

1,2-ジクロロエタンのラット及びマウスを用いた
吸入によるがん原性試験報告書

APPENDIX

(A1-1~A6-2)

急性試験 No. 0041 ; 0042

APPENDIX A 1-1

CLINICAL OBSERVATION (ACUTE STUDIES: SUMMARY)

RAT: MALE

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 1

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	3	10	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	10	-	-	-	-	-	-	-	-	-	-	-	-	-
LOCOMOTOR MOVEMENT DECR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	4	2	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
PRONE	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	7	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	1	-	-	-	-	-	-	-	-	-	-	-	-	-
LATERAL	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	2	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	7	-	-	-	-	-	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	5	3	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 2

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
DEATH	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
LOCOMOTOR MOVEMENT DECR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
PRONE	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
LATERAL	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
HUNCHBACK POSITION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 3

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
ATAXIC GAIT	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	7	5	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
PARALYTIC GAIT	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	2	1	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
CONVULSION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SOUND-RESPONSE.DECREASED	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
TOUCH-RESPONSE.DISAPPEAR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 4

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
ATAXIC GAIT	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
PARALYTIC GAIT	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
CONVULSION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SOUND-RESPONSE.DECREASED	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
TOUCH-RESPONSE.DISAPPEAR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 5

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	500 ppm	0	1	2	2	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	3	3	2	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	4	3	2	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	10	7	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SOILED PERI GENITALIA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	2	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
LACRYMATION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	1	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	8	-	-	-	-	-	-	-	-	-	-	-	-	-
EYE HEMORRHAGIC DISCHA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	4	4	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	6	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
EYE OPACITY	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	2	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : AI 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 6

Clinical sign	Group Name	Administration	Week-day
		2-7	1
		1	
PILOERECTON	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SOILED PERI GENITALIA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
LACRYMATION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
EYE HEMORRHAGIC DISCHA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
EYE OPACITY	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 7

Clinical sign	Group Name	Administration Week-day														
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6	
		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
NOSE HEMORRHAGIC DISCHA	500 ppm	0	2	0	0	0	0	0	0	0	0	0	1	1	1	0
	1000 ppm	0	1	0	0	0	0	0	0	1	0	0	1	1	1	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	9	7	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NOSE MUCINOUS DISCHARGE	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CYANOSIS	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY INHIBITION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DYSYPNEA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 8

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
NOSE HEMORRHAGIC DISCHA	500 ppm	0	
	1000 ppm	1	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
NOSE MUCINOUS DISCHARGE	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
CYANOSIS	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
RESPIRATORY INHIBITION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
DYSYPNEA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

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STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
GASPING	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
IRREGULAR BREATHING	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	5	3	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY SOUND ABNOR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
DIARRHEA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	1	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
BLOODY STOOL	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	1	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 10

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
GASPING	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
IRREGULAR BREATHING	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
RESPIRATORY SOUND ABNOR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
DIARRHEA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
BLOODY STOOL	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 11

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
LOOSE STOOL	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	1	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SUBNORMAL TEMP	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	8	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SALIVATION	500 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

(HAN190)

BAIS2

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 12

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
LOOSE STOOL	500 ppm	0	
	1000 ppm	0	
	2000 ppm	1	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SUBNORMAL TEMP	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SALIVATION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

(HAN190)

BAIS 2

APPENDIX A 1-2

CLINICAL OBSERVATION (ACUTE STUDIES: SUMMARY)

RAT: FEMALE

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

PAGE : 13

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	5	10	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	10	-	-	-	-	-	-	-	-	-	-	-	-	-
LOCOMOTOR MOVEMENT DECR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	7	5	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	8	9	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
PRONE	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	2	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	2	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	2	-	-	-	-	-	-	-	-	-	-	-	-	-
LATERAL	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	6	3	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	5	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	8	-	-	-	-	-	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	4	4	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 14

Clinical sign	Group Name	Administration	Week-day
		2-7	1

DEATH	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
LOCOMOTOR MOVEMENT DECR	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
PRONE	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
LATERAL	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
HUNCHBACK POSITION	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

PAGE : 15

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
ATAXIC GAIT	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	3	3	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
PARALYTIC GAIT	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	4	2	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
CONVULSION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SOUND-RESPONSE. DECREASED	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	9	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
TOUCH-RESPONSE. DISAPPEAR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	9	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 16

Clinical sign	Group Name	Administration	Week-day
		2-7	1

ATAXIC GAIT	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
PARALYTIC GAIT	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
CONVULSION	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
SOUND-RESPONSE. DECREASED	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
TOUCH-RESPONSE. DISAPPEAR	500 ppm	0
	1000 ppm	0
	2000 ppm	0
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

PAGE : 17

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTIO	500 ppm	0	4	2	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	5	2	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	7	5	5	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	6	5	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SOILED PERI GENITALIA	500 ppm	0	0	0	1	1	1	1	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	1	0	0	0	1	1	1	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	7	5	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	1	8	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
LACRYMATION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	4	3	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	8	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	10	-	-	-	-	-	-	-	-	-	-	-	-	-
GUM	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
EYE HEMORRHAGIC DISCHA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	2	1	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	3	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 18

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
PILORECTION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SOILED PERI GENITALIA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
LACRYMATION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
GUM	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
EYE HEMORRHAGIC DISCHA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

PAGE : 19

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	1	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
NOSE HEMORRHAGIC DISCHA	500 ppm	0	1	0	0	0	0	0	1	0	0	0	0	0	1
	1000 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	2	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	6	3	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	5	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
NOSE SEROUS DISCHARGE	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	1	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
NOSE FORMY DISCHARGE	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY INHIBITION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	3	2	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	8	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 20

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
EYE OPACITY	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
NOSE HEMORRHAGIC DISCHA	500 ppm	2	
	1000 ppm	1	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
NOSE SEROUS DISCHARGE	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
NOSE FORMY DISCHARGE	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
RESPIRATORY INHIBITION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DYSPNEA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
GASPING	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
IRREGULAR BREATHING	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	2	2	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY SOUND ABNOR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	6	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
NOISY	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	1	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 22

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
DYSPNEA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
GASPING	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
IRREGULAR BREATHING	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
RESPIRATORY SOUND ABNOR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
NOISY	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DIARRHEA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	2	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SUBNORMAL TEMP	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	1	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	8	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SALIVATION	500 ppm	0	0	2	0	0	0	0	1	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	1	0	0	0	1	1	0
	4000 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 24

Clinical sign	Group Name	Administration	Week-day
		2-7	1
DIARRHEA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SUBNORMAL TEMP	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SALIVATION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	0	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

(HAN190)

BAIS 2

APPENDIX A 1-3

CLINICAL OBSERVATION (ACUTE STUDIES: SUMMARY)

MOUSE: MALE

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 1

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	500 ppm	0	2	2	2	2	2	2	2	2	2	2	2	2	2
	1000 ppm	0	7	7	8	9	9	9	9	9	9	9	9	9	9
	2000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	4	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	10	-	-	-	-	-	-	-	-	-	-	-	-	-
LOCOMOTOR MOVEMENT DECR	500 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	2	1	1	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	3	5	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
PRONE	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	2	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	1	2	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	1	2	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	3	-	-	-	-	-	-	-	-	-	-	-	-	-
LATERAL	500 ppm	0	2	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	5	0	1	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	9	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	8	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	7	4	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	6	-	-	-	-	-	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	500 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	2	2	2	1	0	0	0	0	0	0	0	0	0
	2000 ppm	6	6	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	9	9	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 2

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
DEATH	500 ppm	2	
	1000 ppm	9	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
LOCOMOTOR MOVEMENT DECR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
PRONE	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
LATERAL	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
HUNCHBACK POSITION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 3

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
BODY SAG	500 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	1	0	1	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
ATAXIC GAIT	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
PARALYTIC GAIT	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	1	0	1	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
TREMOR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	1	0	1	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SOUND-RESPONSE. DECREASED	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	1	0	1	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	4	6	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 4

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
BODY SAG	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
ATAXIC GAIT	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
PARALYTIC GAIT	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
TREMOR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SOUND-RESPONSE. DECREASED	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 5

Clinical sign	Group Name	Administration	Week-day													
			0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
			1	1	1	1	1	1	1	1	1	1	1	1	1	
TOUCH-RESPONSE.DISAPPEAR	500 ppm		0	0	0	0	0	0	0	0	0	0	0	0	0	
	1000 ppm		0	1	0	0	0	0	0	0	0	0	0	0	0	
	2000 ppm		0	1	-	-	-	-	-	-	-	-	-	-	-	
	4000 ppm		0	0	-	-	-	-	-	-	-	-	-	-	-	
	8000 ppm		4	6	-	-	-	-	-	-	-	-	-	-	-	
	16000 ppm		0	-	-	-	-	-	-	-	-	-	-	-	-	
RIGHTING REPLEX REDUCE	500 ppm		0	0	0	0	0	0	0	0	0	0	0	0	0	
	1000 ppm		0	1	0	0	0	0	0	0	0	0	0	0	0	
	2000 ppm		0	1	-	-	-	-	-	-	-	-	-	-	-	
	4000 ppm		0	0	-	-	-	-	-	-	-	-	-	-	-	
	8000 ppm		3	6	-	-	-	-	-	-	-	-	-	-	-	
	16000 ppm		0	-	-	-	-	-	-	-	-	-	-	-	-	
PILOERECTION	500 ppm		0	9	4	0	0	0	0	3	3	3	1	1	3	5
	1000 ppm		8	9	3	3	2	0	0	0	0	0	0	0	0	0
	2000 ppm		9	10	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm		9	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm		4	6	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm		0	-	-	-	-	-	-	-	-	-	-	-	-	-
LOSS OF HAIR	500 ppm		0	0	0	0	0	0	0	0	0	0	0	0	0	1
	1000 ppm		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm		0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm		0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm		0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm		0	-	-	-	-	-	-	-	-	-	-	-	-	-
SOILED PERI GENITALIA	500 ppm		0	2	0	0	0	0	0	1	2	1	0	0	2	2
	1000 ppm		0	3	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm		0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm		2	6	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm		4	4	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm		4	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 6

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	
TOUCH-RESPONSE.DISAPPEAR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
RIGHTING REPLEX REDUCE	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
PILOERECTION	500 ppm	5	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
LOSS OF HAIR	500 ppm	1	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SOILED PERI GENITALIA	500 ppm	2	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 7

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
LACRYMATION	500 ppm	0	1	0	0	0	0	0	1	0	0	0	1	0	0
	1000 ppm	0	7	0	2	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	1	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	8	6	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	2	-	-	-	-	-	-	-	-	-	-	-	-	-
GUM	500 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
EYE OPACITY	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	1	0	1	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	8	-	-	-	-	-	-	-	-	-	-	-	-	-
NOSE HEMORRHAGIC DISCHA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	3	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	9	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	4	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY INHIBITION	500 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	1	1	1	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	9	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	3	2	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 8

Clinical sign	Group Name	Administration	Week-day
		2-7	
		1	

LACRYMATION	500 ppm	0
	1000 ppm	0
	2000 ppm	-
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
GUM	500 ppm	0
	1000 ppm	0
	2000 ppm	-
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
EYE OPACITY	500 ppm	0
	1000 ppm	0
	2000 ppm	-
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
NOSE HEMORRHAGIC DISCHA	500 ppm	0
	1000 ppm	0
	2000 ppm	-
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-
RESPIRATORY INHIBITION	500 ppm	0
	1000 ppm	0
	2000 ppm	-
	4000 ppm	-
	8000 ppm	-
	16000 ppm	-

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : MALE

PAGE : 9

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DYSPNEA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	4	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SUBNORMAL TEMP	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

(HAN190)

BAIS 2

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 10

Clinical sign	Group Name	Administration	Week-day
		2-7	1
DYSYPNEA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SUBNORMAL TEMP	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

(HAN190)

BAIS 2

APPENDIX A 1-4

CLINICAL OBSERVATION (ACUTE STUDIES: SUMMARY)

MOUSE: FEMALE

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

PAGE : 11

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	500 ppm	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	6	9	9	10	-	-	-	-	-	-	-	-	-
	4000 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	6	10	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	10	-	-	-	-	-	-	-	-	-	-	-	-	-
LOCOMOTOR MOVEMENT DECR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	7	4	1	1	-	-	-	-	-	-	-	-	-
	4000 ppm	8	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	5	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
PRONE	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	1	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	3	4	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	4	-	-	-	-	-	-	-	-	-	-	-	-	-
LATERAL	500 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	7	2	0	1	-	-	-	-	-	-	-	-	-
	4000 ppm	0	7	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	6	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	6	-	-	-	-	-	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	3	3	1	1	-	-	-	-	-	-	-	-	-
	4000 ppm	5	8	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 12

Clinical sign	Group Name	Administration	Week-day
		2-7	1
DEATH	500 ppm		1
	1000 ppm		0
	2000 ppm		-
	4000 ppm		-
	8000 ppm		-
	16000 ppm		-
LOCOMOTOR MOVEMENT DECR	500 ppm		0
	1000 ppm		0
	2000 ppm		-
	4000 ppm		-
	8000 ppm		-
	16000 ppm		-
PRONE	500 ppm		0
	1000 ppm		0
	2000 ppm		-
	4000 ppm		-
	8000 ppm		-
	16000 ppm		-
LATERAL	500 ppm		0
	1000 ppm		0
	2000 ppm		-
	4000 ppm		-
	8000 ppm		-
	16000 ppm		-
HUNCHBACK POSITION	500 ppm		0
	1000 ppm		0
	2000 ppm		-
	4000 ppm		-
	8000 ppm		-
	16000 ppm		-

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

PAGE : 13

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
BODY SAG	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	4	2	1	1	-	-	-	-	-	-	-	-	-
	4000 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
ATAXIC GAIT	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	3	3	1	1	-	-	-	-	-	-	-	-	-
	4000 ppm	1	2	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
PARALYTIC GAIT	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	0	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	5	7	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
TREMOR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	5	4	1	1	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SOUND-RESPONSE. DECREASED	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	6	3	1	1	-	-	-	-	-	-	-	-	-
	4000 ppm	3	3	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	6	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 14

Clinical sign	Group Name	Administration Week-day	
		2-7	1
BODY SAG	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
ATAXIC GAIT	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
PARALYTIC GAIT	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
TREMOR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SOUND-RESPONSE, DECREASED	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

PAGE : 15

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOUCH-RESPONSE.DISAPPEAR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	0	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	1	1	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	6	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
RIGHTING REPLEX REDUCE	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	0	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	2	2	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	5	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
PILOERECTION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	7	4	1	1	-	-	-	-	-	-	-	-	-
	4000 ppm	4	9	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SOILED PERI GENITALIA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	1	1	1	-	-	-	-	-	-	-	-	-
	4000 ppm	1	1	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
LACRYMATION	500 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	9	4	0	1	-	-	-	-	-	-	-	-	-
	4000 ppm	6	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	6	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	7	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 16

Clinical sign	Group Name	Administration	Week-day
		2-7	1
TOUCH-RESPONSE.DISAPPEAR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
RIGHTING REPLEX REDUCE	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
PILOERECTION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SOILED PERI GENITALIA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
LACRYMATION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

PAGE : 17

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	500 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	0	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	5	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	4	-	-	-	-	-	-	-	-	-	-	-	-	-
NOSE HEMORRHAGIC DISCHA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	1	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	0	9	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
NOSE SEROUS DISCHARGE	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	0	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	1	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY INHIBITION	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	6	4	1	1	-	-	-	-	-	-	-	-	-
	4000 ppm	6	10	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	3	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
DYSYPNEA	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	0	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	1	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 18

Clinical sign	Group Name	Administration	Week-day
		2-7	1
EYE OPACITY	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
NOSE HEMORRHAGIC DISCHA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
NOSE SEROUS DISCHARGE	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
RESPIRATORY INHIBITION	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
DYSPNEA	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

PAGE : 19

Clinical sign	Group Name	Administration Week-day													
		0-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
IRREGULAR BREATHING	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	1	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY SOUND ABNOR	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	2	1	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SUBNORMAL TEMP	500 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	0	0	0	-	-	-	-	-	-	-	-	-
	4000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	8000 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	16000 ppm	0	-	-	-	-	-	-	-	-	-	-	-	-	-

(HAN190)

BAIS 2

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 20

Clinical sign	Group Name	Administration	Week-day
		2-7	1
IRREGULAR BREATHING	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
RESPIRATORY SOUND ABNOR	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	
SUBNORMAL TEMP	500 ppm	0	
	1000 ppm	0	
	2000 ppm	-	
	4000 ppm	-	
	8000 ppm	-	
	16000 ppm	-	

(HAN190)

BAIS 2

APPENDIX A 2-1

BODY WEIGHT CHANGES (ACUTE STUDIES: SUMMARY)

RAT: MALE

STUDY NO. : 0041
 ANIMAL : RAT F344
 UNIT : g
 REPORT TYPE : A1 2
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day		1-1		1-2		1-3		1-7		2-3		2-7	
	0-0													
500 ppm	130±	5	131±	6	135±	6	140±	6	161±	9	178±	11	200±	12
1000 ppm	130±	5	129±	5	133±	5	139±	6	161±	8	178±	8	197±	9
2000 ppm	130±	5	122±	9*	128±	9	133±	9	157±	12	176±	13	197±	13
4000 ppm	130±	5	121±	7**	119±	6**	-	-	-	-	-	-	-	-
8000 ppm	130±	5	124±	5	-	-	-	-	-	-	-	-	-	-
16000 ppm	130±	5	-	-	-	-	-	-	-	-	-	-	-	-

Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01

Test of Dunnett

APPENDIX A 2-2

BODY WEIGHT CHANGES (ACUTE STUDIES: SUMMARY)

RAT: FEMALE

STUDY NO. : 0041
 ANIMAL : RAT F344
 UNIT : g
 REPORT TYPE : A1 2
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day							
	0-0	1-1	1-2	1-3	1-7	2-3	2-7	
500 ppm	103± 3	101± 4	104± 4	107± 4	117± 3	127± 2	136± 4	
1000 ppm	103± 3	99± 4	103± 4	106± 3	118± 5	128± 4	137± 4	
2000 ppm	103± 3	94± 4	96± 4	100± 4	113± 4	125± 4	136± 3	
4000 ppm	103± 3	95± 4	93± 5	-	-	-	-	
8000 ppm	103± 3	97± 3	-	-	-	-	-	
16000 ppm	103± 3	-	-	-	-	-	-	

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

APPENDIX A 2-3

BODY WEIGHT CHANGES (ACUTE STUDIES: SUMMARY)

MOUSE: MALE

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 UNIT : g
 REPORT TYPE : A1 2
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day						
	0-0	1-1	1-2	1-3	1-7	2-3	2-7
500 ppm	24.3± 0.9	23.0± 1.1	24.0± 0.8	24.5± 0.7	25.5± 1.0	25.7± 0.7	26.3± 0.9
1000 ppm	24.3± 0.9	21.6± 1.1**	21.7± 2.1*	20.7± 2.0*	23.4± 0.0	24.0± 0.0	25.7± 0.0
2000 ppm	24.3± 0.9	21.8± 0.7*	-	-	-	-	-
4000 ppm	24.3± 0.9	21.9± 0.8	-	-	-	-	-
8000 ppm	24.3± 0.9	23.1± 0.6	-	-	-	-	-
16000 ppm	24.3± 0.9	-	-	-	-	-	-

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

APPENDIX A 2-4

BODY WEIGHT CHANGES (ACUTE STUDIES: SUMMARY)

MOUSE: FEMALE

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 UNIT : g
 REPORT TYPE : A1 2
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

Group Name	Administration week-day						
	0-0	1-1	1-2	1-3	1-7	2-3	2-7
500 ppm	19.2± 0.8	18.5± 1.2	19.3± 0.9	19.6± 0.7	19.8± 1.0	19.8± 1.1	20.2± 0.9
1000 ppm	19.2± 0.9	18.2± 0.8	18.6± 0.9	18.8± 1.0	19.7± 0.7	19.5± 0.7	20.1± 0.9
2000 ppm	19.2± 0.9	17.0± 0.7	16.2± 0.6	16.1± 0.0	-	-	-
4000 ppm	19.2± 0.9	17.7± 0.7	-	-	-	-	-
8000 ppm	19.3± 0.8	19.7± 0.0	-	-	-	-	-
16000 ppm	19.2± 0.9	-	-	-	-	-	-

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

APPENDIX A 3-1

GROSS FINDINGS (ACUTE STUDIES: SUMMARY)

RAT:MALE:DEAD AND MORIBUND ANIMALS

STUDY NO. : 0041
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	500 ppm 0 (%)	1000 ppm 0 (%)	2000 ppm 0 (%)	4000 ppm 10 (%)
lung	red		- (-)	- (-)	- (-)	9 (90)
thymus	red patch/zone		- (-)	- (-)	- (-)	1 (10)
stomach	hemorrhage		- (-)	- (-)	- (-)	2 (20)
liver	herniation		- (-)	- (-)	- (-)	1 (10)
abdominal c	ascites		- (-)	- (-)	- (-)	4 (40)
thoracic ca	pleural fluid		- (-)	- (-)	- (-)	8 (80)

(IPT080)

BAIS2

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name NO. of Animals	8000 ppm 10 (%)	16000 ppm 10 (%)
lung	red		10 (100)	10 (100)
thymus	red patch/zone		0 (0)	0 (0)
stomach	hemorrhage		0 (0)	0 (0)
liver	herniation		0 (0)	0 (0)
abdominal c	ascites		8 (80)	0 (0)
thoracic ca	pleural fluid		10 (100)	0 (0)

APPENDIX A 3-2

GROSS FINDINGS (ACUTE STUDIES: SUMMARY)

RAT: FEMALE: DEAD AND MORIBUND ANIMALS

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 3

Organ	Findings	Group Name NO. of Animals	500 ppm 0 (%)	1000 ppm 0 (%)	2000 ppm 0 (%)	4000 ppm 10 (%)
Lung	red		- (-)	- (-)	- (-)	9 (90)
thymus	red patch/zone		- (-)	- (-)	- (-)	4 (40)
spleen	atrophic		- (-)	- (-)	- (-)	1 (10)
stomach	hemorrhage		- (-)	- (-)	- (-)	6 (60)
liver	enlarged		- (-)	- (-)	- (-)	1 (10)
kidney	pale		- (-)	- (-)	- (-)	2 (20)
urin bladd	urine:marked retention		- (-)	- (-)	- (-)	0 (0)
abdominal c	ascites		- (-)	- (-)	- (-)	3 (30)
thoracic ca	pleural fluid		- (-)	- (-)	- (-)	6 (60)

(HPT080)

BAIS 2

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 4

Organ	Findings	Group Name NO. of Animals	8000 ppm 10 (%)	16000 ppm 8 (%)
lung	red		10 (100)	7 (88)
thymus	red patch/zone		0 (0)	1 (13)
spleen	atrophic		0 (0)	0 (0)
stomach	hemorrhase		0 (0)	0 (0)
liver	enlarged		0 (0)	0 (0)
kidney	pale		0 (0)	0 (0)
urin bladd	urine:marked retention		0 (0)	1 (13)
abdominal c	ascites		2 (20)	0 (0)
thoracic ca	pleural fluid		10 (100)	0 (0)

(HPT080)

BAIS 2

APPENDIX A 3-3

GROSS FINDINGS (ACUTE STUDIES: SUMMARY)

RAT: MALE: SACRIFICED ANIMALS

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 1

Organ	Findings	Group Name NO. of Animals	500 ppm 10 (%)	1000 ppm 10 (%)	2000 ppm 10 (%)	4000 ppm 0 (%)
thymus	red		0 (0)	1 (10)	1 (10)	- (-)
	red patch/zone		1 (10)	0 (0)	0 (0)	- (-)
Liver	herniation		1 (10)	0 (0)	0 (0)	- (-)

(HPT080)

BAIS 2

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name NO. of Animals	8000 ppm 0 (%)	16000 ppm 0 (%)
thymus	red		- (-)	- (-)
	red patch/zone		- (-)	- (-)
Liver	herniation		- (-)	- (-)

APPENDIX A 3-4

GROSS FINDINGS (ACUTE STUDIES: SUMMARY)

RAT: FEMALE: SACRIFICED ANIMALS

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2#)

PAGE : 3

Organ	Findings	Group Name NO. of Animals	500 ppm 9 (%)	1000 ppm 7 (%)	2000 ppm 9 (%)	4000 ppm 0 (%)
thymus	red		1 (11)	1 (14)	1 (11)	- (-)

(HPT080)

BAIS 2

STUDY NO. : 0041
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name	8000 ppm	16000 ppm
		NO. of Animals	0 (%)	0 (%)
thymus	red		- (-)	- (-)

APPENDIX A 3-5

GROSS FINDINGS (ACUTE STUDIES: SUMMARY)

MOUSE: MALE: DEAD AND MORIBUND ANIMALS

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name NO. of Animals	500 ppm 2 (%)	1000 ppm 9 (%)	2000 ppm 10 (%)	4000 ppm 10 (%)
lung	red		2 (100)	8 (89)	10 (100)	10 (100)
thymus	atrophic		0 (0)	1 (11)	0 (0)	0 (0)
spleen	pale		0 (0)	2 (22)	0 (0)	0 (0)
heart	pale		0 (0)	1 (11)	0 (0)	0 (0)
liver	pale		0 (0)	7 (78)	0 (0)	0 (0)
kidney	pale		0 (0)	6 (67)	0 (0)	0 (0)
urin bladd	urine:marked retention		0 (0)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name NO. of Animals	8000 ppm	16000 ppm
			10 (%)	10 (%)
lung	red		10 (100)	9 (90)
thymus	atrophic		0 (0)	0 (0)
spleen	pale		0 (0)	0 (0)
heart	pale		0 (0)	0 (0)
liver	pale		0 (0)	0 (0)
kidney	pale		0 (0)	0 (0)
urin bladd	urine:marked retention		3 (30)	7 (70)

APPENDIX A 3-6

GROSS FINDINGS (ACUTE STUDIES: SUMMARY)

MOUSE: FEMALE: DEAD AND MORIBUND ANIMALS

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name NO. of Animals	500 ppm 1 (%)	1000 ppm 0 (%)	2000 ppm 10 (%)	4000 ppm 10 (%)
lung	red		1 (100)	- (-)	10 (100)	10 (100)
spleen	black patch/zone		0 (0)	- (-)	1 (10)	0 (0)
heart	pale		0 (0)	- (-)	1 (10)	0 (0)
liver	pale		1 (100)	- (-)	7 (70)	0 (0)
kidney	pale		0 (0)	- (-)	9 (90)	0 (0)
urin bladd	urine:marked retention		0 (0)	- (-)	0 (0)	0 (0)
uterus	dilated lumen		0 (0)	- (-)	1 (10)	0 (0)
adipose	white patch/zone		0 (0)	- (-)	2 (20)	0 (0)

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 4

Organ	Findings	Group Name NO. of Animals	8000 ppm 10 (%)	16000 ppm 10 (%)
lung	red		8 (80)	10 (100)
spleen	black patch/zone		0 (0)	0 (0)
heart	pale		0 (0)	0 (0)
liver	pale		0 (0)	0 (0)
kidney	pale		0 (0)	0 (0)
urin bladd	urine:marked retention		4 (40)	3 (30)
uterus	dilated lumen		1 (10)	2 (20)
adipose	white patch/zone		0 (0)	0 (0)

(HPT080)

BAIS 2

APPENDIX A 3-7

GROSS FINDINGS (ACUTE STUDIES: SUMMARY)

MOUSE: MALE: SACRIFICED ANIMALS

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 1

Organ	Findings	Group Name NO. of Animals	500 ppm 8 (%)	1000 ppm 1 (%)	2000 ppm 0 (%)	4000 ppm 0 (%)
lung	red		1 (13)	0 (0)	- (-)	- (-)
kidney	pale		0 (0)	1 (100)	- (-)	- (-)

(HPT080)

BAIS 2

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name NO. of Animals	8000 ppm 0 (%)	16000 ppm 0 (%)
lung	red		- (-)	- (-)
kidney	pale		- (-)	- (-)

(HPT080)

BAIS2

APPENDIX A 3-8

GROSS FINDINGS (ACUTE STUDIES: SUMMARY)

MOUSE: FEMALE: SACRIFICED ANIMALS

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 3

Organ	Findings	Group Name NO. of Animals	500 ppm 9 (%)	1000 ppm 10 (%)	2000 ppm 0 (%)	4000 ppm 0 (%)
spleen	black patch/zone		1 (11)	0 (0)	- (-)	- (-)
urin bladd	urine:marked retention		0 (0)	1 (10)	- (-)	- (-)
uterus	dilated lumen		3 (33)	4 (40)	- (-)	- (-)

(HPT080)

BAIS 2

STUDY NO. : 0042
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (20)

PAGE : 4

Organ	Findings	Group Name NO. of Animals	8000 ppm 0 (%)	16000 ppm 0 (%)
spleen	black patch/zone		- (-)	- (-)
urin bladd	urine:marked retention		- (-)	- (-)
uterus	dilated lumen		- (-)	- (-)

(HPT080)

BAIS 2

APPENDIX A 4-1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (ACUTE STUDIES : SUMMARY)

RAT: MALE: DEAD AND MORIBUND ANIMALS

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name No. of Animals				500 ppm				1000 ppm				2000 ppm				4000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]																					
nasal cavit	disarrangement:olfactory epithelium	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0	(33)	(0)	(0)	(0)
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	atrophy:olfactory epithelium	-	-	-	-	-	-	-	-	-	-	-	-	3	0	0	0	(100)	(0)	(0)	(0)
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
lung/branch	congestion	-	-	-	-	-	-	-	-	-	-	-	-	0	2	0	0	(0)	(67)	(0)	(0)
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	(0)	(0)	(0)	(0)
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Hematopoietic system]																					
thymus	hemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	(0)	(0)	(0)	(0)
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
spleen	congestion	-	-	-	-	-	-	-	-	-	-	-	-	0	0	1	0	(0)	(0)	(33)	(0)
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Circulatory system]																					
heart	dilatation	-	-	-	-	-	-	-	-	-	-	-	-	2	0	0	0	(67)	(0)	(0)	(0)
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Digestive system]																					
liver	necrosis:central	-	-	-	-	-	-	-	-	-	-	-	-	3	0	0	0	(100)	(0)	(0)	(0)
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:facal	-	-	-	-	-	-	-	-	-	-	-	-	0	1	0	0	(0)	(33)	(0)	(0)
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name 8000 ppm No. of Animals				16000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]									
nasal cavit	disarrangement:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	atrophy:olfactory epithelium	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Lung/branch	congestion	0 (0)	2 (100)	0 (0)	0 (0)	1 (50)	1 (50)	0 (0)	0 (0)
	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)
[Hematopoietic system]									
thymus	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)
spleen	congestion	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Circulatory system]									
heart	dilatation	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Digestive system]									
liver	necrosis:central	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	necrosis:focal	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name No. of Animals				500 ppm				1000 ppm				2000 ppm				4000 ppm											
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)												
[Urinary system]																													
kidney	tubular necrosis	-	-	-	-	-	-	-	-	-	-	-	-	0	0	3	0	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(100)	(-)
[Endocrine system]																													
adrenal	hemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0	(-)	(-)	(-)	(-)	(33)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Reproductive system]																													
testis	atrophy	-	-	-	-	-	-	-	-	-	-	-	-	2	0	0	0	(-)	(-)	(-)	(-)	(67)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name 8000 ppm No. of Animals				16000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)

[Urinary system]

kidney	tubular necrosis	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)
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[Endocrine system]

adrenal	hemorrhage	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
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[Reproductive system]

testis	atrophy	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
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<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

APPENDIX A 4-2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (ACUTE STUDIES : SUMMARY)

RAT : FEMALE : DEAD AND MORIBUND ANIMALS

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	500 ppm				1000 ppm				2000 ppm				4000 ppm			
		No. of Animals				No. of Animals				No. of Animals				No. of Animals			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]																	
nasal cavity	disarrangement:olfactory epithelium	-	-	-	-	-	-	-	-	-	-	-	-	3	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(75)	(0)	(0)	(0)
	atrophy:olfactory epithelium	-	-	-	-	-	-	-	-	-	-	-	-	3	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(75)	(0)	(0)	(0)
lung/branch	congestion	-	-	-	-	-	-	-	-	-	-	-	-	0	4	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(100)	(0)	(0)
	hemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(0)	(0)	(0)
[Hematopoietic system]																	
lymph node	hemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	0	0	1	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(25)	(0)
thymus	hemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	2	1	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(50)	(25)	(0)	(0)
spleen	congestion	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(0)	(25)	(0)
[Circulatory system]																	
heart	dilatation	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
	hemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(0)	(0)	(0)
[Urinary system]																	
kidney	tubular necrosis	-	-	-	-	-	-	-	-	-	-	-	-	0	0	4	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(100)	(0)

<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name 8000 ppm No. of Animals				16000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]									
nasal cavity	disarrangement:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	atrophy:olfactory epithelium	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
lung/branch	congestion	1 (50)	0 (0)	1 (50)	0 (0)	1 (50)	1 (50)	0 (0)	0 (0)
	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Hematopoietic system]									
lymph node	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
thymus	hemorrhage	2 (100)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)
spleen	congestion	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Circulatory system]									
heart	dilatation	1 (50)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)
	hemorrhage	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Urinary system]									
kidney	tubular necrosis	0 (0)	0 (0)	2 (100)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)

<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	500 ppm				1000 ppm				2000 ppm				4000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)

[Endocrine system]

adrenal	hemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(0)	(25)	(0)

<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : FEMALE

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

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

[Endocrine system]

adrenal	hemorrhage	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
---------	------------	-----------	------------	-----------	-----------	-----------	-----------	-----------	-----------

<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

(HPT150)

BAIS2

APPENDIX A 4-3

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (ACUTE STUDIES :SUMMARY)

RAT:MALE:SACRIFICED ANIMALS

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name 500 ppm No. of Animals				1000 ppm				2000 ppm				4000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]																	
nasal cavit	disarrangement:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)
[Hematopoietic system]																	
thymus	hemorrhage	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)
		<1>:Slight	<2>:Moderate	<3>:Marked	<4>:Severe												

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : MALE

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

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

[Respiratory system]

nasal cavit	disarrangement:olfactory epithelium	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

[Hematopoietic system]

thymus	hemorrhage	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

APPENDIX A 4-4

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (ACUTE STUDIES : SUMMARY)

RAT : FEMALE : SACRIFICED ANIMALS

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name 500 ppm No. of Animals				1000 ppm				2000 ppm				4000 ppm				
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	
[Respiratory system]																		
nasal cavit	disarrangement:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)
[Hematopoietic system]																		
lymph node	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)
[Urinary system]																		
kidney	tubular necrosis	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)
[Endocrine system]																		
pituitary	cyst	1 (50)	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>:Slight <2>:Moderate <3>:Marked <4>:Severe

STUDY NO. : 0041
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	8000 ppm				16000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]									
nasal cavit	disarrangement:olfactory epithelium	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Hematopoietic system]									
Lymph node	hemorrhage	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Urinary system]									
kidney	tubular necrosis	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Endocrine system]									
pituitary	cyst	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

<1>:Slight <2>:Moderate <3>:Marked <4>:Severe

APPENDIX A 4-5

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (ACUTE STUDIES:SUMMARY)

MOUSE:MALE:DEAD AND MORIBUND ANIMALS

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name No. of Animals				500 ppm				1000 ppm				2000 ppm				4000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)				
[Respiratory system]																					
nasal cavit	degeneration:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	2 (67)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)				
lung/branch	congestion	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)				
	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)				
[Circulatory system]																					
heart	dilatation	1 (100)	0 (0)	0 (0)	0 (0)	2 (67)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)				
[Digestive system]																					
Liver	vacuolic change:central	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)				
[Urinary system]																					
kidney	tubular necrosis	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)				

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name 8000 ppm				16000 ppm			
		No. of Animals				2			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]									
nasal cavit	degeneration:olfactory epithelium	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
lung/branch	congestion	1	0	1	0	1	0	0	0
		(50)	(0)	(50)	(0)	(50)	(0)	(0)	(0)
	hemorrhase	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Circulatory system]									
heart	dilatation	1	0	0	0	1	0	0	0
		(50)	(0)	(0)	(0)	(50)	(0)	(0)	(0)
[Digestive system]									
Liver	vacuolic change:central	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Urinary system]									
Kidney	tubular necrosis	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

APPENDIX A 4-6

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (ACUTE STUDIES : SUMMARY)

MOUSE : FEMALE : DEAD AND MORIBUND ANIMALS

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name No. of Animals				500 ppm 1				1000 ppm 0				2000 ppm 3				4000 ppm 2			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)				
[Respiratory system]																					
nasal cavity	degeneration:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)				
lung/branch	congestion	1 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	3 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)				
	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)				
[Hematopoietic system]																					
thymus	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)				
spleen	congestion	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)				
[Circulatory system]																					
heart	dilatation	1 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	3 (100)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)				
[Digestive system]																					
Liver	fatty change:peripheral	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)				
[Urinary system]																					
kidney	swelling:tubule	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	2 (67)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)				

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name 8000 ppm No. of Animals				16000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]									
nasal cavit	degeneration:olfactory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
lung/branch	congestion	1 (50)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)
	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)
[Hematopoietic system]									
thymus	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
spleen	congestion	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Circulatory system]									
heart	dilatation	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Digestive system]									
liver	fatty change:peripheral	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Urinary system]									
kidney	swelling:tubule	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	500 ppm				1000 ppm				2000 ppm				4000 ppm			
		No. of Animals				No. of Animals				No. of Animals				No. of Animals			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

[Endocrine system]

pituitary	cyst	0	0	0	0	-	-	-	-	1	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(33)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name				Group Name			
		8000 ppm				16000 ppm			
		No. of Animals				No. of Animals			
		2				2			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

[Endocrine system]

pituitary	cyst	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

APPENDIX A 4-7

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (ACUTE STUDIES : SUMMARY)

MOUSE : MALE : SACRIFICED ANIMALS

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name No. of Animals				500 ppm				1000 ppm				2000 ppm				4000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)				
[Respiratory system]																					
nasal cavit	eosinophilic change:respiratory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)				
	respiratory metaplasia	1 (50)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)				
	inflammation:respiratory epithelium	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)				
	disarrangement:olfactory epithelium	1 (50)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)				
	atrophy:olfactory epithelium	1 (50)	1 (50)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)				
[Digestive system]																					
liver	granulation	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)				
[Urinary system]																					
kidney	reseneration proximal tubule	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)				

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : MALE

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

Organ	Findings	Group Name 8000 ppm				16000 ppm			
		No. of Animals				0			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

[Respiratory system]

nasal cavity	eosinophilic change:respiratory epithelium	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	respiratory metaplasia	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	inflammation:respiratory epithelium	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	disarrangement:olfactory epithelium	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	atrophy:olfactory epithelium	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

[Digestive system]

liver	granulation	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

[Urinary system]

kidney	regeneration proximal tubule	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

APPENDIX A 4-8

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (ACUTE STUDIES : SUMMARY)

MOUSE : FEMALE : SACRIFICED ANIMALS

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name 500 ppm No. of Animals				1000 ppm				2000 ppm				4000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]																	
nasal cavit	disarrangement:olfactory epithelium	2 (100)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	atrophy:olfactory epithelium	2 (100)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Hematopoietic system]																	
spleen	deposit of melanin	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

STUDY NO. : 0042
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

Organ	Findings	Group Name 8000 ppm No. of Animals				16000 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]									
nasal cavity	disarrangement:olfactory epithelium	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	atrophy:olfactory epithelium	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Hematopoietic system]									
spleen	deposit of melanin	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

APPENDIX A 5-1

IDENTITY AND PURITY OF 1, 2-DICHLOROETHANE
PERFORMED AT THE JAPAN BIOASSAY LABORATORY
(ACUTE, TWO-WEEK AND THIRTEEN-WEEK STUDIES)

Results: Only one major peak

Peak No.	Retention Time(min)	Retention Time Relative to Major Peak	Area (percent of Major peak)
1	5.248	1.00	100

C. Conclusions: The results of the boiling point agreed with the Literature values. Impurity was not detected in test substance by Gas chromatography. The infrared spectra agreed with the Literature values.

APPENDIX A 5-2

STABILITY OF 1, 2-DICHLOROETHANE

AT THE JAPAN BIOASSAY LABORATORY

(ACUTE, TWO-WEEK AND THIRTEEN-WEEK STUDIES)

STABILITY OF 1,2-DICHLOROETHANE AT THE JAPAN BIOASSAY LABORATORY
(ACUTE, TWO-WEEK AND THIRTEEN-WEEK STUDIES)

Lot no. CDR2383

1. Sample storage: 1,2-Dichloroethane were stored for about 10 month at 5°C.

2. Physical properties Previous determined of test (03/12/84) After determined of test (12/24/84)

Appearance: Clear, colorless liquid Clear, colorless liquid

Boiling point: 84°C 84°C

3. Spectral data

Infrared

Instrument: Hitachi 270-30

Cell: Fixed thickness Cell (NaCl)

Slit: Medium

Results: Wave Number
(CM^{-1})

660	660
680~900	680~900
710~1140	710~1140
780	780
880	880
940	940
1020	1020
1230~1740	1230~1740
1290~3000	1290~3000
1310	1310
1430	1430
1450	1450
2960	2960

4. Gas Chromatography

Instrument: Shimazu GC-9A

Column: SBS-1

Column Temperature: 80°C

Flow Rate: 20ml/min

Detector: Hydrogen flame ionization (FID)

Injection Volume: 1 μ l

Results: Only one major peak

Date	Retention Time(min)	Retention Time Relative to Major Peak	Area (percent of Major peak)
03/12/84	5.248	1.00	100
12/24/84	5.092	1.00	100

C. Conclusions: The results of the Boiling point agreed with the previous determine of test Values. Impurity was not detected in test substance by Gas chromatography. The infrared spectra agreed with the previous determine of test Values.

Consequently, 1,2-dichloroethane was stable as the chemical when stored for about 10 month at temperatures to 5°C.

APPENDIX A 6-1

CONCENTRATION OF 1, 2-DICHLOROETHANE IN INHLATION CHAMBER

(ACUTE STUDIES)

CONCENTRATION OF 1,2-DICHLOROETHANE IN INHALATION CHAMBER
(RAT : ACUTE STUDIES)

Group Name	Concentration (ppm)	
	Mean	S. D.
500ppm	498	± 8
1000ppm	1006	± 13
2000ppm	1965	± 17
4000ppm	3976	± 57
8000ppm	8032	± 78
16000ppm	15953	± 278

Sampling interval : 15min

CONCENTRATION OF 1,2-DICHLOROETHANE IN INHALATION CHAMBER
(MOUSE : ACUTE STUDIES)

Group Name	Concentration (ppm)	
	Mean	S. D.
500ppm	503	± 12
1000ppm	1000	± 25
2000ppm	1958	± 58
4000ppm	3960	± 110
8000ppm	7991	± 274
16000ppm	15702	± 367

Sampling interval : 15min

APPENDIX A 6-2

ENVIRONMENT OF INHLATION CHAMBER

(ACUTE STUDIES)

ENVIRONMENT OF INHALATION CHAMBER

(RAT : ACUTE STUDIES)

Group Name	TEMPERATURE (°C)			HUMIDITY (%)			VENTILATION RATE (ℓ/min)			ROOM AIR CHANGE (time/h)
	MEAN	±	S. D.	MEAN	±	S. D.	MEAN	±	S. D.	MEAN
500ppm	27.1	±	0.3	46.8	±	1.4	131.8	±	0.5	15.1
1000ppm	27.0	±	0.3	42.8	±	1.3	131.0	±	0.0	15.0
2000ppm	26.9	±	0.3	45.4	±	1.4	131.1	±	0.3	15.0
4000ppm	27.0	±	0.3	41.8	±	1.9	131.8	±	0.5	15.1
8000ppm	26.8	±	0.3	39.4	±	2.1	131.9	±	0.3	15.1
16000ppm	27.1	±	0.6	34.7	±	4.6	132.2	±	0.4	15.2

ENVIRONMENT OF INHALATION CHAMBER

(MOUSE : ACUTE STUDIES)

Group Name	TEMPERATURE (°C)			HUMIDITY (%)			VENTILATION RATE (ℓ/min)			ROOM AIR CHANGE (time/h)
	MEAN	±	S. D.	MEAN	±	S. D.	MEAN	±	S. D.	MEAN
500ppm	25.1	±	0.3	49.3	±	1.3	132.0	±	0.0	15.1
1000ppm	24.9	±	0.3	46.0	±	1.2	132.0	±	0.0	15.1
2000ppm	24.7	±	0.3	48.3	±	0.8	131.0	±	0.0	15.0
4000ppm	24.5	±	0.3	45.2	±	1.0	131.1	±	0.3	15.0
8000ppm	24.8	±	0.3	41.8	±	1.3	131.9	±	0.3	15.1
16000ppm	24.7	±	0.2	33.2	±	1.2	132.0	±	0.0	15.1