

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

(B1- 1 ～B6-2)

2Week STUDY NO. 0047 ; 0048

APPENDIX B 1-1

CLINICAL OBSERVATION (TWO-WEEK STUDIES: SUMMARY)

RAT: MALE

STUDY NO. : 0047
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	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	1	3	8	9	9	10	-	-	-	-	-	-	-
	800 ppm	0	0	1	1	3	3	5	6	6	6	7	7	7	7
	1600 ppm	0	1	2	2	6	7	7	7	7	7	7	7	7	7
	3200 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	4	6	2	2	1	1	-	-	-	-	-	-	-
	800 ppm	0	0	1	8	6	4	4	1	0	1	1	0	0	0
	1600 ppm	0	3	8	8	8	3	2	3	3	3	3	3	3	3
	3200 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
PRONE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	2	4	2	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	1	0	2	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	1	0	4	0	0	0	0	0	0	0	0	0
	3200 ppm	0	3	-	-	-	-	-	-	-	-	-	-	-	-
LATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	3	1	0	1	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	2	1	0	0	1	0	0	0
	1600 ppm	0	1	0	1	1	1	0	0	0	0	0	0	0	0
	3200 ppm	0	7	-	-	-	-	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	2	4	6	2	1	1	-	-	-	-	-	-	-
	800 ppm	0	1	8	9	9	5	7	5	4	4	4	3	2	1
	1600 ppm	0	0	8	8	8	4	3	3	3	3	3	3	3	3
	3200 ppm	9	9	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	7
	1600 ppm	7
	3200 ppm	-
LOCOMOTOR MOVEMENT DECR	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	3
	3200 ppm	-
PRONE	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
LATERAL	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
HUNCHBACK POSITION	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	3
	3200 ppm	-

STUDY NO. : 0047
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
BODY SAG	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
ATAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	3	6	4	1	1	1	-	-	-	-	-	-	-
	800 ppm	0	0	1	8	7	4	5	3	1	1	1	0	0	0
	1600 ppm	0	0	5	7	6	3	3	3	3	3	3	3	3	3
	3200 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
SOUND-RESPONSE. DECREASED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	1	2	1	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
TOUCH-RESPONSE. DISAPPEAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
RIGHTING REFLEX REDUCE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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
BODY SAG	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
ATAXIC GAIT	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	3
	3200 ppm	-
SOUND-RESPONSE.DECREASED	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
TOUCH-RESPONSE.DISAPPEAR	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
RIGHTING REPLEX REDUCE	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
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
WEAKNESS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	1	1	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	3	1	0	1	1	0	0	0
	1600 ppm	0	0	0	0	1	1	0	0	0	0	0	1	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
SOILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	1	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	6	7	7	2	1	1	-	-	-	-	-	-	-
	800 ppm	0	10	10	9	9	6	7	5	4	4	4	3	3	0
	1600 ppm	0	9	9	8	8	4	3	3	3	3	3	3	3	3
	3200 ppm	10	9	-	-	-	-	-	-	-	-	-	-	-	-
SOILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	2	1	1	0	0	0	0	0	0	0
	1600 ppm	0	0	0	3	4	1	0	0	0	0	0	0	0	0
	3200 ppm	1	1	-	-	-	-	-	-	-	-	-	-	-	-
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	1	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 6

Clinical sign	Group Name	Administration Week-day
		2-7
		1
WEAKNESS	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
SOILED	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
PILOERECTION	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	3
	3200 ppm	-
SOILED PERI GENITALIA	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
EXOPHTHALMOS	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
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
LACRYMATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	2	6	1	1	1	-	-	-	-	-	-	-
	800 ppm	3	0	0	5	6	1	3	2	1	1	1	0	0	0
	1600 ppm	7	6	9	2	7	1	0	0	0	0	0	0	0	0
	3200 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
GUM	Control	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	1	1	1	1	-	-	-	-	-	-	-
	800 ppm	0	0	1	2	2	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
EYE HEMORRHAGIC DISCHA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	4	4	2	1	1	-	-	-	-	-	-	-
	800 ppm	0	0	2	3	6	4	4	2	1	1	1	0	0	0
	1600 ppm	0	1	7	4	5	1	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
CLOSED EYELID	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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
LACRYMATION	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
GUM	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
EYE HEMORRHAGIC DISCHA	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
EYE OPACITY	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
CLOSED EYELID	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
 ANIMAL : RAT F344
 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
NOSE HEMORRHAGIC DISCHA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	400 ppm	3	10	6	2	2	1	1	-	-	-	-	-	-	-
	800 ppm	2	3	2	0	5	3	3	1	0	0	0	0	0	0
	1600 ppm	0	3	1	0	3	0	0	0	0	0	0	0	0	0
	3200 ppm	0	2	-	-	-	-	-	-	-	-	-	-	-	-
NOSE SEROUS DISCHARGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	1	2	2	1	1	1	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	1	1	1	0	0	0	0	0	0	0
	1600 ppm	0	1	0	0	0	1	0	2	0	0	0	0	0	1
	3200 ppm	0	2	-	-	-	-	-	-	-	-	-	-	-	-
NOSE MUCINOUS DISCHARGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	1	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	1	0	0	0	0	1	1	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
NOSE FORMY DISCHARGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	2	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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
NOSE HEMORRHAGIC DISCHA	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
NOSE SEROUS DISCHARGE	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
NOSE MUCINOUS DISCHARGE	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
NOSE FORMY DISCHARGE	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
ANEMIA	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
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
RESPIRATORY INHIBITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	3	4	2	1	1	1	-	-	-	-	-	-	-
	800 ppm	0	0	1	4	5	1	2	2	1	0	0	0	0	0
	1600 ppm	0	0	5	8	6	2	0	2	1	2	2	3	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
DYSPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	1	1	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	1	0	0	3	1	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
GASPING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	2	2	1	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	1	1	0	3	1	1	1	1	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	1	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	1	0	0	0	0	1	1	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	1	1	1	1	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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
RESPIRATORY INHIBITION	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
DYSPNEA	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
GASPING	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
IRREGULAR BREATHING	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
RESPIRATORY SOUND ABNOR	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

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
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
DIARRHEA	Control	0	0	0	2	1	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	1	1	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
LOOSE STOOL	Control	0	1	3	1	0	1	0	0	0	0	0	0	0	0
	200 ppm	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	1	1	1	0	0	0	1	1	1	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	3	3	1	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	1	1	1	3	1	0	1	1	0	0	0
	1600 ppm	0	0	0	4	4	1	0	0	1	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
SALIVATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	-	-	-	-	-	-	-
	800 ppm	0	0	0	0	0	0	0	1	1	2	2	0	0	3
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE : 14

Clinical sign	Group Name	Administration Week-day
		2-7
		1
NOISY	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
DIARRHEA	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
LOOSE STOOL	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
SUBNORMAL TEMP	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
SALIVATION	Control	0
	200 ppm	0
	400 ppm	-
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

APPENDIX B 1-2

CLINICAL OBSERVATION (TWO-WEEK STUDIES: SUMMARY)

RAT: FEMALE

STUDY NO. : 0047
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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	2	6	6	6	6	6	6	7	7	7	8	8	8	8
	800 ppm	2	6	6	6	7	7	7	7	7	7	7	7	7	7
	1600 ppm	0	8	8	9	9	9	9	9	9	9	9	9	9	9
	3200 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	8	4	2	2	1	1	2	3	2	2	2	1	1	1
	800 ppm	7	3	0	4	1	1	1	1	1	0	0	0	0	0
	1600 ppm	0	0	2	2	0	1	1	1	1	1	1	1	1	1
	3200 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
PRONE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	5	3	0	1	0	0	0	0	0	0	0	0	0	0
	800 ppm	3	2	0	0	1	0	0	0	0	0	0	0	0	0
	1600 ppm	0	6	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	6	-	-	-	-	-	-	-	-	-	-	-	-
LATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	3	1	1	0	0	0	0	1	0	2	1	0	0	0
	800 ppm	0	2	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	2	0	1	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	4	-	-	-	-	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	400 ppm	2	3	3	3	3	2	4	4	3	3	3	1	1	2
	800 ppm	6	2	4	4	4	3	3	3	3	3	3	1	1	1
	1600 ppm	7	7	2	2	1	1	1	1	1	1	1	1	1	1
	3200 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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
DEATH	Control	0
	200 ppm	0
	400 ppm	9
	800 ppm	7
	1600 ppm	9
	3200 ppm	-
LOCOMOTOR MOVEMENT DECR	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	1
	3200 ppm	-
PRONE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
LATERAL.	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
HUNCHBACK POSITION	Control	0
	200 ppm	0
	400 ppm	2
	800 ppm	1
	1600 ppm	1
	3200 ppm	-

STUDY NO. : 0047
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
ATAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	3	1	1	4	3	3	3	2	1	1	1
	800 ppm	3	1	0	4	1	0	0	1	0	0	0	0	0	0
	1600 ppm	1	1	2	2	0	0	1	1	1	1	1	1	1	1
	3200 ppm	6	6	-	-	-	-	-	-	-	-	-	-	-	-
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	8	5	1	1	0	0	0	0	0	0	0	0	0	0
	800 ppm	3	2	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	3	3	-	-	-	-	-	-	-	-	-	-	-	-
TREMOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	1	1	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
EXCITEMENT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
SOUND-RESPONSE. DECREASED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	3	2	1	1	0	0	0	0	0	2	2	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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
ATAXIC GAIT	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	1
	3200 ppm	-
PARALYTIC GAIT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
TREMOR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
EXCITEMENT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
SOUND-RESPONSE, DECREASED	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
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
TOUCH-RESPONSE.DISAPPEAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	2	2	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
RIGHTING REPLEX REDUCE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	2	1	0	0	0	0	0	0	0	2	2	1	0	0
	800 ppm	2	1	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
WEAKNESS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	5	3	1	1	0	0	2	2	2	2	2	1	1	1
	800 ppm	2	1	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
SOILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	1	1	1	1	1	1	1	1	1	1	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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
TOUCH-RESPONSE.DISAPPEAR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
RIGHTING REPLEX REDUCE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
WEAKNESS	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
WASTING	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
SOILED	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 21

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	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	400 ppm	7	8	4	4	4	3	4	4	3	3	3	2	1	2
	800 ppm	9	7	4	4	4	3	3	3	3	3	3	2	1	1
	1600 ppm	10	10	2	2	1	1	1	1	1	1	1	1	1	1
	3200 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
SOILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	8	6	1	1	1	1	1	1	1	1	1	0	1	1
	800 ppm	1	4	0	0	0	0	0	0	1	0	0	0	0	1
	1600 ppm	2	5	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	5	5	-	-	-	-	-	-	-	-	-	-	-	-
LACRYMATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	10	6	1	1	1	2	3	3	1	2	1	1	1	1
	800 ppm	10	5	0	0	2	0	0	1	0	0	0	0	0	0
	1600 ppm	8	9	2	1	0	0	0	1	0	0	0	0	0	0
	3200 ppm	10	8	-	-	-	-	-	-	-	-	-	-	-	-
GUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	1	1	1	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
EYE HEMORRHAGIC DISCHA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	2	5	1	1	1	2	3	2	1	1	1	1	1	1
	800 ppm	2	6	0	0	1	1	2	0	0	0	0	0	1	0
	1600 ppm	0	6	1	1	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	6	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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
PILOERECTION	Control	0
	200 ppm	0
	400 ppm	2
	800 ppm	1
	1600 ppm	1
	3200 ppm	-
SOILED PERI GENITALIA	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
LACRYMATION	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
GUM	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
EYE HEMORRHAGIC DISCHA	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 23

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	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	3	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
CLOSED EYELID	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	1	1	1	0	0	1
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
NOSE HEMORRHAGIC DISCHA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	3	6	1	1	1	1	1	1	1	1	1	0	1	1
	800 ppm	1	5	0	0	1	0	0	0	1	0	0	0	0	0
	1600 ppm	0	9	0	0	0	0	1	0	0	0	0	0	0	0
	3200 ppm	0	7	-	-	-	-	-	-	-	-	-	-	-	-
NOSE SEROUS DISCHARGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	1	1	0	0	0	1	1	1	0	0	0	0	0	0
	800 ppm	0	1	0	0	1	0	0	0	0	1	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	5	-	-	-	-	-	-	-	-	-	-	-	-
NOSE MUCINOUS DISCHARGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
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
EYE OPACITY	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
CLOSED EYELID	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
NOSE HEMORRHAGIC DISCHA	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	1
	3200 ppm	-
NOSE SEROUS DISCHARGE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
NOSE MUCINOUS DISCHARGE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 25

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
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY INHIBITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	1	1	1	1	2	1	1	0	1	0
	800 ppm	2	1	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	2	2	0	0	1	1	1	1	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
DYSPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	1	1	0	0	1	1	0	1	2	1	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
GASPING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	1	0	1	1	0	0	1	1	0	1	1	1	0	1
	800 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	7	4	0	0	0	0	0	0	0	1	0	0	0	1
	800 ppm	4	3	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	3200 ppm	7	7	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 26

Clinical sign	Group Name	Administration Week-day
		2-7
		1
ANEMIA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
RESPIRATORY INHIBITION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
DYSPNEA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
GASPING	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
IRREGULAR BREATHING	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 27

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
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	7	4	1	1	1	1	0	0	0	0	0	0	0	0
	800 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	1	1	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
LOOSE STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	1	1	1	1	1	1	0	0	0	1	1	1
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	5	3	1	1	0	0	2	2	1	2	2	1	1	1
	800 ppm	2	1	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
SALIVATION	Control	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	1	1	2	0	0	0	0	0	0
	800 ppm	0	1	0	0	0	0	0	0	0	0	1	0	0	3
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	2	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 28

Clinical sign	Group Name	Administration Week-day
		2-7
		1
RESPIRATORY SOUND ABNOR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
NOISY	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
LOOSE STOOL	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
SUBNORMAL TEMP	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	-
SALIVATION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	-

APPENDIX B 1-3

CLINICAL OBSERVATION (TWO-WEEK STUDIES: SUMMARY)

MOUSE: MALE

STUDY NO. : 0048
 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	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	2	3	1	2	0	0	2	3	3	0	6	1
	400 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
PRONE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	3	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	3	-	-	-	-	-	-	-	-	-	-	-	-
LATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	7	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	7	-	-	-	-	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	10	9	4	4	1	1	0	2	3	3	2	2
	400 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0048
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	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
LOCOMOTOR MOVEMENT DECR	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
PRONE	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
LATERAL	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
HUNCHBACK POSITION	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	2
	400 ppm	-
	800 ppm	-

STUDY NO. : 0048
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
ATAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
TREMOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	6	6	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
SOILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	400 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	100 ppm	0	0	1	1	0	1	0	0	2	2	0	0	2	0
	200 ppm	0	2	10	10	5	9	4	3	4	4	5	4	4	4
	400 ppm	4	4	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
LOSS OF HAIR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0048
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
ATAXIC GAIT	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
TREMOR	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
SOILED	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
PILOERECTION	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	4
	400 ppm	-
	800 ppm	-
LOSS OF HAIR	Control	0
	50 ppm	1
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-

STUDY NO. : 0048
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	1
SOILED PERI GENITALIA	Control	0	0	2	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	1	0	0	0	0	1	1	1	0	0	0
	100 ppm	0	0	0	1	1	1	0	0	1	2	0	1	0	0
	200 ppm	0	0	2	4	1	0	0	1	0	0	0	0	1	0
	400 ppm	3	3	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
LACRYMATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	8	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
NOSE SEROUS DISCHARGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY INHIBITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	5	5	-	-	-	-	-	-	-	-	-	-	-	-
GASPING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0048
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
SOILED PERI GENITALIA	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
LACRYMATION	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
NOSE SEROUS DISCHARGE	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
RESPIRATORY INHIBITION	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
GASPING	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-

STUDY NO. : 0048
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
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	1	1	1	0	0	0	0	0	0	0	0
	400 ppm	8	8	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
LOOSE STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	1	2	0	0	0	0	0	0	0	0
	400 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	4	4	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-

(HAN190)

BAIS2

STUDY NO. : 0048
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
IRREGULAR BREATHING	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
LOOSE STOOL	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
SUBNORMAL TEMP	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-

(HAN190)

BAIS2

APPENDIX B 1-4

CLINICAL OBSERVATION (TWO-WEEK STUDIES: SUMMARY)

MOUSE: FEMALE

STUDY NO. : 0048
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

SEX : FEMALE

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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	1	1	1	1	1	2	3	5	5	5	5	5	5
	400 ppm	0	10	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	9	10	-	-	-	-	-	-	-	-	-	-	-
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	4	2	0	1	0	3	2	1	4	5	5	3	3	3
	400 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	4	7	1	-	-	-	-	-	-	-	-	-	-	-
PRONE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	1	6	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	2	0	-	-	-	-	-	-	-	-	-	-	-
LATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	1	1	2	0	0	0	0	0
	400 ppm	1	4	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	1	7	1	-	-	-	-	-	-	-	-	-	-	-
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	6	9	9	9	1	1	1	1	5	5	5	5	5	5
	400 ppm	8	8	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	9	9	1	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE : 10

Clinical sign	Group Name	Administration Week-day
		2-7
		1
DEATH	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	6
	400 ppm	-
	800 ppm	-
LOCOMOTOR MOVEMENT DECR	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	3
	400 ppm	-
	800 ppm	-
PRONE	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
LATERAL	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	1
	400 ppm	-
	800 ppm	-
HUNCHBACK POSITION	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	5
	400 ppm	-
	800 ppm	-

STUDY NO. : 0048
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
BODY SAG	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	2	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
ATAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	2	2	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	7	7	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	1	3	1	-	-	-	-	-	-	-	-	-	-	-
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	1	1	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	1	1	0	-	-	-	-	-	-	-	-	-	-	-
CONVULSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	1	1	0	-	-	-	-	-	-	-	-	-	-	-
TREMOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	2	2	0	0	0	0	0	0	2	3	4	3	1	0
	400 ppm	7	7	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	1	3	1	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0048
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
BODY SAG	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
ATAXIC GAIT	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
PARALYTIC GAIT	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
CONVULSION	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
TREMOR	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-

STUDY NO. : 0048
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
SOUND-RESPONSE, DECREASED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	2	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
TOUCH-RESPONSE, DISAPPEAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	2	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
RIGHTING REFLEX REDUCE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	1	1	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
WEAKNESS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	1	1	0	0	0	0	0	0	0
	400 ppm	3	3	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
PILORECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	9	8	8	8	2	7	3	2	5	5	5	5	5	5
	400 ppm	10	10	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	9	10	1	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0048
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
SOUND-RESPONSE.DECREASED	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
TOUCH-RESPONSE.DISAPPEAR	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
RIGHTING REPLEX REDUCE	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
WEAKNESS	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
PILOERECTION	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	5
	400 ppm	-
	800 ppm	-

STUDY NO. : 0048
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
LACRYMATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	1	0	0	0	0	1	1	0	0	0	0	0	0
	400 ppm	0	9	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	8	1	-	-	-	-	-	-	-	-	-	-	-
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	3	0	-	-	-	-	-	-	-	-	-	-	-
RESPIRATORY INHIBITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	1	1	0	0	0	1	1	0	0	0	5	0	0	0
	400 ppm	3	3	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	1	2	1	-	-	-	-	-	-	-	-	-	-	-
DYSPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	1	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	1	0	-	-	-	-	-	-	-	-	-	-	-
GASPING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	400 ppm	1	5	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	1	0	-	-	-	-	-	-	-	-	-	-	-

STUDY NO. : 0048
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
LACRYMATION	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	1
	400 ppm	-
	800 ppm	-
EYE OPACITY	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
RESPIRATORY INHIBITION	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	1
	400 ppm	-
	800 ppm	-
DYSPNEA	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
GASPING	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-

STUDY NO. : 0048
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
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	2	2	1	1	0	0	0	0	0	0	0	0	0	0
	400 ppm	6	8	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	1	3	0	-	-	-	-	-	-	-	-	-	-	-
DIARRHEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	0	0	-	-	-	-	-	-	-	-	-	-	-
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	1	0	0	0	1	1	0	3	2	1	0	0	0
	400 ppm	7	8	-	-	-	-	-	-	-	-	-	-	-	-
	800 ppm	0	3	1	-	-	-	-	-	-	-	-	-	-	-

(HAN190)

BAIS2

STUDY NO. : 0048
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
IRREGULAR BREATHING	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-
DIARRHEA	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	1
	400 ppm	-
	800 ppm	-
SUBNORMAL TEMP	Control	0
	50 ppm	0
	100 ppm	0
	200 ppm	0
	400 ppm	-
	800 ppm	-

(HAN190)

BAIS2

APPENDIX B 2-1

BODY WEIGHT CHANGES (TWO-WEEK STUDIES: SUMMARY)

RAT: MALE

STUDY NO. : 0047
 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		1-2		1-3		1-7		2-3		2-7	
Control		128±	4	132±	4	135±	5	138±	4	150±	8	168±	5	185±	7
200 ppm		128±	4	131±	5	134±	6	137±	6	153±	9	167±	10	184±	11
400 ppm		128±	4	127±	5	114±	9**	107±	11**	-		-		-	
800 ppm		128±	4	126±	6*	116±	9**	114±	12*	120±	30	129±	36*	163±	16**
1600 ppm		128±	4	114±	5**	107±	7**	98±	7**	94±	2*	87±	2**	80±	3**
3200 ppm		128±	5	117±	4**	-		-		-		-		-	

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

Test of Dunnett

(HAN260)

BAIS2

APPENDIX B 2-2

BODY WEIGHT CHANGES (TWO-WEEK STUDIES: SUMMARY)

RAT: FEMALE

STUDY NO. : 0047
 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		1-2		1-3		1-7		2-3	
Control	105±	3	107±	3	109±	2	111±	3	119±	3	126±	5
200 ppm	105±	3	106±	4	108±	4	110±	5	120±	5	127±	6
400 ppm	105±	3	95±	6**	94±	11	94±	15	83±	28	82±	39
800 ppm	105±	3	97±	5**	101±	6	101±	5	108±	7	112±	6
1600 ppm	105±	3	94±	2**	90±	7	85±	11	89±	0	83±	0
3200 ppm	105±	3	97±	4**	-		-		-		-	

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

Test of Dunnett

(HAN260)

BAIS2

APPENDIX B 2-3

BODY WEIGHT CHANGES (TWO-WEEK STUDIES: SUMMARY)

MOUSE: MALE

STUDY NO. : 0048
 ANIMAL : MOUSE BDF1
 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	1-2	1-3	1-7	2-3	2-7
Control	24.3± 0.9	24.0± 1.1	24.1± 1.2	24.3± 1.3	25.5± 1.5	26.0± 1.4	26.4± 1.8
50 ppm	24.3± 1.0	24.1± 0.9	24.1± 1.0	24.4± 0.8	25.2± 0.7	25.5± 0.7	25.8± 0.8
100 ppm	24.4± 0.9	24.0± 1.0	23.9± 1.0	24.3± 1.2	25.2± 1.0	25.6± 1.4	26.1± 1.3
200 ppm	24.4± 1.0	23.3± 0.9	23.4± 0.7	23.2± 1.2	23.9± 2.3	22.6± 2.9*	23.0± 2.6*
400 ppm	24.4± 1.0	21.5± 0.8**	-	-	-	-	-
800 ppm	24.4± 1.0	21.7± 0.9**	-	-	-	-	-

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

Test of Dunnett

(HAN260)

BAIS2

APPENDIX B 2-4

BODY WEIGHT CHANGES (TWO-WEEK STUDIES: SUMMARY)

MOUSE: FEMALE

STUDY NO. : 0048
 ANIMAL : MOUSE BDF1
 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	1-2	1-3	1-7	2-3	2-7
Control	19.4± 0.8	18.5± 0.8	18.7± 0.9	19.2± 0.8	19.6± 0.8	20.2± 1.0	21.2± 1.1
50 ppm	19.5± 0.8	19.0± 0.5	19.4± 0.6	19.6± 0.7	20.5± 0.6	20.3± 1.0	21.2± 1.0
100 ppm	19.5± 0.8	19.1± 0.4	19.2± 0.7	19.4± 0.9	20.3± 0.8	20.8± 0.7	21.4± 0.7
200 ppm	19.5± 0.8	17.3± 1.0**	17.2± 1.5	17.3± 1.2	18.9± 2.0	14.9± 0.7	16.5± 1.7
400 ppm	19.5± 0.8	17.1± 0.5**	-	-	-	-	-
800 ppm	19.5± 0.8	17.0± 0.8**	17.8± 0.0	-	-	-	-

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

(HAN260)

BAIS2

APPENDIX B 3-1

FOOD CONSUMPTION CHANGES (TWO-WEEK STUDIES: SUMMARY)

RAT: MALE

STUDY NO. : 0047
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	15.0± 1.4	16.6± 1.1
200 ppm	16.3± 1.6	17.6± 2.2
400 ppm	-	-
800 ppm	8.9± 4.8	14.2± 1.4
1600 ppm	4.3± 0.3	6.4± 2.5**
3200 ppm	-	-

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

Test of Dunnett

(HAN260)

BAIS2

APPENDIX B 3-2

FOOD CONSUMPTION CHANGES (TWO-WEEK STUDIES: SUMMARY)

RAT: FEMALE

STUDY NO. : 0047
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	11.5± 0.6	12.0± 0.8
200 ppm	12.1± 0.6	12.3± 0.4
400 ppm	5.0± 4.2	6.1± 8.4
800 ppm	7.3± 1.5	9.2± 1.4
1600 ppm	4.7± 0.0	4.4± 0.0
3200 ppm	-	-

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

Test of Dunnett

(HAN260)

BAIS 2

APPENDIX B 3-3

FOOD CONSUMPTION CHANGES (TWO-WEEK STUDIES: SUMMARY)

MOUSE: MALE

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
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	4.2± 0.5	4.1± 0.4
50 ppm	4.1± 0.2	4.1± 0.2
100 ppm	4.3± 0.3	4.1± 0.4
200 ppm	3.7± 0.8	3.8± 0.7
400 ppm	-	-
800 ppm	-	-

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

Test of Dunnett

(HAN260)

BAIS 2

APPENDIX B 3-4

FOOD CONSUMPTION CHANGES (TWO-WEEK STUDIES: SUMMARY)

MOUSE: FEMALE

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
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	3.2± 0.3	3.6± 0.3
50 ppm	3.3± 0.2	3.6± 0.2
100 ppm	3.5± 0.2	3.8± 0.2
200 ppm	3.0± 0.4	3.3± 1.6
400 ppm	-	-
800 ppm	-	-

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

Test of Dunnett

(HAN260)

BAIS 2

APPENDIX B 4-1

GROSS FINDINGS (TWO-WEEK STUDIES: SUMMARY)

RAT: MALE: DEAD AND MORIBUND ANIMALS

STUDY NO. : 0047
 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 (%)	200 ppm 0 (%)	400 ppm 10 (%)	800 ppm 7 (%)
lung	red		- (-)	- (-)	6 (60)	6 (86)
	red patch/zone		- (-)	- (-)	4 (40)	1 (14)
thymus	atrophic		- (-)	- (-)	0 (0)	1 (14)
	red		- (-)	- (-)	0 (0)	1 (14)
	red patch/zone		- (-)	- (-)	3 (30)	3 (43)
heart	black patch/zone		- (-)	- (-)	0 (0)	0 (0)
stomach	red patch/zone		- (-)	- (-)	1 (10)	0 (0)
	hemorrhage		- (-)	- (-)	0 (0)	0 (0)
duodenum	red patch/zone		- (-)	- (-)	1 (10)	1 (14)
pancreas	red		- (-)	- (-)	1 (10)	0 (0)
kidney	enlarged		- (-)	- (-)	1 (10)	0 (0)
abdominal c	ascites		- (-)	- (-)	0 (0)	1 (14)
thoracic ca	pleural fluid		- (-)	- (-)	0 (0)	1 (14)
whole body	wasting		- (-)	- (-)	0 (0)	3 (43)

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

PAGE : 2

Organ	Findings	Group Name	1600 ppm	3200 ppm
		NO. of Animals	6 (%)	10 (%)
lung	red		5 (83)	8 (80)
	red patch/zone		1 (17)	1 (10)
thymus	atrophic		0 (0)	0 (0)
	red		0 (0)	0 (0)
	red patch/zone		6 (100)	2 (20)
heart	black patch/zone		0 (0)	1 (10)
stomach	red patch/zone		0 (0)	0 (0)
	hemorrhage		0 (0)	1 (10)
duodenum	red patch/zone		0 (0)	0 (0)
pancreas	red		0 (0)	0 (0)
kidney	enlarged		0 (0)	3 (30)
abdominal c	ascites		0 (0)	0 (0)
thoracic ca	pleural fluid		1 (17)	10 (100)
whole body	wasting		0 (0)	0 (0)

(HPT080)

BAIS 2

APPENDIX B 4-2

GROSS FINDINGS (TWO-WEEK STUDIES: SUMMARY)

RAT: FEMALE: DEAD AND MORIBUND ANIMALS

STUDY NO. : 0047
 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	Control 0 (%)	200 ppm 0 (%)	400 ppm 9 (%)	800 ppm 7 (%)
trachea	fluid:foamy		- (-)	- (-)	0 (0)	0 (0)
lung	red		- (-)	- (-)	7 (78)	6 (86)
	red patch/zone		- (-)	- (-)	0 (0)	1 (14)
thymus	atrophic		- (-)	- (-)	2 (22)	0 (0)
	red patch/zone		- (-)	- (-)	4 (44)	3 (43)
	hemorrhage		- (-)	- (-)	0 (0)	0 (0)
stomach	hemorrhage		- (-)	- (-)	1 (11)	0 (0)
	gas		- (-)	- (-)	0 (0)	0 (0)
kidney	enlarged		- (-)	- (-)	0 (0)	0 (0)
thoracic ca	pleural fluid		- (-)	- (-)	0 (0)	1 (14)
whole body	wasting		- (-)	- (-)	1 (11)	0 (0)

(HPT080)

BAIS 2

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 4

Organ	Findings	Group Name	1600 ppm	3200 ppm
		NO. of Animals	9 (%)	10 (%)
trachea	fluid:foamy		1 (11)	0 (0)
lung	red		7 (78)	10 (100)
	red patch/zone		0 (0)	0 (0)
thymus	atrophic		0 (0)	0 (0)
	red patch/zone		2 (22)	0 (0)
	hemorrhage		1 (11)	0 (0)
stomach	hemorrhage		0 (0)	0 (0)
	gas		1 (11)	0 (0)
kidney	enlarged		0 (0)	1 (10)
thoracic ca	pleural fluid		5 (56)	8 (80)
whole body	wasting		0 (0)	0 (0)

(HPT080)

BAIS 2

APPENDIX B 4-3

GROSS FINDINGS (TWO-WEEK STUDIES: SUMMARY)

RAT: MALE: SACRIFICED ANIMALS

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2w)

PAGE : 1

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	200 ppm 10 (%)	400 ppm 0 (%)	800 ppm 3 (%)
lung	red		0 (0)	1 (10)	- (-)	0 (0)
thymus	atrophic		0 (0)	0 (0)	- (-)	0 (0)
	red patch/zone		0 (0)	1 (10)	- (-)	0 (0)
spleen	atrophic		0 (0)	0 (0)	- (-)	0 (0)
pancreas	atrophic		0 (0)	0 (0)	- (-)	0 (0)
testis	atrophic		0 (0)	0 (0)	- (-)	0 (0)

(HPT080)

BAIS 2

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 2

Organ	Findings	Group Name	1600 ppm	3200 ppm
		NO. of Animals	3 (%)	0 (%)
lung	red		0 (0)	- (-)
thymus	atrophic		3 (100)	- (-)
	red patch/zone		0 (0)	- (-)
spleen	atrophic		3 (100)	- (-)
pancreas	atrophic		3 (100)	- (-)
testis	atrophic		3 (100)	- (-)

(HPT080)

BAIS 2

APPENDIX B 4-4

GROSS FINDINGS (TWO-WEEK STUDIES: SUMMARY)

RAT: FEMALE: SACRIFICED ANIMALS

△
STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 3

Organ	Findings	Group Name NO. of Animals	Control 9 (%)	200 ppm 9 (%)	400 ppm 1 (%)	800 ppm 1 (%)
thymus	red patch/zone		0 (0)	1 (11)	0 (0)	0 (0)

(HPT080)

BAIS2

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 4

Organ	Findings	Group Name	1600 ppm	3200 ppm
		NO. of Animals	1 (%)	0 (%)
thymus	red patch/zone		0 (0)	- (-)

(HPT080)

BAIS 2

APPENDIX B 4-5

GROSS FINDINGS (TWO-WEEK STUDIES: SUMMARY)

MOUSE: MALE: DEAD AND MORIBUND ANIMALS

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
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 (%)	50 ppm 0 (%)	100 ppm 0 (%)	200 ppm 0 (%)
lung	red		- (-)	- (-)	- (-)	- (-)
	red patch/zone		- (-)	- (-)	- (-)	- (-)
spleen	pale		- (-)	- (-)	- (-)	- (-)
	black patch/zone		- (-)	- (-)	- (-)	- (-)
stomach	hemorrhage		- (-)	- (-)	- (-)	- (-)
liver	pale		- (-)	- (-)	- (-)	- (-)
	red		- (-)	- (-)	- (-)	- (-)
pancreas	red		- (-)	- (-)	- (-)	- (-)

(HPT080)

BAIS2

APPENDIX B 4-6

GROSS FINDINGS (TWO-WEEK STUDIES: SUMMARY)

MOUSE: FEMALE: DEAD AND MORIBUND ANIMALS

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 3

Organ	Findings	Group Name NO. of Animals	Control 0 (%)	50 ppm 0 (%)	100 ppm 0 (%)	200 ppm 6 (%)
lung	red		- (-)	- (-)	- (-)	4 (67)
	red patch/zone		- (-)	- (-)	- (-)	1 (17)
thymus	atrophic		- (-)	- (-)	- (-)	1 (17)
stomach	red patch/zone		- (-)	- (-)	- (-)	0 (0)
	hemorrhage		- (-)	- (-)	- (-)	2 (33)
liver	pale		- (-)	- (-)	- (-)	2 (33)
uterus	dilated lumen		- (-)	- (-)	- (-)	1 (17)

(HPT080)

BAIS2

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 4

Organ	Findings	Group Name	400 ppm	800 ppm
		NO. of Animals	10 (%)	10 (%)
lung	red		9 (90)	6 (60)
	red patch/zone		0 (0)	2 (20)
thymus	atrophic		0 (0)	0 (0)
stomach	red patch/zone		0 (0)	1 (10)
	hemorrhage		6 (60)	1 (10)
liver	pale		6 (60)	5 (50)
uterus	dilated lumen		1 (10)	1 (10)

(HPT080)

BAIS2

APPENDIX B 4-7

GROSS FINDINGS (TWO-WEEK STUDIES: SUMMARY)

MOUSE: MALE: SACRIFICED ANIMALS

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 1

Organ_____	Findings_____	Group Name NO. of Animals	Control	50 ppm	100 ppm	200 ppm
			10 (%)	10 (%)	10 (%)	10 (%)
thymus	atrophic		0 (0)	0 (0)	0 (0)	2 (20)
spleen	black patch/zone		1 (10)	0 (0)	0 (0)	0 (0)
testis	atrophic		1 (10)	0 (0)	0 (0)	0 (0)

(HPT080)

BAIS 2

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 2

Organ_____	Findings_____	Group Name	400 ppm	800 ppm
		NO. of Animals	0 (%)	0 (%)
thymus	atrophic		- (-)	- (-)
spleen	black patch/zone		- (-)	- (-)
testis	atrophic		- (-)	- (-)

(HPT080)

BAIS2

APPENDIX B 4-8

GROSS FINDINGS (TWO-WEEK STUDIES: SUMMARY)

MOUSE: FEMALE: SACRIFICED ANIMALS

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 3

Organ_____	Findings_____	Group Name	Control	50 ppm	100 ppm	200 ppm
		NO. of Animals	10 (%)	10 (%)	10 (%)	4 (%)
thymus	atrophic		0 (0)	0 (0)	0 (0)	4 (100)
spleen	black patch/zone		0 (0)	1 (10)	0 (0)	0 (0)
uterus	dilated lumen		8 (80)	4 (40)	4 (40)	0 (0)

(HPT080)

BAIS2

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

PAGE : 4

Organ	Findings	Group Name	400 ppm	800 ppm
		NO. of Animals	0 (%)	0 (%)
thymus	atrophic		- (-)	- (-)
spleen	black patch/zone		- (-)	- (-)
uterus	dilated lumen		- (-)	- (-)

(HPT080)

BAIS2

APPENDIX B 5-1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS

(TWO-WEEK STUDIES : SUMMARY)

RAT : MALE : DEAD AND MORIBUND ANIMALS

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name No. of Animals				Control 0				200 ppm 0				400 ppm 4				800 ppm 3			
		<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	-	-	-	-	-	-	-	-	-	-	-	-	2	1	0	0	2	1	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(50)	(25)	(0)	(0)	(67)	(33)	(0)	(0)
	atrophy:olfactory epithelium	-	-	-	-	-	-	-	-	-	-	-	-	1	3	0	0	0	3	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(75)	(0)	(0)	(0)	(100)	(0)	(0)
lung/branch	congestion	-	-	-	-	-	-	-	-	-	-	-	-	0	3	1	0	0	2	1	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(75)	(25)	(0)	(0)	(67)	(33)	(0)
[Hematopoietic system]																					
bone marrow	congestion	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
thymus	atrophy	-	-	-	-	-	-	-	-	-	-	-	-	0	0	1	0	0	1	1	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(25)	(0)	(0)	(33)	(33)	(0)
	hemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	2	0	0	0	1	1	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(50)	(0)	(0)	(0)	(33)	(33)	(0)	(0)
spleen	atrophy	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0	1	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(0)	(0)	(0)	(33)	(0)	(0)	(0)
	congestion	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Circulatory system]																					
heart	dilatation	-	-	-	-	-	-	-	-	-	-	-	-	3	0	0	0	1	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(75)	(0)	(0)	(0)	(33)	(0)	(0)	(0)
	myocarditis	-	-	-	-	-	-	-	-	-	-	-	-	2	0	0	0	1	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(50)	(0)	(0)	(0)	(33)	(0)	(0)	(0)

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

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

PAGE : 2

Organ	Findings	Group Name No. of Animals				1600 ppm 2				3200 ppm 2			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]													
nasal cavit	disarrangement:olfactory epithelium	0	0	0	0	1	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(50)	(0)	(0)	(0)
	atrophy:olfactory epithelium	0	0	0	0	1	1	0	0	1	1	0	0
		(0)	(0)	(0)	(0)	(50)	(50)	(0)	(0)	(50)	(50)	(0)	(0)
lung/branch	congestion	0	2	0	0	0	2	0	0	0	2	0	0
		(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)
[Hematopoietic system]													
bone marrow	congestion	0	0	0	0	1	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(50)	(0)	(0)	(0)
thymus	atrophy	0	0	1	0	0	0	0	0	0	0	0	0
		(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hemorrhage	0	2	0	0	1	0	0	0	1	0	0	0
		(0)	(100)	(0)	(0)	(50)	(0)	(0)	(0)	(50)	(0)	(0)	(0)
spleen	atrophy	1	0	0	0	0	0	0	0	0	0	0	0
		(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	congestion	1	0	0	0	0	0	0	0	0	0	0	0
		(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Circulatory system]													
heart	dilatation	2	0	0	0	2	0	0	0	2	0	0	0
		(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
	myocarditis	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. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

PAGE : 3

Organ	Findings	Group Name No. of Animals				Control 0				200 ppm 0				400 ppm 4				800 ppm 3			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Digestive system]																					
liver	necrosis:focal	-	-	-	-	-	-	-	-	0	0	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	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Endocrine system]																					
adrenal	hemorrhage	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Reproductive system]																					
testis	atrophy	-	-	-	-	-	-	-	-	0	0	0	0	1	0	0	0	33	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(33)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
		<1>:Slight				<2>:Moderate				<3>:Marked				<4>:Severe							

(HPT150)

BAIS2

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

PAGE : 4

Organ	Findings	Group Name No. of Animals				1600 ppm 2				3200 ppm 2			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Digestive system]													
liver	necrosis:focal	0	0	0	0	0	1	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)
[Urinary system]													
kidney	tubular necrosis	0	1	0	0	0	0	2	0	0	0	100	0
		(0)	(50)	(0)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(0)	(0)
[Endocrine system]													
adrenal	hemorrhage	0	0	0	0	0	1	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)
[Reproductive system]													
testis	atrophy	0	0	0	0	1	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

<1>:Slight

<2>:Moderate

<3>:Marked

<4>:Severe

(HPT150)

BAIS2

APPENDIX B 5-2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS

(TWO-WEEK STUDIES : SUMMARY)

RAT : FEMALE : DEAD AND MORIBUND ANIMALS

STUDY NO. : 0047
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 No. of Animals				Control 0				200 ppm 0				400 ppm 4				800 ppm 1			
		<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	-	-	-	-	-	-	-	-	0	1	0	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(25)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	atrophy:olfactory epithelium	-	-	-	-	-	-	-	-	0	1	0	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(25)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
lung/branch	congestion	-	-	-	-	-	-	-	-	1	2	0	0	0	1	0	0	0	1	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(50)	(0)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(0)	(0)
	hemorrhage	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Hematopoietic system]																					
thymus	hemorrhage	-	-	-	-	-	-	-	-	1	1	1	0	1	0	0	0	1	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(25)	(25)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
	karyorrhexis	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
spleen	congestion	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Circulatory system]																					
heart	dilatation	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Digestive system]																					
liver	necrosis:focal	-	-	-	-	-	-	-	-	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. : 0047
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 6

Organ	Findings	Group Name No. of Animals				1600 ppm 3				3200 ppm 2			
		<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)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	atrophy:olfactory epithelium	1	0	0	0	0	0	0	0	0	0	0	0
		(33)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
lung/branch	congestion	0	2	0	0	0	2	0	0	0	2	0	0
		(0)	(67)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)
	hemorrhage	1	0	0	0	0	0	0	0	0	0	0	0
		(33)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Hematopoietic system]													
thymus	hemorrhage	0	0	0	0	1	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(50)	(0)	(0)	(0)
	karyorrhexis	1	0	0	0	0	0	0	0	0	0	0	0
		(33)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
spleen	congestion	0	0	0	0	0	1	0	0	0	1	0	0
		(0)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(50)	(0)	(0)
[Circulatory system]													
heart	dilatation	1	1	0	0	0	0	0	0	0	0	0	0
		(33)	(33)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Digestive system]													
liver	necrosis:focal	1	0	0	0	0	0	0	0	0	0	0	0
		(33)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 7

		Group Name				Control				200 ppm				400 ppm				800 ppm			
		No. of Animals				0				0				4				1			
Organ	Findings	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Urinary system]																					
kidney	tubular necrosis	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Endocrine system]																					
adrenal	hemorrhage	-	-	-	-	-	-	-	-	0	0	1	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(25)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Nervous system]																					
spinal cord	hemorrhage	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(25)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
		<1>:Slight				<2>:Moderate				<3>:Marked				<4>:Severe							

(HPT150)

BAIS2

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 8

Organ	Findings	Group Name No. of Animals				1600 ppm 3				3200 ppm 2			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Urinary system]													
kidney	tubular necrosis	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)				
[Endocrine system]													
adrenal	hemorrhage	1 (33)	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)				
[Nervous system]													
spinal cord	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)				

<1>:Slight

<2>:Moderate

<3>:Marked

<4>:Severe

(HPT150)

BAIS2

APPENDIX B 5-3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS

(TWO-WEEK STUDIES : SUMMARY)

RAT : MALE : SACRIFICED ANIMALS

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

PAGE : 1

		Group Name	Control				200 ppm				400 ppm				800 ppm			
		No. of Animals	2				2				0				2			
Organ	Findings		<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	-	-	-	-	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(100)	(0)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	-	-	-	-	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
lung/branch	hemorrhage		0	0	0	0	0	0	0	0	-	-	-	-	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(50)	(0)	(0)	(0)
[Hematopoietic system]																		
bone marrow	congestion		0	0	0	0	0	0	0	0	-	-	-	-	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
thymus	atrophy		0	0	0	0	0	0	0	0	-	-	-	-	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
[Digestive system]																		
liver	necrosis:focal		0	0	0	0	0	0	0	0	-	-	-	-	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
pancreas	atrophy		0	0	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	-	-	-	-	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
	regeneration:cortico-medullary junction		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. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

PAGE : 2

Organ	Findings	Group Name No. of Animals				1600 ppm 2				3200 ppm 0			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]													
nasal cavity	disarrangement:olfactory epithelium	0	0	0	0	-	-	-	-	-	-	-	-
		(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	atrophy:olfactory epithelium	2	0	0	0	-	-	-	-	-	-	-	-
		(100)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
lung/branch	hemorrhage	0	0	0	0	-	-	-	-	-	-	-	-
		(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Hematopoietic system]													
bone marrow	congestion	1	0	0	0	-	-	-	-	-	-	-	-
		(50)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
thymus	atrophy	0	0	2	0	-	-	-	-	-	-	-	-
		(0)	(0)	(100)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Digestive system]													
liver	necrosis:focal	1	1	0	0	-	-	-	-	-	-	-	-
		(50)	(50)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
pancreas	atrophy	0	2	0	0	-	-	-	-	-	-	-	-
		(0)	(100)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Urinary system]													
kidney	tubular necrosis	0	1	0	0	-	-	-	-	-	-	-	-
		(0)	(50)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	regeneration:cortico-medullary junction	0	1	0	0	-	-	-	-	-	-	-	-
		(0)	(50)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

PAGE : 3

Organ	Findings	Group Name	Control				200 ppm				400 ppm				800 ppm			
		No. of Animals	2				2				0				2			
			<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Endocrine system]																		
adrenal	hemorrhage		0	0	0	0	0	0	0	0	-	-	-	-	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
	necrosis:focal		0	0	0	0	0	0	0	0	-	-	-	-	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
[Reproductive system]																		
testis	atrophy		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											
(HPT150)																		

STUDY NO. : 0047
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 4

Organ	Findings	Group Name No. of Animals				1600 ppm 2				3200 ppm 0			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

[Endocrine system]

adrenal	hemorrhage	2	0	0	0	-	-	-	-	-	-	-	-
		(100)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	necrosis:focal	1	0	0	0	-	-	-	-	-	-	-	-
		(50)	(0)	(0)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

[Reproductive system]

testis	atrophy	0	0	2	0	-	-	-	-	-	-	-	-
		(0)	(0)	(100)	(0)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

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

(HPT150)

BAIS2

APPENDIX B 5-4

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS

(TWO-WEEK STUDIES : SUMMARY)

RAT : FEMALE : SACRIFICED ANIMALS

STUDY NO. : 0047
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 5

Organ	Findings	Group Name No. of Animals	Control 2				200 ppm 2				400 ppm 1				800 ppm 2				
			<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)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)
[Hematopoietic system]																			
thymus	atrophy		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	karyorrhexis		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Digestive system]																			
liver	necrosis:focal		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 (50)	0 (0)	0 (0)	0 (0)	0 (0)
[Urinary system]																			
kidney	regeneration:cortico-medullary junction		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Special sense organs/appandage]																			
nasolacr d	inflammation		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)	0 (0)	0 (0)	0 (0)	0 (0)
			<1>:Slight	<2>:Moderate	<3>:Marked	<4>:Severe													

<1>:Slight

<2>:Moderate

<3>:Marked

<4>:Severe

STUDY NO. : 0047
 ANIMAL : RAT F344
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 6

Organ	Findings	Group Name No. of Animals				1600 ppm 1				3200 ppm 0			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]													
nasal cavit	disarrangement:olfactory epithelium	1 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Hematopoietic system]													
thymus	atrophy	0 (0)	1 (100)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	karyorrhexis	1 (100)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Digestive system]													
liver	necrosis:focal	0 (0)	1 (100)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Urinary system]													
kidney	regeneration:cortico-medullary junction	0 (0)	1 (100)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Special sense organs/appandage]													
nasolacr d	inflammation	0 (0)	0 (0)	0 (0)	0 (0)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

<1>:Slight

<2>:Moderate

<3>:Marked

<4>:Severe

APPENDIX B 5-5

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS

(TWO-WEEK STUDIES : SUMMARY)

MOUSE : MALE : DEAD AND MORIBUND ANIMALS

STUDY NO. : 0048
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 3

Organ	Findings	Group Name No. of Animals				Control 2				50 ppm 2				100 ppm 2				200 ppm 2			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Digestive system]																					
Liver	granulation	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

(HPT150)

BAIS2

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 4

Organ	Findings	Group Name No. of Animals				400 ppm				800 ppm				
		0				0				0				
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	

[Digestive system]

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

(HPT150)

BAIS2

APPENDIX B 5-6

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS

(TWO-WEEK STUDIES : SUMMARY)

MOUSE : FEMALE : DEAD AND MORIBUND ANIMALS

STUDY NO. : 0048
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name No. of Animals				Control 2				50 ppm 2				100 ppm 2				200 ppm 2			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Digestive system]																					
stomach	hyperplasia:forestomach	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)

(HPT150)

BAIS2

STUDY NO. : 0048
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

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

PAGE : 2

Organ	Findings	Group Name No. of Animals				400 ppm				800 ppm			
		<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)				

[Digestive system]

stomach	hyperplasia:forestomach	-	-	-	-	-	-	-	-
		(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

(HPT150)

BAIS2

APPENDIX B 5-7

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS

(TWO-WEEK STUDIES : SUMMARY)

MOUSE : MALE : SACRIFICED ANIMALS

STUDY NO. : 0048
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name	Control				50 ppm				100 ppm				200 ppm			
		No. of Animals	0				0				0				0			
			<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]																		
lung/branch	congestion		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	hemorrhage		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Circulatory system]																		
heart	dilatation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Digestive system]																		
stomach	erosion:glandular stomach		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	ulcer:glandular stomach		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
liver	vacuolic change		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
pancreas	vacuolic change		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
[Endocrine system]																		
pituitary	cyst		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

STUDY NO. : 0048
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 2

Organ	Findings	Group Name No. of Animals				400 ppm 2				800 ppm 2			
		<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]													
lung/branch	congestion	0	0	0	0	2	0	0	0	(100)	(0)	(0)	(0)
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hemorrhage	1	0	0	0	0	0	0	0	(0)	(0)	(0)	(0)
		(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Circulatory system]													
heart	dilatation	2	0	0	0	2	0	0	0	(100)	(0)	(0)	(0)
		(100)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Digestive system]													
stomach	erosion:glandular stomach	1	0	0	0	0	0	0	0	(0)	(0)	(0)	(0)
		(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	ulcer:glandular stomach	1	0	0	0	0	0	0	0	(0)	(0)	(0)	(0)
		(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver	vacuolic change	2	0	0	0	0	0	0	0	(0)	(0)	(0)	(0)
		(100)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
pancreas	vacuolic change	1	0	0	0	2	0	0	0	(100)	(0)	(0)	(0)
		(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
[Endocrine system]													
pituitary	cyst	1	0	0	0	0	0	0	0	(0)	(0)	(0)	(0)
		(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

APPENDIX B 5-8

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS

(TWO-WEEK STUDIES : SUMMARY)

MOUSE : FEMALE : SACRIFICED ANIMALS

STUDY NO. : 0048
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 3

Organ_____	Findings_____	Group Name	Control				50 ppm				100 ppm				200 ppm			
		No. of Animals	0				0				0				3			
			<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>	<1>	<2>	<3>	<4>
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
[Respiratory system]																		
lung/branch	congestion		-	-	-	-	-	-	-	-	-	-	-	-	1	2	0	0
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(33)	(67)	(0)	(0)
[Hematopoietic system]																		
thymus	atrophy		-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(33)	(0)	(0)	(0)
	hemorrhage		-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
[Circulatory system]																		
heart	dilatation		-	-	-	-	-	-	-	-	-	-	-	-	3	0	0	0
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(100)	(0)	(0)	(0)
[Digestive system]																		
liver	vacuolic change		-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(0)	(0)	(0)
pancreas	vacuolic change		-	-	-	-	-	-	-	-	-	-	-	-	0	1	0	0
			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(0)	(33)	(0)	(0)

STUDY NO. : 0048
 ANIMAL : MOUSE BDF1
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 4

		Group Name		400 ppm				800 ppm			
		No. of Animals		2				2			
Organ_____	Findings_____	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)		
[Respiratory system]											
lung/branch	congestion	1 (50)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)		
[Hematopoietic system]											
thymus	atrophy	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)		
	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)		
[Circulatory system]											
heart	dilatation	1 (50)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)		
[Digestive system]											
liver	vacuolic change	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)		
pancreas	vacuolic change	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)		

APPENDIX B 6-1

CONCENTRATION OF 1, 2-DICHLOROETHANE IN INHLATION CHAMBER

(TWO-WEEK STUDIES)

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

Group Name	Concentration (ppm)	
	Mean ±	S.D.
Control	0.0 ±	0.0
200ppm	198.6 ±	2.1
400ppm	398.5 ±	6.0
800ppm	800.1 ±	10.2
1600ppm	1614.1 ±	17.4
3200ppm	3205.0 ±	30.6

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

Group Name	Concentration (ppm)	
	Mean ±	S.D.
Control	0.0 ±	0.0
50ppm	52.2 ±	0.6
100ppm	101.2 ±	1.2
200ppm	200.7 ±	3.3
400ppm	404.6 ±	8.4
800ppm	805.4 ±	0.5

APPENDIX B 6-2

ENVIRONMENT OF INHLATION CHAMBER

(TWO-WEEK STUDIES)

ENVIRONMENT OF INHALATION CHAMBER

(RAT : TWO-WEEK 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	
Control	24.8	±	0.2	54.1	±	1.9	265.0	±	0.9	14.5	
200ppm	25.1	±	0.3	56.1	±	2.1	267.0	±	0.9	15.1	
400ppm	24.6	±	0.4	52.7	±	2.1	268.4	±	0.8	15.2	
800ppm	24.5	±	0.3	54.6	±	2.2	265.6	±	0.9	15.0	
1600ppm	24.6	±	0.4	56.4	±	2.6	263.1	±	1.0	14.9	
3200ppm	24.6	±	0.6	52.3	±	6.2	266.1	±	0.4	15.1	

ENVIRONMENT OF INHALATION CHAMBER

(MOUSE : TWO-WEEK 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	
Control	24.2	±	0.4	61.2	±	1.6	132.7	±	0.4	15.2	
50ppm	24.1	±	0.5	57.5	±	4.3	131.9	±	0.4	15.1	
100ppm	23.9	±	0.4	61.6	±	2.2	132.3	±	2.9	15.2	
200ppm	23.9	±	0.3	58.0	±	1.4	131.6	±	0.6	15.1	
400ppm	24.0	±	0.4	58.9	±	2.1	131.2	±	0.6	15.1	
800ppm	24.1	±	0.4	58.3	±	1.0	132.2	±	0.3	15.2	