	21±	6	15.3±	2.4	22.0±	3.2
38ppm	5	25±	14	14.6±	1.2	20.8±	1.5
75ppm	5	34±	8	13.9±	0.4	19.9±	1.7
150ppm	5	24±	4	13.6±	0.2	19.8±	2.1
300ppm	5	23±	6	14.2±	0.9	19.3±	2.1

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	5	4.43± 0.79	0± 1	19± 6	1± 1	0± 0	3± 1	76± 6	0± 0
19ppm	5	3.75± 0.43	0± 0	19± 4	1± 1	0± 0	3± 1	77± 4	0± 0
38ppm	5	3.76± 0.74	0± 0	19± 4	0± 0	0± 0	3± 1	78± 4	0± 0
75ppm	5	3.98± 0.75	0± 0	23± 4	0± 0	0± 0	2± 1	75± 4	0± 0
150ppm	5	4.41± 1.27	0± 0	22± 5	0± 0	0± 0	2± 1	76± 5	0± 0
300ppm	5	3.48± 0.85	0± 1	37± 8**	1± 1	0± 0	3± 1	60± 8**	0± 0

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

(HCL070)

APPENDIX D 2

HEMATOLOGY : SUMMARY, RAT : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
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 fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	5	8.99± 0.21	17.1± 0.4	48.3± 1.4	53.7± 0.5	19.0± 0.1	35.4± 0.4	878± 81
19ppm	5	9.21± 0.38	17.2± 0.5	49.2± 2.0	53.4± 0.3	18.7± 0.3	35.1± 0.5	808± 46
38ppm	5	8.99± 0.24	17.0± 0.2	48.7± 1.0	54.2± 0.7	18.9± 0.4	35.0± 0.5	855± 114
75ppm	5	8.98± 0.32	16.9± 0.8	48.2± 1.9	53.7± 0.3	18.8± 0.3	35.1± 0.4	886± 84
150ppm	4	8.91± 0.19	16.9± 0.5	47.9± 0.9	53.7± 0.5	19.0± 0.4	35.3± 0.4	875± 42
300ppm	5	8.85± 0.33	16.6± 0.5	47.5± 1.7	53.7± 0.5	18.8± 0.2	35.0± 0.2	732± 39*

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	RETICULOCYTE ‰	PROTHROMBIN TIME sec	APTT sec
Control	5	13± 7	14.6± 0.3	18.5± 1.6
19ppm	5	14± 5	14.2± 0.5	17.9± 1.7
38ppm	5	14± 6	14.0± 0.8	18.9± 3.1
75ppm	5	17± 4	14.9± 1.2	19.7± 3.2
150ppm	4	13± 3	14.0± 0.4	16.7± 1.2
300ppm	5	22± 11	14.2± 1.2	18.1± 3.6

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	5	3.61± 1.12	0± 0	20± 4	2± 1	0± 0	3± 1	75± 5	0± 0
19ppm	5	3.57± 1.05	0± 0	18± 3	1± 1	0± 0	4± 2	77± 4	0± 0
38ppm	5	3.82± 2.06	0± 1	17± 4	1± 1	0± 0	3± 1	79± 4	0± 0
75ppm	5	3.22± 1.01	0± 0	20± 4	1± 1	0± 0	1± 1	78± 4	0± 0
150ppm	4	3.34± 1.12	0± 0	19± 3	1± 0	0± 0	3± 1	78± 4	0± 0
300ppm	5	3.21± 0.79	0± 0	24± 3	1± 1	0± 0	5± 2	70± 3	0± 0

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

APPENDIX E 1

BIOCHEMISTRY : SUMMARY, RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	TOTAL PROTEIN g／dℓ	ALBUMIN g／dℓ	A/G RATIO	T-BILIRUBIN mg／dℓ	GLUCOSE mg／dℓ	T-CHOLESTEROL mg／dℓ	TRIGLYCERIDE mg／dℓ
Control	5	5.8± 0.1	3.8± 0.1	2.0± 0.1	0.14± 0.01	150± 8	46± 2	30± 9
19ppm	5	5.8± 0.1	3.8± 0.1	1.9± 0.0	0.14± 0.02	152± 17	43± 6	22± 6
38ppm	5	5.6± 0.1	3.7± 0.1	1.9± 0.0	0.12± 0.02	165± 6	50± 4	35± 6
75ppm	5	5.6± 0.2	3.7± 0.1	1.9± 0.1	0.13± 0.01	151± 20	51± 3	42± 12
150ppm	5	5.6± 0.2	3.7± 0.1	1.9± 0.1	0.14± 0.02	171± 11	53± 6	40± 18
300ppm	5	5.8± 0.1	3.8± 0.1	1.9± 0.1	0.15± 0.02	143± 20	53± 2	16± 5

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dl		GOT IU/l		GPT IU/l		LDH IU/l		ALP IU/l		G-GTP IU/l		CPK IU/l	
Control	5	91±	3	70±	5	33±	1	428±	101	682±	15	1±	1	258±	43
19ppm	5	88±	10	71±	4	34±	2	421±	126	745±	55	1±	1	270±	57
38ppm	5	93±	5	66±	3	32±	1	415±	48	685±	39	1±	1	259±	17
75ppm	5	96±	9	68±	8	35±	2	398±	90	706±	79	1±	1	252±	35
150ppm	5	100±	10	63±	4	32±	3	389±	89	637±	62	1±	1	230±	34
300ppm	5	100±	4	65±	3	27±	1**	541±	114	615±	20	1±	1	244±	15

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

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
Control	5	17.5± 0.8	0.5± 0.0	143± 1	4.0± 0.3	106± 0	10.2± 0.2	8.2± 0.9
19ppm	5	18.5± 1.0	0.5± 0.1	143± 1	3.8± 0.4	106± 1	10.1± 0.2	8.3± 0.5
38ppm	5	19.1± 0.6	0.4± 0.0	142± 2	3.9± 0.2	106± 2	10.3± 0.2	8.2± 0.6
75ppm	5	18.6± 1.4	0.4± 0.1	143± 2	3.8± 0.2	106± 2	10.2± 0.3	8.3± 0.7
150ppm	5	17.9± 0.9	0.4± 0.0	142± 2	4.1± 0.2	105± 2	10.1± 0.1	8.1± 0.6
300ppm	5	14.7± 1.9**	0.4± 0.0	140± 2	4.4± 0.2	106± 1	9.9± 0.1	8.2± 0.6

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

APPENDIX E 2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	TOTAL PROTEIN g/dl	ALBUMIN g/dl	A/G RATIO	T-BILIRUBIN mg/dl	GLUCOSE mg/dl	T-CHOLESTEROL mg/dl	TRIGLYCERIDE mg/dl
Control	5	5.7± 0.1	3.7± 0.1	1.9± 0.1	0.18± 0.02	119± 13	62± 3	16± 2
19ppm	5	5.6± 0.2	3.7± 0.2	1.9± 0.2	0.18± 0.04	115± 21	63± 6	15± 3
38ppm	5	5.7± 0.1	3.7± 0.2	1.9± 0.2	0.18± 0.03	114± 12	61± 7	14± 5
75ppm	5	5.6± 0.1	3.6± 0.1	1.8± 0.1	0.20± 0.08	124± 5	68± 4	16± 4
150ppm	5	5.6± 0.1	3.7± 0.1	1.9± 0.1	0.18± 0.02	135± 10	70± 8	24± 3**
300ppm	5	5.6± 0.1	3.6± 0.1	1.8± 0.1	0.17± 0.01	130± 22	62± 5	17± 3

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dl	GOT IU/l	GPT IU/l	LDH IU/l	ALP IU/l	G-GTP IU/l	CPK IU/l
Control	5	122± 5	73± 4	30± 2	713± 77	532± 38	1± 1	298± 22
19ppm	5	120± 6	75± 5	33± 3	624± 228	523± 79	2± 1	276± 70
38ppm	5	116± 14	74± 7	30± 2	634± 278	535± 9	2± 1	298± 98
75ppm	5	129± 8	78± 6	33± 1	751± 239	552± 29	2± 1	315± 78
150ppm	5	133± 13	67± 6	29± 2	736± 73	521± 38	2± 1	312± 58
300ppm	5	119± 8	71± 3	32± 4	527± 127	573± 39	2± 1	237± 43

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (3W)

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
Control	5	19.3± 1.7	0.5± 0.1	141± 2	4.0± 0.1	107± 2	9.9± 0.1	7.4± 1.1
19ppm	5	19.3± 1.7	0.4± 0.1	141± 3	4.2± 0.3	108± 2	9.9± 0.1	7.7± 0.9
38ppm	5	20.8± 1.7	0.4± 0.1	141± 2	4.1± 0.3	107± 2	10.0± 0.3	8.1± 1.8
75ppm	5	20.8± 1.8	0.4± 0.1	141± 2	4.1± 0.3	108± 2	9.6± 0.3	7.4± 0.6
150ppm	5	20.5± 0.5	0.4± 0.1	141± 1	4.1± 0.3	108± 4	10.1± 0.2	7.6± 0.4
300ppm	5	16.3± 3.0	0.4± 0.0	140± 2	4.0± 0.2	106± 3	9.6± 0.4	7.9± 0.5

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

APPENDIX F 1

GROSS FINDINGS : SUMMARY, RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name / NO. of Animals	Control 5 (%)	19ppm 5 (%)	38ppm 5 (%)	75ppm 5 (%)
liver	herniation		1 (20)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name	150ppm	300ppm
		NO. of Animals	5 (%)	5 (%)
liver	herniation		1 (20)	0 (0)

APPENDIX F 2

GROSS FINDINGS : SUMMARY, RAT : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name / NO. of Animals	Control 5	(%)	19ppm 5	(%)	38ppm 5	(%)	75ppm 5	(%)
liver	herniation		1	(20)	1	(20)	0	(0)	1	(20)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name	150ppm	300ppm
		NO. of Animals	5 (%)	5 (%)
liver	herniation		0 (0)	0 (0)

APPENDIX G 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: g

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

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	5	150± 10	0.247± 0.021	0.042± 0.006	2.377± 0.054	0.597± 0.027	0.705± 0.052
19ppm	5	151± 3	0.262± 0.014	0.042± 0.004	2.342± 0.088	0.623± 0.037	0.708± 0.024
38ppm	5	156± 9	0.290± 0.019**	0.044± 0.004	2.333± 0.076	0.645± 0.026	0.744± 0.026
75ppm	5	156± 3	0.308± 0.025**	0.044± 0.004	2.344± 0.094	0.630± 0.025	0.749± 0.010
150ppm	5	141± 3	0.260± 0.014	0.046± 0.002	2.277± 0.049	0.588± 0.028	0.713± 0.040
300ppm	5	122± 2*	0.168± 0.016**	0.048± 0.003	1.629± 0.273**	0.542± 0.027*	0.683± 0.033

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: g

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	1.164± 0.077	0.346± 0.031	4.546± 0.429	1.701± 0.049
19ppm	5	1.183± 0.041	0.353± 0.014	4.524± 0.228	1.670± 0.073
38ppm	5	1.213± 0.059	0.373± 0.032	4.877± 0.408	1.722± 0.042
75ppm	5	1.220± 0.039	0.375± 0.014	4.803± 0.211	1.701± 0.017
150ppm	5	1.156± 0.033	0.341± 0.013	4.460± 0.200	1.673± 0.030
300ppm	5	1.099± 0.024	0.268± 0.014**	3.920± 0.170*	1.623± 0.025*

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

APPENDIX G 2

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

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

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	5	104± 4	0.222± 0.013	0.045± 0.004	0.073± 0.008	0.463± 0.015	0.566± 0.030
19ppm	5	103± 4	0.224± 0.026	0.045± 0.003	0.077± 0.016	0.468± 0.022	0.571± 0.016
38ppm	5	107± 5	0.253± 0.007	0.046± 0.005	0.073± 0.006	0.471± 0.033	0.587± 0.017
75ppm	5	104± 4	0.250± 0.022	0.042± 0.004	0.059± 0.008	0.468± 0.019	0.608± 0.016
150ppm	5	99± 1	0.221± 0.020	0.047± 0.004	0.079± 0.009	0.475± 0.009	0.571± 0.012
300ppm	5	93± 5**	0.181± 0.016**	0.049± 0.005	0.065± 0.015	0.468± 0.025	0.577± 0.039

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	0.893± 0.040	0.261± 0.010	3.148± 0.131	1.605± 0.020
19ppm	5	0.907± 0.039	0.256± 0.019	3.196± 0.174	1.585± 0.042
38ppm	5	0.910± 0.047	0.277± 0.005	3.300± 0.203	1.621± 0.047
75ppm	5	0.909± 0.036	0.271± 0.012	3.237± 0.131	1.613± 0.023
150ppm	5	0.907± 0.021	0.246± 0.008	3.257± 0.051	1.601± 0.018
300ppm	5	0.886± 0.036	0.241± 0.013	3.153± 0.250	1.539± 0.045*

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

APPENDIX H 1

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: %

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

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	5	150± 10	0.164± 0.014	0.028± 0.003	1.584± 0.084	0.398± 0.018	0.469± 0.023
19ppm	5	151± 3	0.173± 0.009	0.028± 0.003	1.547± 0.069	0.411± 0.020	0.468± 0.017
38ppm	5	156± 9	0.186± 0.015*	0.028± 0.003	1.496± 0.103	0.413± 0.014	0.477± 0.025
75ppm	5	156± 3	0.197± 0.013**	0.028± 0.003	1.500± 0.030	0.403± 0.013	0.480± 0.010
150ppm	5	141± 3	0.184± 0.010	0.032± 0.002*	1.615± 0.018	0.417± 0.015	0.505± 0.018*
300ppm	5	122± 2*	0.138± 0.011**	0.040± 0.002**	1.336± 0.214	0.445± 0.015**	0.560± 0.022**

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: %

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	0.774± 0.013	0.230± 0.011	3.019± 0.115	1.134± 0.066
19ppm	5	0.782± 0.023	0.233± 0.010	2.987± 0.100	1.104± 0.064
38ppm	5	0.776± 0.036	0.238± 0.008	3.114± 0.085	1.104± 0.066
75ppm	5	0.781± 0.013	0.240± 0.009	3.075± 0.107	1.090± 0.027
150ppm	5	0.820± 0.012**	0.242± 0.005	3.162± 0.082	1.187± 0.022
300ppm	5	0.903± 0.016**	0.220± 0.009	3.220± 0.149*	1.333± 0.022**

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

APPENDIX H 2

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : FEMALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

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

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	5	104± 4	0.215± 0.017	0.043± 0.003	0.071± 0.007	0.447± 0.019	0.545± 0.019
19ppm	5	103± 4	0.217± 0.022	0.044± 0.003	0.075± 0.015	0.452± 0.017	0.552± 0.010
38ppm	5	107± 5	0.236± 0.009	0.042± 0.004	0.068± 0.006	0.438± 0.017	0.547± 0.017
75ppm	5	104± 4	0.240± 0.025	0.040± 0.003	0.057± 0.007	0.449± 0.015	0.582± 0.008**
150ppm	5	99± 1	0.222± 0.019	0.048± 0.003	0.079± 0.010	0.478± 0.008	0.575± 0.007*
300ppm	5	93± 5**	0.194± 0.022	0.053± 0.003**	0.070± 0.014	0.501± 0.031**	0.617± 0.019**

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	0.861± 0.014	0.251± 0.006	3.032± 0.048	1.547± 0.042
19ppm	5	0.877± 0.019	0.247± 0.016	3.091± 0.118	1.534± 0.049
38ppm	5	0.847± 0.024	0.258± 0.015	3.072± 0.106	1.510± 0.027
75ppm	5	0.871± 0.026	0.260± 0.008	3.100± 0.075	1.546± 0.044
150ppm	5	0.912± 0.015**	0.248± 0.007	3.277± 0.081**	1.611± 0.026
300ppm	5	0.949± 0.027**	0.259± 0.010	3.372± 0.121**	1.650± 0.087*

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

APPENDIX I 1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name / No. of Animals on Study / Grade	Control 5				19ppm 5				38ppm 5				75ppm 5			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Respiratory system}																		
nasal cavit			< 5>				< 5>				< 5>				< 5>			
	exudate		0 (0)	0 (0)	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)
	goblet cell hyperplasia		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)
	inflammation:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	4 (80)	0 (0)	0 (0)	0 (0)
	squamous cell metaplasia:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (60)	0 (0)	0 (0)	0 (0)
	atrophy:olfactory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	necrosis:olfactory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	degeneration:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)	4 (80)	0 (0)	0 (0)	0 (0)	0 (0)	5 (100)	0 (0)	0 (0)
	edema:lamina propria		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

Organ	Findings	Group Name	150ppm				300ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
nasal cavit			< 5>				< 5>			
	exudate		0	0	0	0	3	2	0	0
			(0)	(0)	(0)	(0)	(60)	(40)	(0)	(0)
	goblet cell hyperplasia		1	0	0	0	1	0	0	0
			(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
	inflammation:respiratory epithelium		5	0	0	0	2	3	0	0
			(100)	(0)	(0)	(0)	(40)	(60)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		5	0	0	0	0	0	5	0
			(100)	(0)	(0)	(0)	(0)	(0)	(100)	(0)
	atrophy:olfactory epithelium		4	1	0	0	0	5	0	0
			(80)	(20)	(0)	(0)	(0)	(100)	(0)	(0)
	necrosis:olfactory epithelium		5	0	0	0	1	4	0	0
			(100)	(0)	(0)	(0)	(20)	(80)	(0)	(0)
	degeneration:respiratory epithelium		0	0	5	0	0	0	5	0
			(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)
	edema:lamina propria		0	0	0	0	1	1	0	0
			(0)	(0)	(0)	(0)	(20)	(20)	(0)	(0)

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

Organ	Findings	Group Name	Control				19ppm				38ppm				75ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			< 5>				< 5>				< 5>				< 5>			
	necrosis:respiratory epithelium		0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)
	hyperplasia:respiratory epithelium		0	0	0	0	1	0	0	0	3	0	0	0	5	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(60)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
nasopharynx			< 5>				< 5>				< 5>				< 5>			
	degeneration: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)
	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)
	squamous cell metaplasia		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia: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)
	necrosis: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)
trachea			< 5>				< 5>				< 5>				< 5>			
	degeneration: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)

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	150ppm				300ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
nasal cavit			< 5>				< 5>			
	necrosis:respiratory epithelium		3	2	0	0	0	4	1	0
			(60)	(40)	(0)	(0)	(0)	(80)	(20)	(0)
	hyperplasia:respiratory epithelium		1	4	0	0	2	0	0	0
			(20)	(80)	(0)	(0)	(40)	(0)	(0)	(0)
nasopharynx			< 5>				< 5>			
	degeneration:epithelium		0	0	0	0	0	1	4	0
			(0)	(0)	(0)	(0)	(0)	(20)	(80)	(0)
	inflammation		0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(40)	(0)	(0)	(0)
	squamous cell metaplasia		0	0	0	0	2	2	0	0
			(0)	(0)	(0)	(0)	(40)	(40)	(0)	(0)
	hyperplasia:epithelium		0	0	0	0	1	2	0	0
			(0)	(0)	(0)	(0)	(20)	(40)	(0)	(0)
	necrosis:epithelium		0	0	0	0	2	0	1	0
			(0)	(0)	(0)	(0)	(40)	(0)	(20)	(0)
trachea			< 5>				< 5>			
	degeneration:epithelium		0	0	0	0	0	1	4	0
			(0)	(0)	(0)	(0)	(0)	(20)	(80)	(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 / No. of Animals on Study / Grade	Control 5				19ppm 5				38ppm 5				75ppm 5			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Respiratory system}																		
trachea			< 5>				< 5>				< 5>				< 5>			
	hyperplasia:epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	atrophy: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)
	necrosis: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			< 5>				< 5>				< 5>				< 5>			
	degeneration:bronchial 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)
{Digestive system}																		
stomach			< 5>				< 5>				< 5>				< 5>			
	erosion:forestomach		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	hyperplasia:forestomach		0 (0)	0 (0)	0 (0)	0 (0)	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

Organ	Findings	Group Name	150ppm				300ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
trachea			< 5>				< 5>			
	hyperplasia:epithelium		1	0	0	0	1	0	0	0
			(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
	atrophy:epithelium		0	0	0	0	1	1	1	0
			(0)	(0)	(0)	(0)	(20)	(20)	(20)	(0)
	necrosis:epithelium		0	0	0	0	1	2	0	0
			(0)	(0)	(0)	(0)	(20)	(40)	(0)	(0)
lung			< 5>				< 5>			
	degeneration:bronchial epithelium		0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
{Digestive system}										
stomach			< 5>				< 5>			
	erosion:forestomach		1	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:forestomach		1	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name / No. of Animals on Study / Grade	Control 5				19ppm 5				38ppm 5				75ppm 5			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Digestive system}																		
stomach																		
	inflammation:forestomach	< 5>	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)
liver																		
	herniation	< 5>	1 (20)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
{Endocrine system}																		
pituitary																		
	Rathke pouch	< 5>	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)
thyroid																		
	ultimibranchial body remanet	< 5>	0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
{Reproductive system}																		
testis																		
	germ cell necrosis	< 5>	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

Organ	Findings	Group Name	150ppm				300ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}										
stomach										
	inflammation:forestomach		< 5>				< 5>			
			1	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver										
	herniation		< 5>				< 5>			
			1	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Endocrine system}										
pituitary										
	Rathke pouch		< 5>				< 5>			
			1	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
thyroid										
	ultimibranchial body remanet		< 5>				< 5>			
			0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Reproductive system}										
testis										
	germ cell necrosis		< 5>				< 5>			
			0	0	0	0	0	4	1	0
			(0)	(0)	(0)	(0)	(0)	(80)	(20)	(0)

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

Organ	Findings	Group Name	Control				19ppm				38ppm				75ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Reproductive system}																		
epididymis			< 5>				< 5>				< 5>				< 5>			
	decreased:sperma		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)
	debris of spermatic elements		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)
prostate			< 5>				< 5>				< 5>				< 5>			
	desquamation: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)
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)

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

STUDY NO. : 0411
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 3W)

Organ	Findings	Group Name	150ppm				300ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}										
epididymis			< 5>				< 5>			
	decreased:sperma		0	0	0	0	0	2	3	0
			(0)	(0)	(0)	(0)	(0)	(40)	(60)	(0)
	debris of spermatic elements		0	0	0	0	2	2	0	0
			(0)	(0)	(0)	(0)	(40)	(40)	(0)	(0)
prostate			< 5>				< 5>			
	desquamation:epithelium		0	0	0	0	0	3	0	0
			(0)	(0)	(0)	(0)	(0)	(60)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

APPENDIX I 2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE

(2-WEEK STUDY)

Organ	Findings	Group Name	Control				19ppm				38ppm				75ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			< 5>				< 5>				< 5>				< 5>			
	exudate		0	0	0	0	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)
	inflammation:respiratory epithelium		0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(40)	(0)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	degeneration:respiratory epithelium		0	0	0	0	0	0	0	0	4	0	0	0	1	4	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(80)	(0)	(0)	(0)	(20)	(80)	(0)	(0)
	edema:lamina propria		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)
	necrosis:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(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	150ppm				300ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
nasal cavit			< 5>				< 5>			
	exudate		0	0	0	0	4	1	0	0
			(0)	(0)	(0)	(0)	(80)	(20)	(0)	(0)
	inflammation:respiratory epithelium		3	0	0	0	3	2	0	0
			(60)	(0)	(0)	(0)	(60)	(40)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		1	1	0	0	2	3	0	0
			(20)	(20)	(0)	(0)	(40)	(60)	(0)	(0)
	atrophy:olfactory epithelium		3	0	0	0	1	4	0	0
			(60)	(0)	(0)	(0)	(20)	(80)	(0)	(0)
	necrosis:olfactory epithelium		2	0	0	0	3	2	0	0
			(40)	(0)	(0)	(0)	(60)	(40)	(0)	(0)
	degeneration:respiratory epithelium		0	5	0	0	0	0	5	0
			(0)	(100)	(0)	(0)	(0)	(0)	(100)	(0)
	edema:lamina propria		0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
	necrosis:respiratory epithelium		4	1	0	0	0	5	0	0
			(80)	(20)	(0)	(0)	(0)	(100)	(0)	(0)

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

Organ	Findings	Group Name	Control				19ppm				38ppm				75ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			< 5>				< 5>				< 5>				< 5>			
	hyperplasia:respiratory epithelium		0	0	0	0	0	0	0	0	3	0	0	0	3	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(60)	(0)	(0)	(0)	(60)	(20)	(0)	(0)
nasopharynx			< 5>				< 5>				< 5>				< 5>			
	degeneration: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)
	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)
	squamous cell metaplasia		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia: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)
	goblet cell hyperplasia		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)
	necrosis: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)
larynx			< 5>				< 5>				< 5>				< 5>			
	hyperplasia: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)

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	150ppm				300ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
nasal cavit			< 5>				< 5>			
	hyperplasia:respiratory epithelium		3	1	0	0	4	1	0	0
			(60)	(20)	(0)	(0)	(80)	(20)	(0)	(0)
nasopharynx			< 5>				< 5>			
	degeneration:epithelium		0	0	0	0	0	1	4	0
			(0)	(0)	(0)	(0)	(0)	(20)	(80)	(0)
	inflammation		0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(60)	(0)	(0)	(0)
	squamous cell metaplasia		0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
	hyperplasia:epithelium		0	0	0	0	2	1	0	0
			(0)	(0)	(0)	(0)	(40)	(20)	(0)	(0)
	goblet cell hyperplasia		1	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:epithelium		0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(40)	(0)	(0)	(0)
larynx			< 5>				< 5>			
	hyperplasia:epithelium		0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				19ppm				38ppm				75ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Respiratory system}																		
trachea			< 5>				< 5>				< 5>				< 5>			
	degeneration: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)
	hyperplasia:epithelium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	atrophy: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)
	necrosis: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)
{Digestive system}																		
liver			< 5>				< 5>				< 5>				< 5>			
	herniation		1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0
			(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(40)	(0)	(0)	(0)
{Urinary system}																		
kidney			< 5>				< 5>				< 5>				< 5>			
	mineralization:cortico-medullary junction		0	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(40)	(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	150ppm				300ppm			
		No. of Animals on Study	5				5			
		Grade	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}										
trachea			< 5>				< 5>			
	degeneration:epithelium		0	0	0	0	2	2	0	0
			(0)	(0)	(0)	(0)	(40)	(40)	(0)	(0)
	hyperplasia:epithelium		0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
	atrophy:epithelium		0	0	0	0	0	0	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)
	necrosis:epithelium		0	0	0	0	1	1	0	0
			(0)	(0)	(0)	(0)	(20)	(20)	(0)	(0)
{Digestive system}										
liver			< 5>				< 5>			
	herniation		0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Urinary system}										
kidney			< 5>				< 5>			
	mineralization:cortico-medullary junction		1	0	0	0	1	0	0	0
			(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				19ppm				38ppm				75ppm			
		No. of Animals on Study	5				5				5				5			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary			< 5>				< 5>				< 5>				< 5>			
	Rathke pouch		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
thyroid			< 5>				< 5>				< 5>				< 5>			
	ultimibranchial body remanet		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)
{Reproductive system}																		
vagina			< 5>				< 5>				< 5>				< 5>			
	mucification:epithelium		0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(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	150ppm				300ppm			
		No. of Animals on Study	5				5			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Endocrine system}										
pituitary			< 5>				< 5>			
	Rathke pouch		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
thyroid			< 5>				< 5>			
	ultimibranchial body remanet		1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
{Reproductive system}										
vagina			< 5>				< 5>			
	mucification:epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	1 (20)	0 (0)

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

APPENDIX J 1

IDENTITY OF BUTY2,3-EPOXYPROPYL ETHER IN THE 2-WEEK INHALATION STUDY

IDENTITY OF BUTYL 2,3-EPOXYPROPYL ETHER IN THE 2-WEEK INHALATION STUDY

Test Substance : Butyl 2,3-epoxypropyl ether (Wako Pure Chemical Industries, Ltd.)

Lot No. : CHK5928

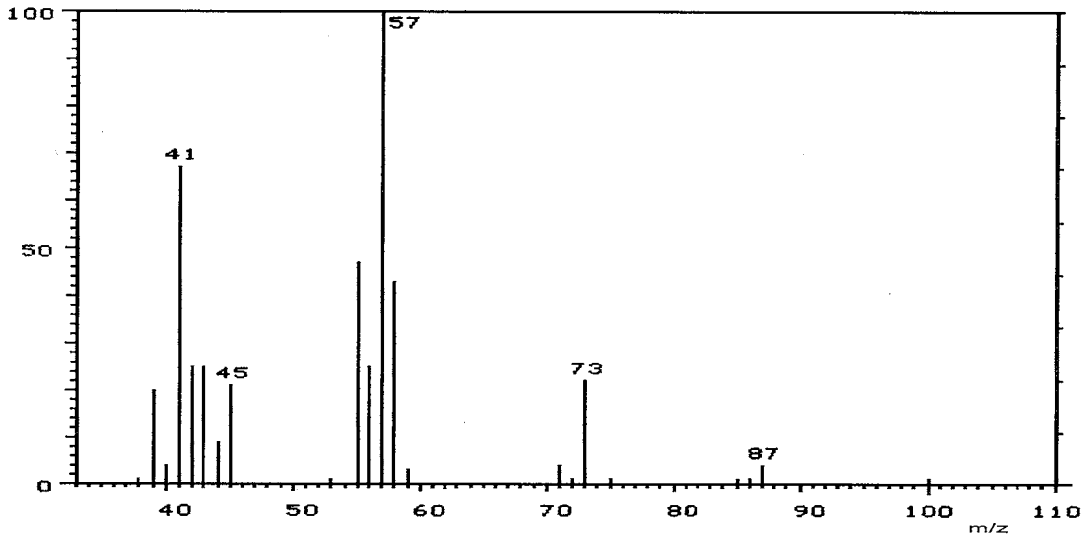
1. Spectral Data

Mass Spectrometry

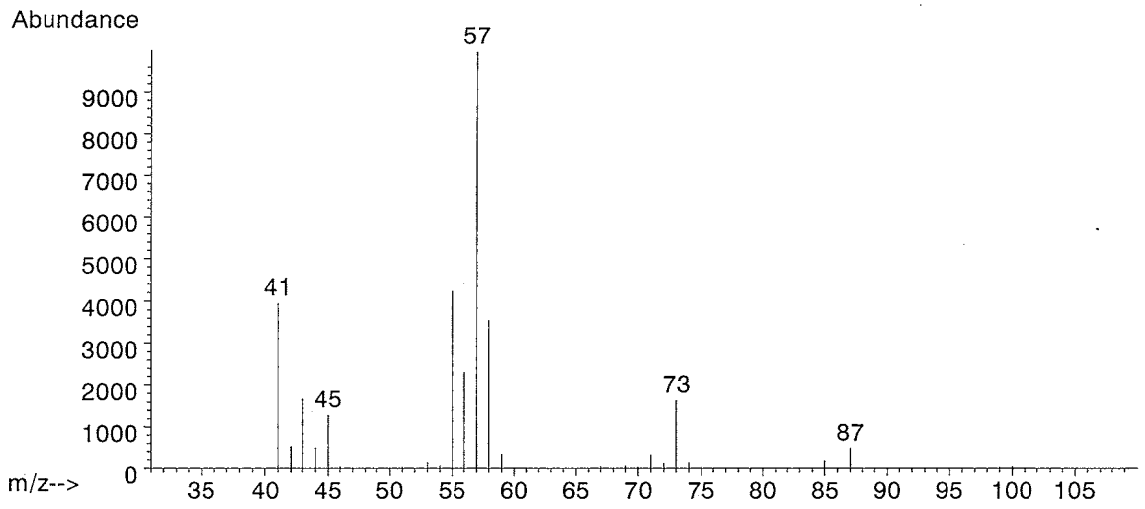
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Result: The mass spectrum was consistent with literature spectrum.

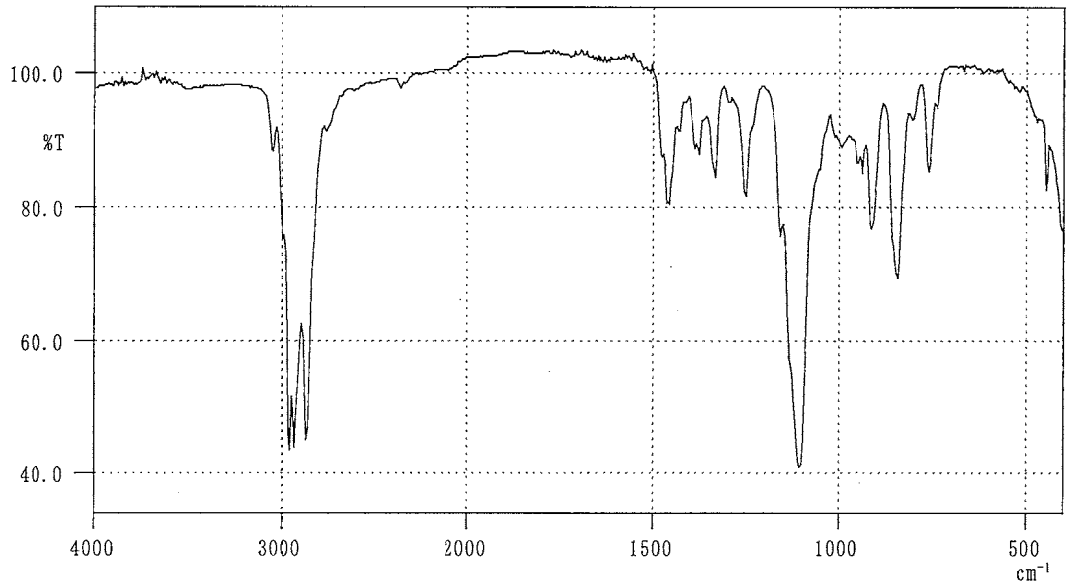
(*Fred W. McLafferty (1994) Wiley Registry of Mass Spectral Data, 6th edition. John Wiley and Sons, Inc. (U.S.), Entry Number 20313)

Infrared Spectrometry

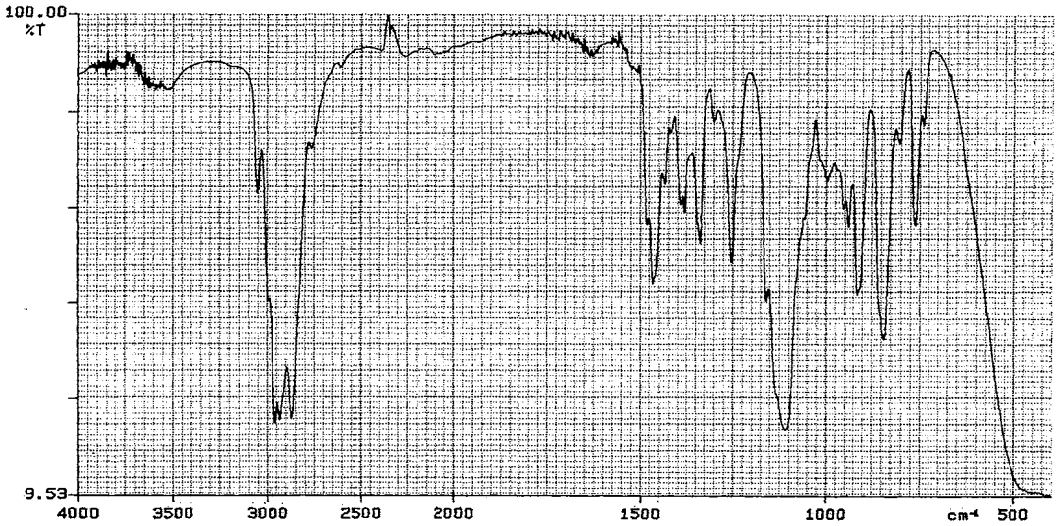
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1}



Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data*

Result: The infrared spectrum was consistent with literature spectrum.
(*Performed by Wako Pure Chemical Industries, Ltd.)

2. Conclusion: The test substance was identified as butyl 2,3-epoxypropyl ether by mass spectrum and infrared spectrum.

APPENDIX J 2

STABILITY OF BUTY2,3-EPOXYPROPYL ETHER IN THE 2-WEEK INHALATION STUDY

STABILITY OF BUTYL 2,3-EPOXYPROPYL ETHER IN THE 2-WEEK INHALATION STUDY

Test Substance : Butyl 2,3-epoxypropyl ether (Wako Pure Chemical Industries, Ltd.)

Lot No. : CHK5928

1. Sample : This lot was used from 2000.4.11 to 2000.4.24. Test substance was stored in a dark place at room temperature.

2. Gas Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 160° C

Flow Rate : 20 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
2000.03.24	1	2.850	100
2000.04.26	1	2.851	100

Result: Gas chromatography indicated one major peak (peak No.1) analyzed on 2000.3.24 and one major peak (peak No.1) analyzed on 2000.4.26. No new trace impurity peak in the test substance analyzed on 2000.4.26 was detected.

3. Conclusion: The test substance was stable for about 1 month in a dark place at room temperature.

APPENDIX K 1

CONCENTRATION OF BUTY2,3-EPOXYPROPYL ETHER IN THE INHALATION CHAMBER OF 2-WEEK INHALATION STUDY

CONCENTRATION OF BUTYL 2,3-EPOXYPROPYL ETHER IN THE INHALATION CHAMBER OF THE 2-WEEK INHALATION STUDY

Group Name	Concentration(ppm) Mean ± S.D.
0ppm(Control)	0.0 ± 0.0
19ppm	18.9 ± 0.2
38ppm	38.5 ± 0.5
75ppm	75.2 ± 1.0
150ppm	150.6 ± 1.3
300ppm	300.6 ± 6.9

APPENDIX K 2

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2-WEEK INHALATION STUDY OF BUTY2,3-EPOXYPROPYL ETHER

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2 -WEEK INHALATION SYUDY OF BUTYL 2,3-EPOXYPROPYL ETHER

Group Name	Temperature(℃) Mean ± S.D.	Humidity(%) Mean ± S.D.	Ventilation Rate(L/min) Mean ± S.D.	Air Change(time/h) Mean
0ppm(Control)	22.2 ± 0.1	55.0 ± 0.6	212.9 ± 0.9	12.1
19ppm	22.2 ± 0.1	54.7 ± 2.4	212.7 ± 0.6	12.0
38ppm	22.7 ± 0.1	53.2 ± 2.3	212.5 ± 0.7	12.0
75ppm	22.8 ± 0.1	52.6 ± 2.5	212.3 ± 0.7	12.0
150ppm	22.6 ± 0.1	52.6 ± 2.9	212.9 ± 0.7	12.1
300ppm	22.4 ± 0.1	53.1 ± 3.6	212.7 ± 0.8	12.0

APPENDIX L 1

METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF BUTY2,3-EPOXYPROPYL ETHER

METHOD FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF BUTYL 2,3-EPOXYPROPYL ETHER

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] (Wright 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	GlcK・G-6-PDH method [4]
T-cholesterol	CE・COD・POD method [4]
Triglyceride	LPL・GK・GPO・POD method [4]
Phospholipid	PLD・ChOD・POD method [4]
Glutamic oxaloacetic transaminase (GOT)	JSCC method [4]
Glutamic pyruvic transaminase (GPT)	JSCC method [4]
Lactate dehydrogenase (LDH)	SFBC method [4]
Alkaline phosphatase (ALP)	GSCC method [4]
γ-Glutamyl transpeptidase (γ-GTP)	L-γ-Glutamyl-p-nitroanilide method [4]
Creatine phosphokinase (CPK)	JSCC method [4]
Urea nitrogen	Urease・GLDH method [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	PNP・XOD・POD method [4]

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

2) Automatic coagulometer (Sysmex CA-5000 : Sysmex Corporation)

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

4) Automatic analyzer (Hitachi 7070 : Hitachi,Ltd.)

APPENDIX L 2

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF BUTY2,3-EPOXYPROPYL ETHER

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF BUTYL 2,3 - EPOXYPROPYL ETHER

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 transminase (GOT)	IU/L	0
Glutamic pyruvic transaminase (GPT)	IU/L	0
Lactate dehydrogenase (LDH)	IU/L	0
Alkaline phosphatase (ALP)	IU/L	0
γ -Glutamyl transpeptidase (γ -GTP)	IU/L	0
Creatine phosphokinase (CPK)	IU/L	0
Urea nitrogen	mg/dL	1
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