

1ジクロロメタンのラットを用いた  
吸入による2週間毒性試験報告書

試験番号：0229

## APPENDIX

## APPENDIXES

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( 2-WEEK STUDY )
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## APPENDIX A 1

### BODY WEIGHT CHANGES :SUMMARY, RAT : MALE (2-WEEK STUDY)

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 UNIT : g  
 REPORT TYPE : A1 2  
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 1

Group Name	Administration week-day			
	0-0	1-1	1-7	2-7
Control	113± 9	116± 8	134± 12	157± 11
1000ppm	114± 7	116± 7	138± 9	167± 12
2000ppm	114± 8	117± 9	135± 10	159± 13
4000ppm	114± 9	115± 10	134± 13	161± 16
8000ppm	113± 9	110± 9	120± 7*	138± 9**
16000ppm	113± 9	104± 0 ?	-	-

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

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

## APPENDIX A 2

### BODY WEIGHT CHANGES : SUMMARY, RAT : FEMALE (2-WEEK STUDY)

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 UNIT : g  
 REPORT TYPE : A1 2  
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)  
 ALL ANIMALS

PAGE : 2

Group Name	Administration week-day							
	0-0		1-1		1-7		2-7	
Control	101±	3	102±	3	111±	5	125±	6
1000ppm	99±	4	100±	3	110±	4	122±	6
2000ppm	100±	4	101±	3	112±	5	125±	4
4000ppm	100±	3	101±	3	111±	4	125±	5
8000ppm	99±	3	95±	3**	98±	3**	110±	5**
16000ppm	99±	3	100±	2	-		-	

Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

(HAN260)

BAIS 3

## APPENDIX B 1

### FOOD CONSUMPTION CHANGES : SUMMARY, RAT : MALE (2-WEEK STUDY)



STUDY NO. : 0229  
ANIMAL : RAT F344  
UNIT : g  
REPORT TYPE : A1 2  
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)  
ALL ANIMALS

PAGE : 1

Group Name	Administration week-day(effective)	
	1-7(7)	2-7(7)
Control	13.8± 1.5	14.2± 1.5
1000ppm	14.0± 1.2	15.3± 1.7
2000ppm	13.8± 1.1	14.4± 1.5
4000ppm	13.6± 1.2	14.3± 1.2
8000ppm	10.2± 0.6**	11.9± 0.8**
16000ppm	7.2± 0.0 ?	-

Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

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

## APPENDIX B 2

### FOOD CONSUMPTION CHANGES : SUMMARY, RAT : FEMALE (2-WEEK STUDY)

STUDY NO. : 0229  
ANIMAL : RAT F344  
UNIT : g  
REPORT TYPE : A1 2  
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)  
ALL ANIMALS

PAGE : 2

Group Name	Administration week-day(effective)	
	1-7(7)	2-7(7)
Control	11.6± 0.9	11.8± 0.9
1000ppm	11.4± 1.0	11.5± 1.1
2000ppm	11.5± 0.6	11.6± 0.5
4000ppm	11.6± 0.6	11.7± 0.6
8000ppm	8.2± 0.6**	9.6± 0.8**
16000ppm	7.2± 0.0 ?	-

Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

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

## APPENDIX C 1

### HEMATOLOGY : SUMMARY, RAT : MALE (2-WEEK STUDY)

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 SAMPLING DATE : 002-7  
 SEX : MALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)  
 SURVIVAL ANIMALS ( 2)

PAGE : 1

Group Name	NO. of Animals	RED BLOOD CELL 10 <sup>6</sup> /μl	HEMOGLOBIN g/dl	HEMATOCRIT %	MCV fl	MCH pg	MCHC g/dl	PLATELET 10 <sup>3</sup> /μl
Control	5	7.93± 0.27	14.6± 0.5	42.9± 1.3	54.1± 0.4	18.4± 0.3	34.0± 0.4	701± 75
1000ppm	5	7.81± 0.10	14.8± 0.2	43.1± 0.7	55.2± 0.6*	18.9± 0.2*	34.3± 0.4	825± 95*
2000ppm	5	8.03± 0.16	15.2± 0.4	44.2± 1.0	55.1± 0.5*	18.9± 0.2*	34.3± 0.5	785± 42
4000ppm	5	7.68± 0.22	14.7± 0.6	42.4± 1.2	55.1± 0.6*	19.1± 0.3**	34.6± 0.6	796± 36
8000ppm	5	7.88± 0.12	14.6± 0.3	42.6± 0.4	54.1± 0.6	18.5± 0.2	34.3± 0.5	637± 64
16000ppm	0	-	-	-	-	-	-	-

Significant difference ; \* :  $P \leq 0.05$

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS 3

STUDY NO. : 0229  
ANIMAL : RAT F344  
SAMPLING DATE : 002-7  
SEX : MALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 2

Group Name	NO. of Animals	RETICULOCYTE %		PROTHROMBIN TIME s e c		APTT s e c	
Control	5	42±	6	12.7±	0.4	20.3±	1.0
1000ppm	5	48±	9	12.6±	0.4	20.6±	1.1
2000ppm	5	41±	10	12.8±	0.4	20.8±	1.0
4000ppm	5	36±	4	12.7±	0.2	21.8±	0.8
8000ppm	5	36±	12	13.3±	0.2*	21.3±	0.5
16000ppm	0	-		-		-	

Significant difference : \* :  $P \leq 0.05$

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS3

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 SAMPLING DATE : 002-7  
 SEX : MALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)  
 SURVIVAL ANIMALS ( 2)

PAGE : 3

Group Name	NO. of Animals	WBC 10 <sup>3</sup> /μl		Differential N-BAND		WBC (%) N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHERS	
Control	5	1.35±	0.20	0±	0	25±	10	1±	1	0±	0	4±	0	69±	8	0±	0
1000ppm	5	1.44±	0.27	0±	1	27±	7	1±	1	0±	0	3±	1	68±	6	0±	0
2000ppm	5	1.64±	0.57	0±	0	24±	4	1±	1	0±	0	3±	1	72±	4	0±	0
4000ppm	5	1.75±	0.62	0±	0	22±	6	1±	0	0±	0	3±	2	73±	8	0±	0
8000ppm	5	1.82±	1.16	1±	1	33±	8	1±	1	0±	0	4±	2	62±	10	0±	1
16000ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Significant difference : \* :  $P \leq 0.05$

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL070)

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## APPENDIX C 2

### HEMATOLOGY : SUMMARY, RAT : FEMALE (2-WEEK STUDY)



STUDY NO. : 0229  
ANIMAL : RAT F344  
SAMPLING DATE : 002-7  
SEX : FEMALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 4

Group Name	NO. of Animals	RED BLOOD CELL 10 <sup>6</sup> /μl	HEMOGLOBIN g/dl	HEMATOCRIT %	MCV fl	MCH pg	MCHC g/dl	PLATELET 10 <sup>3</sup> /μl
Control	5	8.11± 0.24	15.4± 0.4	43.5± 1.3	53.7± 0.4	19.0± 0.4	35.4± 0.9	738± 69
1000ppm	5	8.53± 0.06**	16.2± 0.3*	46.3± 0.2**	54.3± 0.4	19.0± 0.4	34.9± 0.8	731± 71
2000ppm	5	8.33± 0.23	15.8± 0.4	45.0± 1.4	54.0± 0.3	18.9± 0.2	35.0± 0.4	737± 66
4000ppm	5	8.28± 0.19	15.7± 0.5	45.1± 1.1	54.4± 0.5	18.9± 0.3	34.8± 0.6	717± 105
8000ppm	5	7.97± 0.16	15.2± 0.3	43.1± 0.9	54.1± 0.9	19.1± 0.5	35.3± 1.1	664± 62
16000ppm	0	-	-	-	-	-	-	-

Significant difference : \* :  $P \leq 0.05$

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL070)

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STUDY NO. : 0229  
ANIMAL : RAT F344  
SAMPLING DATE : 002-7  
SEX : FEMALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 5

Group Name	NO. of Animals	RETICULOCYTE %		PROTHROMBIN TIME s e c		APTT s e c	
Control	5	26±	4	12.8±	0.5	18.6±	1.5
1000ppm	5	27±	7	12.9±	0.2	19.2±	1.0
2000ppm	5	29±	6	12.8±	0.3	20.2±	1.0
4000ppm	5	29±	3	12.8±	0.1	20.1±	1.0
8000ppm	5	33±	8	13.6±	0.3**	20.0±	1.2
16000ppm	0	-		-		-	

Significant difference : \* :  $P \leq 0.05$

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS3

STUDY NO. : 0229  
ANIMAL : RAT F344  
SAMPLING DATE : 002-7  
SEX : FEMALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 6

Group Name	NO. of Animals	WBC 10 <sup>3</sup> /μl		Differential N-BAND		WBC (%) N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHERS	
Control	5	1.32±	0.73	0±	1	23±	6	1±	1	0±	0	4±	1	72±	5	0±	0
1000ppm	5	1.61±	1.35	0±	0	24±	8	2±	1	0±	0	4±	1	70±	9	0±	0
2000ppm	5	1.36±	0.64	0±	0	30±	5	2±	1	0±	0	3±	1	65±	4	0±	0
4000ppm	5	1.87±	0.80	0±	0	33±	4	1±	1	0±	0	3±	1	62±	5	0±	1
8000ppm	5	1.15±	0.48	0±	0	43±	6**	2±	1	0±	0	5±	2	50±	8**	0±	0
16000ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Significant difference : \* :  $P \leq 0.05$

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS3

## APPENDIX D 1

BIOCHEMISTRY : SUMMARY, RAT : MALE  
(2-WEEK STUDY)

STUDY NO. : 0229  
ANIMAL : RAT F344  
SAMPLING DATE : 003-1  
SEX : MALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 1

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		PHOSPHOLIPID mg/dl	
Control	5	5.8±	0.1	3.6±	0.0	1.7±	0.1	0.27±	0.05	177±	13	59±	3	118±	8
1000ppm	5	5.7±	0.1	3.6±	0.1	1.7±	0.1	0.23±	0.03	168±	7	58±	7	116±	17
2000ppm	5	5.7±	0.2	3.5±	0.1	1.7±	0.1	0.25±	0.09	174±	6	56±	3	112±	9
4000ppm	5	5.6±	0.2	3.5±	0.1	1.6±	0.1	0.27±	0.03	176±	11	56±	3	109±	7
8000ppm	5	5.6±	0.1	3.5±	0.1	1.7±	0.1	0.34±	0.06	169±	10	55±	4	116±	6
16000ppm	0	-		-		-		-		-		-		-	

Significant difference : \* :  $P \leq 0.05$       \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS3

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 SAMPLING DATE : 003-1  
 SEX : MALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
 SURVIVAL ANIMALS ( 2)

PAGE : 2

Group Name	NO. of Animals	GOT IU/ℓ		GPT IU/ℓ		LDH IU/ℓ		G-GTP IU/ℓ		CPK IU/ℓ		UREA NITROGEN mg/dℓ		CREATININE mg/dℓ	
Control	5	63±	2	20±	1	226±	40	0±	0	141±	22	15.6±	3.0	0.3±	0.1
1000ppm	5	61±	3	20±	1	225±	50	0±	0	139±	18	15.6±	1.1	0.3±	0.0
2000ppm	5	63±	3	20±	2	226±	42	0±	1	141±	20	16.2±	3.1	0.3±	0.1
4000ppm	5	62±	1	20±	2	254±	52	0±	1	162±	22	14.7±	2.7	0.4±	0.1
8000ppm	5	67±	4	21±	1	245±	49	0±	0	149±	17	13.9±	3.2	0.3±	0.0
16000ppm	0	-		-		-		-		-		-		-	

Significant defference : \* :  $P \leq 0.05$       \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS3

STUDY NO. : 0229  
ANIMAL : RAT F344  
SAMPLING DATE : 003-1  
SEX : MALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 3

Group Name	NO. of Animals	SODIUM mEq/ℓ		POTASSIUM mEq/ℓ		CHLORIDE mEq/ℓ		CALCIUM mg/dℓ		INORGANIC PHOSPHORUS mg/dℓ	
Control	5	141±	2	4.2±	0.2	106±	1	10.6±	0.2	7.5±	0.5
1000ppm	5	141±	2	4.1±	0.4	105±	2	10.9±	0.5	8.5±	0.8
2000ppm	5	142±	1	4.1±	0.3	105±	1	10.7±	0.4	7.8±	0.8
4000ppm	5	140±	2	4.3±	0.3	105±	2	10.7±	0.1	7.8±	0.8
8000ppm	5	141±	2	4.0±	0.2	106±	1	10.8±	1.3	7.5±	1.1
16000ppm	0	-		-		-		-		-	

Significant difference : \* :  $P \leq 0.05$       \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS3

## APPENDIX D 2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE  
(2-WEEK STUDY)



STUDY NO. : 0229  
 ANIMAL : RAT F344  
 SAMPLING DATE : 003-1  
 SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
 SURVIVAL ANIMALS ( 2)

PAGE : 4

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		PHOSPHOLIPID mg / dl	
Control	5	5.7±	0.3	3.5±	0.1	1.6±	0.1	0.37±	0.12	177±	9	73±	2	136±	7
1000ppm	5	5.5±	0.2	3.5±	0.1	1.7±	0.1	0.39±	0.12	166±	12	68±	5	128±	14
2000ppm	5	5.6±	0.1	3.5±	0.1	1.7±	0.1	0.32±	0.12	168±	14	67±	5	122±	12
4000ppm	5	5.6±	0.2	3.5±	0.1	1.7±	0.1	0.34±	0.07	173±	15	72±	6	134±	10
8000ppm	5	5.6±	0.1	3.5±	0.1	1.7±	0.1	0.41±	0.11	160±	12	68±	5	135±	10
16000ppm	0	-		-		-		-		-		-		-	

Significant defference : \* :  $P \leq 0.05$

\*\* :  $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 SAMPLING DATE : 003-1  
 SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
 SURVIVAL ANIMALS ( 2)

PAGE : 5

Group Name	NO. of Animals	GOT IU/ℓ		GPT IU/ℓ		LDH IU/ℓ		G-GTP IU/ℓ		CPK IU/ℓ		UREA NITROGEN mg/dℓ		CREATININE mg/dℓ	
Control	5	63±	2	19±	1	369±	59	1±	1	166±	20	17.4±	2.6	0.3±	0.1
1000ppm	5	63±	3	19±	2	319±	83	0±	1	154±	23	17.4±	3.5	0.3±	0.0
2000ppm	5	59±	3	19±	2	232±	21**	1±	0	135±	7	15.5±	2.0	0.3±	0.1
4000ppm	5	58±	2*	18±	1	277±	50	1±	1	144±	13	16.9±	2.9	0.4±	0.1
8000ppm	5	64±	5	21±	2	277±	81	1±	1	139±	25	13.7±	3.1	0.4±	0.1
16000ppm	0	-		-		-		-		-		-		-	

Significant defference ; \* :  $P \leq 0.05$

\*\* :  $P \leq 0.01$

Test of Dunnett

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 SAMPLING DATE : 003-1  
 SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)  
 SURVIVAL ANIMALS ( 2)

PAGE : 6

Group Name	NO. of Animals	SODIUM mEq/ℓ		POTASSIUM mEq/ℓ		CHLORIDE mEq/ℓ		CALCIUM mg/dℓ		INORGANIC PHOSPHORUS mg/dℓ	
Control	5	142±	1	3.8±	0.2	108±	2	10.4±	0.4	6.8±	0.8
1000ppm	5	141±	1	4.0±	0.3	108±	3	10.4±	0.4	6.9±	1.0
2000ppm	5	142±	2	3.7±	0.4	108±	1	10.4±	0.2	6.7±	0.6
4000ppm	5	141±	1	4.1±	0.3	106±	1	10.7±	0.7	7.4±	0.5
8000ppm	5	141±	1	4.0±	0.4	107±	3	10.6±	1.0	6.9±	1.0
16000ppm	0	-		-		-		-		-	

Significant defference : \* :  $P \leq 0.05$

\*\* :  $P \leq 0.01$

Test of Dunnett

(HCL074)

BAIS3

## APPENDIX E 1

GROSS FINDINGS : SUMMARY, RAT : MALE : DEAD AND MORIBUND ANIMALS  
(2-WEEK STUDY)

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : MALE

GROSS FINDINGS (SUMMARY)  
DEAD AND MORIBUND ANIMALS (0- 2W)

PAGE : 1

Organ	Findings	Group Name NO. of Animals	Control 0 (%)	1000ppm 0 (%)	2000ppm 0 (%)	4000ppm 0 (%)
Lung	red zone		- ( -)	- ( -)	- ( -)	- ( -)
	voluminous		- ( -)	- ( -)	- ( -)	- ( -)

(HPT080)

BAIS 3

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : MALE

GROSS FINDINGS (SUMMARY)  
DEAD AND MORIBUND ANIMALS (0- 2W)

PAGE : 2

Organ	Findings	Group Name	8000ppm	16000ppm
		NO. of Animals	0 (%)	10 (%)
lung	red zone		- ( -)	7 ( 70)
	voluminous		- ( -)	5 ( 50)

(HPT080)

BAIS3

## APPENDIX E 2

GROSS FINDINGS : SUMMARY, RAT : FEMALE : DEAD AND MORIBUND ANIMALS  
(2-WEEK STUDY)

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : FEMALE

GROSS FINDINGS (SUMMARY)  
DEAD AND MORIBUND ANIMALS (0- 2W)

PAGE : 3

Organ	Findings	Group Name	Control	1000ppm	2000ppm	4000ppm
		NO. of Animals	0 (%)	0 (%)	0 (%)	0 (%)
trachea	fluid:foamy		- ( -)	- ( -)	- ( -)	- ( -)
lung	red zone		- ( -)	- ( -)	- ( -)	- ( -)
	voluminous		- ( -)	- ( -)	- ( -)	- ( -)

(HPT080)

BAIS 3



STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : FEMALE

GROSS FINDINGS (SUMMARY)  
DEAD AND MORIBUND ANIMALS (0- 2W)

PAGE : 4

Organ	Findings	Group Name	8000ppm	16000ppm
		NO. of Animals	0 (%)	10 (%)
trachea	fluid:foamy		- ( -)	3 ( 30)
lung	red zone		- ( -)	9 ( 90)
	voluminous		- ( -)	2 ( 20)

(HPT080)

BAIS 3

## APPENDIX E 3

GROSS FINDINGS : SUMMARY, RAT : FEMALE : SACRIFICED ANIMALS  
(2-WEEK STUDY)

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : FEMALE

GROSS FINDINGS (SUMMARY)  
SACRIFICED ANIMALS ( 2W)

PAGE : 1

Organ	Findings	Group Name NO. of Animals	Control	1000ppm	2000ppm	4000ppm
			10 (%)	10 (%)	10 (%)	10 (%)
thymus	red zone		1 ( 10)	0 ( 0)	0 ( 0)	0 ( 0)

(HPT080)

BAIS 3

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : FEMALE

GROSS FINDINGS (SUMMARY)  
SACRIFICED ANIMALS ( 2W)

PAGE : 2

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Organ	Findings	Group Name	8000ppm	16000ppm
		NO. of Animals	10 (%)	0 (%)

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thymus	red zone		0 ( 0)	- ( -)
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(HPT080)

BAIS 3

## APPENDIX F 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : MALE

(2-WEEK STUDY)

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : MALE  
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 1

Group Name	NO. of Animals	Body Weight		THYMUS		ADRENALS		TESTES		HEART		LUNGS	
Control	5	157±	9	0.303±	0.028	0.040±	0.006	1.998±	0.217	0.592±	0.063	0.712±	0.074
1000ppm	5	173±	13	0.331±	0.010	0.045±	0.009	2.146±	0.161	0.631±	0.056	0.768±	0.069
2000ppm	5	160±	19	0.306±	0.041	0.044±	0.009	2.011±	0.468	0.601±	0.069	0.722±	0.095
4000ppm	5	161±	18	0.331±	0.029	0.041±	0.005	1.784±	0.236	0.600±	0.061	0.744±	0.058
8000ppm	5	139±	12	0.215±	0.022**	0.049±	0.004	1.757±	0.390	0.514±	0.038	0.649±	0.053
16000ppm	0	-		-		-		-		-		-	

Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL040)

BAIS.3

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : MALE  
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 2

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	5	1.234±	0.070	0.354±	0.050	5.876±	0.403	1.684±	0.107
1000ppm	5	1.375±	0.100	0.382±	0.037	6.851±	0.889	1.711±	0.032
2000ppm	5	1.279±	0.130	0.364±	0.070	6.257±	0.977	1.697±	0.069
4000ppm	5	1.263±	0.179	0.371±	0.041	6.581±	1.057	1.628±	0.044
8000ppm	5	1.197±	0.152	0.291±	0.029	5.273±	0.601	1.650±	0.055
16000ppm	0	-		-		-		-	

Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL040)

BAIS 3

## APPENDIX F 2

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



STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : FEMALE  
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 3

Group Name	NO. of Animals	Body Weight		THYMUS		ADRENALS		OVARIES		HEART		LUNGS	
Control	5	123±	6	0.261±	0.012	0.051±	0.010	0.068±	0.004	0.477±	0.054	0.603±	0.054
1000ppm	5	124±	6	0.278±	0.014	0.047±	0.009	0.066±	0.007	0.488±	0.044	0.633±	0.068
2000ppm	5	125±	5	0.279±	0.030	0.050±	0.005	0.065±	0.016	0.504±	0.030	0.625±	0.064
4000ppm	5	126±	4	0.288±	0.019	0.056±	0.012	0.077±	0.016	0.519±	0.050	0.670±	0.054
8000ppm	5	108±	5**	0.165±	0.020**	0.051±	0.001	0.057±	0.012	0.440±	0.027	0.578±	0.025
16000ppm	0	-		-		-		-		-		-	

Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL040)

BAIS 3

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)  
 SURVIVAL ANIMALS ( 2)

PAGE : 4

Group Name	NO. of Animals	KIDNEYS		SPLEEN		LIVER		BRAIN	
Control	5	0.995±	0.058	0.285±	0.024	4.305±	0.481	1.629±	0.039
1000ppm	5	1.041±	0.066	0.274±	0.031	4.445±	0.421	1.593±	0.069
2000ppm	5	1.021±	0.029	0.296±	0.022	4.604±	0.283	1.634±	0.046
4000ppm	5	1.097±	0.064	0.311±	0.031	5.007±	0.308*	1.617±	0.055
8000ppm	5	1.016±	0.046	0.236±	0.012*	4.032±	0.264	1.564±	0.040
16000ppm	0	-		-		-		-	

Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL040)

BAIS3

## APPENDIX G 1

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : MALE  
(2-WEEK STUDY)

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : MALE  
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 1

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	5	157± 9	0.194± 0.019	0.026± 0.003	1.273± 0.092	0.377± 0.027	0.453± 0.024
1000ppm	5	173± 13	0.192± 0.012	0.026± 0.004	1.242± 0.063	0.365± 0.016	0.444± 0.033
2000ppm	5	160± 19	0.193± 0.020	0.028± 0.005	1.245± 0.169	0.377± 0.004	0.453± 0.033
4000ppm	5	161± 18	0.207± 0.018	0.026± 0.004	1.109± 0.071	0.374± 0.019	0.466± 0.046
8000ppm	5	139± 12	0.156± 0.012**	0.036± 0.004**	1.256± 0.201	0.371± 0.016	0.468± 0.021
16000ppm	0	-	-	-	-	-	-

Significant difference : \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL042)

BAIS3

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : MALE  
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)  
SURVIVAL ANIMALS ( 2)

PAGE : 2

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	0.787± 0.018	0.225± 0.020	3.747± 0.132	1.076± 0.084
1000ppm	5	0.795± 0.028	0.220± 0.010	3.948± 0.251	0.993± 0.068
2000ppm	5	0.803± 0.029	0.227± 0.023	3.905± 0.174	1.074± 0.111
4000ppm	5	0.784± 0.034	0.231± 0.008	4.077± 0.200	1.024± 0.128
8000ppm	5	0.860± 0.035**	0.210± 0.010	3.792± 0.112	1.196± 0.100
16000ppm	0	-	-	-	-

Significant difference : \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL042)

BAIS3

## APPENDIX G 2

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : MALE  
(2-WEEK STUDY)

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)  
 SURVIVAL ANIMALS ( 2)

PAGE : 3

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	5	123± 6	0.213± 0.017	0.041± 0.007	0.055± 0.003	0.387± 0.027	0.490± 0.041
1000ppm	5	124± 6	0.225± 0.012	0.038± 0.006	0.053± 0.005	0.394± 0.032	0.511± 0.041
2000ppm	5	125± 5	0.222± 0.018	0.040± 0.005	0.051± 0.012	0.403± 0.037	0.498± 0.039
4000ppm	5	126± 4	0.228± 0.012	0.044± 0.009	0.061± 0.012	0.411± 0.033	0.529± 0.032
8000ppm	5	108± 5**	0.153± 0.020**	0.048± 0.003	0.053± 0.011	0.408± 0.022	0.537± 0.036
16000ppm	0	-	-	-	-	-	-

Significant difference ; \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL042)

BAIS3

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 REPORT TYPE : A1  
 SEX : FEMALE  
 UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)  
 SURVIVAL ANIMALS ( 2)

PAGE : 4

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	5	0.809± 0.027	0.231± 0.010	3.492± 0.234	1.327± 0.074
1000ppm	5	0.841± 0.034	0.220± 0.016	3.586± 0.217	1.290± 0.104
2000ppm	5	0.816± 0.040	0.236± 0.011	3.680± 0.221	1.306± 0.020
4000ppm	5	0.868± 0.047	0.246± 0.020	3.959± 0.165**	1.280± 0.056
8000ppm	5	0.943± 0.043**	0.220± 0.013	3.739± 0.140	1.453± 0.079*
16000ppm	0	-	-	-	-

Significant difference : \* :  $P \leq 0.05$  \*\* :  $P \leq 0.01$

Test of Dunnett

(HCL042)

BAIS 3



APPENDIX H 1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : DEAD AND MORIBUND ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
DEAD AND MORIBUND ANIMALS (0- 2W)

PAGE : 1

		Group Name	Control				1000ppm				2000ppm				4000ppm			
		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
Organ_____	Findings_____		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]																		
nasal cavit			< 0>				< 0>				< 0>				< 0>			
	congestion		- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )
lung			< 0>				< 0>				< 0>				< 0>			
	congestion		- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )
	edema		- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )
[Hematopoietic system]																		
thymus			< 0>				< 0>				< 0>				< 0>			
	hemorrhage		- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )
[Endocrine system]																		
adrenal			< 0>				< 0>				< 0>				< 0>			
	congestion		- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )	- ( - )

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

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 REPORT TYPE : A1  
 SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 DEAD AND MORIBUND ANIMALS (0- 2W)

PAGE : 2

		Group Name No. of Animals on Study Grade				8000ppm 0				16000ppm 2			
Organ_____	Findings_____	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]													
nasal cavit		< 0>				< 2>							
	congestion	-	-	-	-	2	0	0	0	( 100)	( 0)	( 0)	( 0)
		( -)	( -)	( -)	( -)								
lung		< 0>				< 2>							
	congestion	-	-	-	-	1	1	0	0	( 50)	( 50)	( 0)	( 0)
		( -)	( -)	( -)	( -)								
	edema	-	-	-	-	1	1	0	0	( 50)	( 50)	( 0)	( 0)
		( -)	( -)	( -)	( -)								
[Hematopoietic system]													
thymus		< 0>				< 2>							
	hemorrhage	-	-	-	-	2	0	0	0	( 100)	( 0)	( 0)	( 0)
		( -)	( -)	( -)	( -)								
[Endocrine system]													
adrenal		< 0>				< 2>							
	congestion	-	-	-	-	2	0	0	0	( 100)	( 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 H 2

### HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : DEAD AND MORIBUND ANIMALS

(2-WEEK STUDY)

STUDY NO. : 0228  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
DEAD AND MORIBUND ANIMALS (0- 2W)

PAGE : 3

Organ_____	Findings_____	Group Name	Control				1000ppm				2000ppm				4000ppm			
		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
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<hr/>																		
[Respiratory system]																		
lung			< 0>				< 0>				< 0>				< 0>			
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	hemorrhage		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )
	edema		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	
	inflammatory infiltration		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	
	osseous metaplasia		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	
 [Hematopoietic system]																		
thymus			< 0>				< 0>				< 0>				< 0>			
	hemorrhage		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	
 [Endocrine system]																		
adrenal			< 0>				< 0>				< 0>				< 0>			
	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	( - )	

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

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
DEAD AND MORIBUND ANIMALS (0~ 2W)

PAGE : 4

Organ	Findings	8000ppm				16000ppm			
		0				2			
		1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]									
lung		< 0>				< 2>			
	congestion	-	-	-	-	1	1	0	0
		( - )	( - )	( - )	( - )	( 50 )	( 50 )	( 0 )	( 0 )
	hemorrhage	-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	( 50 )	( 0 )	( 0 )	( 0 )
	edema	-	-	-	-	1	1	0	0
		( - )	( - )	( - )	( - )	( 50 )	( 50 )	( 0 )	( 0 )
	inflammatory infiltration	-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	( 50 )	( 0 )	( 0 )	( 0 )
	osseous metaplasia	-	-	-	-	1	0	0	0
		( - )	( - )	( - )	( - )	( 50 )	( 0 )	( 0 )	( 0 )
[Hematopoietic system]									
thymus		< 0>				< 2>			
	hemorrhage	-	-	-	-	2	0	0	0
		( - )	( - )	( - )	( - )	( 100 )	( 0 )	( 0 )	( 0 )
[Endocrine system]									
adrenal		< 0>				< 2>			
	congestion	-	-	-	-	2	0	0	0
		( - )	( - )	( - )	( - )	( 100 )	( 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  
( - ) ( - ) ( - ) ( - )

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 REPORT TYPE : A1  
 SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 DEAD AND MORIBUND ANIMALS (0-- 2W)

PAGE : 5

Organ_____	Findings_____	Group Name	Control				1000ppm				2000ppm				4000ppm			
		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]

ovary	congestion	< 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

(HPT150)

BAIS3

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 REPORT TYPE : A1  
 SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 DEAD AND MORIBUND ANIMALS (0- 2W)

PAGE : 6

Organ	Findings	8000ppm				16000ppm			
		0				2			
		1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

[Reproductive system]

ovary	congestion	< 0>				< 2>			
		-	-	-	-	2	0	0	0
		( -)	( -)	( -)	( -)	(100)	( 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

(HPT150)

BAIS3



## APPENDIX H 3

### HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

#### RAT : FEMALE : SACRIFICED ANIMALS

#### (2-WEEK STUDY)

STUDY NO. : 0229  
 ANIMAL : RAT F344  
 REPORT TYPE : A1  
 SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
 SACRIFICED ANIMALS ( 2W)

PAGE : 1

Organ	Findings	Group Name No. of Animals on Study Grade	Control				1000ppm				2000ppm				4000ppm			
			2				2				2				2			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

[Circulatory system]

heart	necrosis:focal	< 2>				< 2>				< 2>				< 2>			
		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
		( 0 )	( 0 )	( 0 )	( 0 )	( 50 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 0 )	( 50 )	( 0 )	( 0 )	( 0 )

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

(HPT150)

BAIS3

STUDY NO. : 0229  
ANIMAL : RAT F344  
REPORT TYPE : A1  
SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)  
SACRIFICED ANIMALS ( 2W)

PAGE : 2

Organ	Findings	Group Name		8000ppm				16000ppm			
		No. of Animals on Study		2				0			
		Grade		1	2	3	4	1	2	3	4
				(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

[Circulatory system]

heart		< 2>				< 0>			
	necrosis:focal	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

(HPT150)

BAIS3

## APPENDIX I 1

### IDENTITY OF DICHLOROMETHANE IN THE 2-WEEK INHALATION STUDY

## IDENTITY OF DICHLOROMETHANE IN THE 2-WEEK INHALATION STUDY

Lot No. APR5259

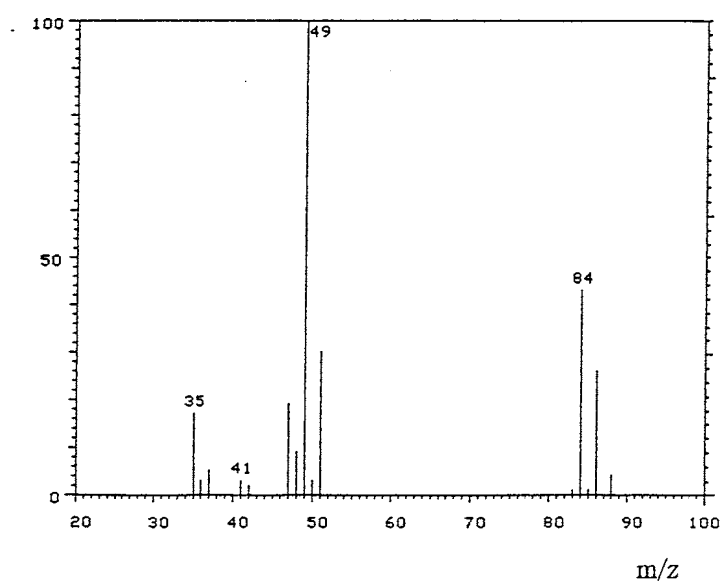
## 1. Spectral data

Mass Spectrometry

Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI(Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance

Results: The mass spectrum was consistent with literature spectrum.

<u>Determined Values</u>	<u>Literature Values</u> *
Fragment Peak(m/z)	Fragment Peak(m/z)
35	35
49	49
84	84

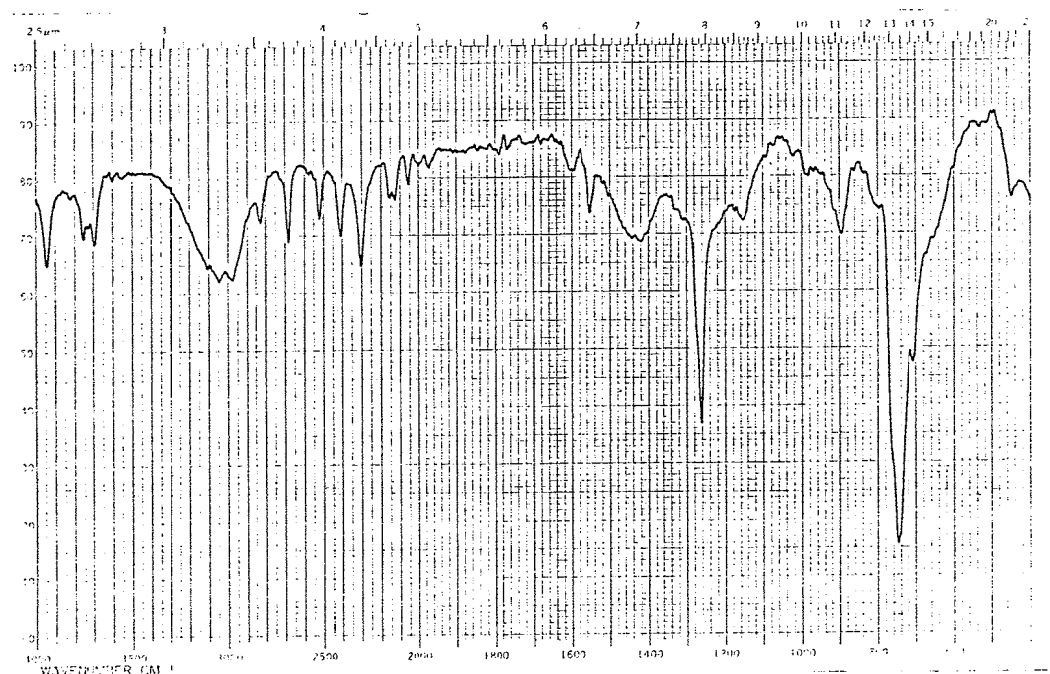
(\*EPA/NIH Mass Spectral Data Base (1978) Vol. 1, p. 33.)

Infrared Spectrometry

Instrument : Hitachi 270-30 Infrared Spectrometer

Cell : KBr Liquid Cell

Slit : Medium



Infrared Spectrum of Test Substance

Results: The infrared spectrum was consistent with literature spectrum.

<u>Determined Values</u>	<u>Literature Values*</u>
Wave Number( $\text{cm}^{-1}$ )	Wave Number( $\text{cm}^{-1}$ )
430~480	650~850
650~840	870~940
870~940	970~1000
970~1000	1130~1180
1120~1180	1200~1350
1200~1340	1380~1500
1370~1500	1540~1570
1530~1570	1580~1630
1580~1630	2050~2090
2040~2090	2120~2190
2100~2190	2280~2370
2250~2360	2400~2460
2380~2460	2500~2560
2500~2550	2650~2730
2650~2730	2800~2860
2800~2860	2900~3200
2900~3200	3670~3750
3650~3730	3750~3800
3730~3800	3900~4000
3900~4000	

(\*Performed by the WAKO PURE CHEMICAL INDUSTRIES, LTD.)

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

## APPENDIX I 2

### STABILITY OF DICHLOROMETHANE IN THE 2-WEEK INHALATION STUDY

## STABILITY OF DICHLOROMETHANE IN THE 2-WEEK INHALATION STUDY

Lot No. APR5259

1. Sample: This lot was used from 1993.4.13 to 1993.4.26. Test substance was stored in a dark place at room temperature.

## 2. Infrared Spectrometry

Instrument : Hitachi 270-30 Infrared Spectrometer

Cell : KBr Liquid Cell

Slit : Medium

Results: The result of infrared spectrum did not change when before and after the lot of study.

<u>1993.04.07(date analyzed)</u>	<u>1993.05.12(date analyzed)</u>
Wave Number( $\text{cm}^{-1}$ )	Wave Number( $\text{cm}^{-1}$ )
430~ 480	430~ 480
650~ 840	650~ 840
870~ 940	870~ 940
970~1000	970~1000
1120~1180	1120~1180
1200~1340	1200~1340
1370~1500	1370~1500
1530~1570	1530~1570
1580~1630	1580~1630
2040~2090	2040~2090
2100~2190	2100~2190
2250~2360	2250~2360
2380~2460	2380~2460
2500~2550	2500~2550
2650~2730	2650~2730
2800~2860	2800~2860
2900~3200	2900~3200
3650~3730	3650~3730
3730~3800	3730~3800
3900~4000	3900~4000

## 3. Gas Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone(0.2 mm  $\phi$   $\times$  50 m)

Column Temperature : 60 °C

Flow Rate : 1 ml/min

Detector : FID(Flame Ionization Detector)

Injection Volume : 1  $\mu$ l



Results: Gas chromatography indicated one major peak (peak No.1) and one impurity (peak No.2 < 1% of total area) analyzed at 1993.4.7 and one major peak (peak No.1) and one impurity (peak No.2 < 1% of total area) analyzed at 1993.5.12. No new trace impurity peak in the test substance analyzed at 1993.5.12 was detected.

Date (date analyzed)	Peak No.	Retention Time(min)	Area Count
1993.04.07	1	3.303	65203
	2	3.41	8
1993.05.12	1	3.305	64019
	2	3.407	10

4. Conclusions: The test substance was stable for about 5 weeks in a dark place at room temperature.

## APPENDIX J 1

CONCENTRATION OF DICHLOROMETHANE IN THE INHALATION CHAMBER  
IN THE 2-WEEK INHALATION STUDY

# CONCENTRATION OF DICHLOROMETHANE IN THE INHALATION CHAMBER

Group Name	Concentration(ppm)	
	Mean $\pm$	S.D.
Control	0.0 $\pm$	0.0
1,000ppm	1,004.1 $\pm$	10.4
2,000ppm	2,003.7 $\pm$	17.3
4,000ppm	3,975.0 $\pm$	35.9
8,000ppm	7,983.4 $\pm$	45.8
16,000ppm	15,973.4 $\pm$	125.4

## APPENDIX J 2

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER  
IN THE 2-WEEK INHALATION STUDY OF DICHLOROMETHANE

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2-WEEK INHALATION STUDY OF DICHLOROMETHANE

Group Name	Temperature(°C) Mean $\pm$ S.D.	Humidity(%) Mean $\pm$ S.D.	Ventilation Rate(L/min) Mean $\pm$ S.D.	Room Air Change(time/h) Mean
Control	21.8 $\pm$ 0.2	55.4 $\pm$ 0.8	211.7 $\pm$ 0.6	12.0
1,000ppm	22.0 $\pm$ 0.2	57.9 $\pm$ 0.6	211.2 $\pm$ 0.6	12.0
2,000ppm	22.3 $\pm$ 0.2	58.5 $\pm$ 0.4	211.0 $\pm$ 0.8	11.9
4,000ppm	22.1 $\pm$ 0.2	56.6 $\pm$ 0.6	212.0 $\pm$ 0.6	12.0
8,000ppm	22.5 $\pm$ 0.2	57.0 $\pm$ 0.7	212.1 $\pm$ 0.6	12.0
16,000ppm	21.6 $\pm$ 0.2	53.7 $\pm$ 0.7	212.2 $\pm$ 0.6	12.0

## APPENDIX K 1

### METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY OF DICHLOROMETHANE

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

Item	Method
<b>Hematology</b>	
Red blood cell (RBC)	Light scattering method <sup>1)</sup>
Hemoglobin (Hgb)	Cyanmethemoglobin method <sup>1)</sup>
Hematocrit (Hct)	Calculated as $RBC \times MCV/10$ <sup>1)</sup>
Mean corpuscular volume (MCV)	Light scattering method <sup>1)</sup>
Mean corpuscular hemoglobin (MCH)	Calculated as $Hgb/RBC \times 10$ <sup>1)</sup>
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as $Hgb/Hct \times 100$ <sup>1)</sup>
Platelet	Light scattering method <sup>1)</sup>
Reticulocyte	Pattern recognition method <sup>3)</sup> (New methyleneblue staining)
Prothrombin time	Quick one stage method <sup>2)</sup>
Activated partial thromboplastin time (APTT)	Ellagic acid activated method <sup>2)</sup>
White blood cell (WBC)	Light scattering method <sup>1)</sup>
Differential WBC	Pattern recognition method <sup>3)</sup> (May-Grünwald-Giemsa staining)
<b>Biochemistry</b>	
Total protein (TP)	Biuret method <sup>4)</sup>
Albumin (Alb)	BCG method <sup>4)</sup>
A/G ratio	Calculated as $Alb/(TP - Alb)$ <sup>4)</sup>
T-bilirubin	Michaelson method <sup>4)</sup>
Glucose	Enzymatic method (HK-G-6-PDH) <sup>4)</sup>
T-cholesterol	Enzymatic method (CEH-COD-POD) <sup>4)</sup>
Phospholipid	Enzymatic method (PLD-COD-POD) <sup>4)</sup>
Glutamic oxaloacetic transaminase (GOT)	UV-Rate method <sup>4)</sup>
Glutamic pyruvic transaminase (GPT)	UV-Rate method <sup>4)</sup>
Lactate dehydrogenase (LDH)	UV-Rate method <sup>4)</sup>
$\gamma$ -Glutamyl transpeptidase ( $\gamma$ -GTP)	L- $\gamma$ -Glutamyl-p-nitroanilide method <sup>4)</sup>
Creatine phosphokinase (CPK)	UV-Rate method <sup>4)</sup>
Urea nitrogen	Enzymatic method (Urease-GLDH) <sup>4)</sup>
Creatinine	Jaffe method <sup>4)</sup>
Sodium	Flame photometry <sup>5)</sup>
Potassium	Flame photometry <sup>5)</sup>
Chloride	Coulometric titration <sup>5)</sup>
Calcium	OCPC method <sup>4)</sup>
Inorganic phosphorus	Enzymatic method (SPL-PGM-G-6-PDH) <sup>4)</sup>

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

2) Automatic coagulometer (Amelung KC-10 : Heinrich Amelung GmbH, Germany)

3) Automatic blood cell differential analyzer (Hitachi 8200 : Hitachi, Ltd., Japan)

4) Automatic analyzer (Hitachi 705 : Hitachi, Ltd., Japan)

5) Flame photometer (Hitachi 750 : Hitachi, Ltd., Japan)

## APPENDIX K 2

UNISTS AND DECIMAL PLACE FOR HEMAYOLOGY AND  
BIOCHEMISTRY IN THE 2-WEEK INHALATION STUDY  
OF DICHLOROMETHANE



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

Item	Unit	Decimal place
Hematology		
Red blood cell (RBC)	$\times 10^6 / \mu\text{L}$	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	$\times 10^3 / \mu\text{L}$	0
Reticulocyte	%	0
Prothrombin time	sec	1
Activated partial thromboplastin time (APTT)	sec	1
White blood cell (WBC)	$\times 10^3 / \mu\text{L}$	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
Phospholipid	mg/dL	0
Glutamic oxaloacetic transaminase (GOT)	IU/L	0
Glutamic pyruvic transaminase (GPT)	IU/L	0
Lactate dehydrogenase (LDH)	IU/L	0
$\gamma$ - Glutamyl transpeptidase ( $\gamma$ - 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