テトラクロロエチレ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~A9-2)
2Week　STUDY　NO.　0079 ; 0080

APPENDIXES

APPENDIXES (CONTINUED)

APPENDIX A 1-1

CLINICAL OBSERVATION : SUMMARY, RAT : MALE

(2Week STUDY)

STUDY NO. : 0079
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
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	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	1	2	3	3	3	4
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	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	7	1	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	10	10	10	0	0	10	9	10	9	8	0	0	3	5
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	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	0	0	0	0	0	0
	3200 ppm	0	6	0	0	0	2	3	0	3	4	0	0	0	2
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	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	2	5	0	0	1	4	5	4	4	0	0	0	1
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	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	3	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	10	2	10	3	6	7	3	5	7	6	3	2	7	3

Clinical sign	Group Name	Administration Week-day 2-7 1
DEATH	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	5
LOCOMOTOR MOVEMENT DECR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PRONE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
LATERAL	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
HUNCHBACK POSITION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	4

STUDY NO. : 0079
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 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 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	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	3	2	1	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	3	0	2	0	0	0	4	3
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	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	0	0	0	0	0	0
	3200 ppm	10	9	9	0	0	10	7	5	0	0	0	0	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	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	5	0	0	0	0
SOUND-RESPONSE.INCREASED	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	1	0	0	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	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	0	0	0	0	0	0	0	6	0	0	0	0

Clinical sign	Group Name	Administration Week-day 2-7 1
ATAXIC GAIT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PARALYTIC GAIT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
SOUND-RESPONSE.DECREASED	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
SOUND-RESPONSE.INCREASED	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
TOUCH-RESPONSE.DISAPPEAR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

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
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	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	5	0	0	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	0	0	0	0	0	0	0	1	0	0	0	0	0
	800 ppm	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	1600 ppm	9	7	10	10	10	10	10	10	10	10	10	10	10	10
	3200 ppm	10	10	10	10	10	10	10	10	9	8	7	7	7	6
LOSS OF HAIR	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	2
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	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	1	0	0	0	0	0	0	1	0	0	0	0	0	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	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	4	4	1	0	0	1	0	0	0	0	0	0	0	0
	3200 ppm	8	10	10	0	0	10	10	10	9	8	0	0	7	6

Clinical sign	Group Name	Administration Week-day 2-7 1
RIGHTING REPLEX REDUCE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PILOERECTION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	8
	3200 ppm	5
LOSS OF HAIR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	2
SOILED PERI GENITALIA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	1
LACRYMATION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

Clinical sign	Group Name	Administration Week-day 0-0 1	1-1 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 1
GUM	Control	0	0	0	1	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	1	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	2	4	3	0	0	3	2	1	0	1	1	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	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	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIOSIS	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	8	0	0	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	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	6	0	0	0	1	4	0	2	2	0	0	0	0
	3200 ppm	4	4	9	6	6	0	6	6	4	8	0	0	6	4

Clinical sign	Group Name	Administration Week-day 2-7 1
GUM	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
EYE HEMORRHAGIC DISCHA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
EYE OPACITY	Control	1
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
MIOSIS	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
IRREGULAR BREATHING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	4

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	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	0	0	0	0	0	0
	3200 ppm	4	0	2	0	0	2	4	4	1	4	0	0	4	2
TACHYPNEA	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	0	0	0	0	0	0
	3200 ppm	9	0	6	0	0	2	0	1	0	0	0	0	1	0
BRADYPNEA	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	8	0	0	0	1
DEEP 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	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	7	4	0	0	9	8	10	8	6	0	0	3	6
SHALLOW 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	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	0	0	0	0	1	0	0	0	0	0	0	0

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	0
TACHYPNEA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
BRADYPNEA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
DEEP BREATHING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
SHALLOW BREATHING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

STUDY NO. : 0079
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
LOOSE STOOL	Control	0	2	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	2	0	1	1	0	0	0	0	0	0	0	0	0
	400 ppm	0	1	1	0	0	1	0	0	0	0	0	0	0	0
	800 ppm	0	1	1	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	0	0	0	0	0	1	2	0	0	1	1	0	2
	3200 ppm	0	0	1	1	2	3	1	2	3	0	0	0	4	1
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	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	1	0	0	0	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	0	0	0	0	3	2

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

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

APPENDIX A 1-2

CLINICAL OBSERVATION : SUMMARY, RAT : FEMALE

(2Week STUDY)

STUDY NO. : 0079
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 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 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	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	1	1	2	2	3	3	3	5	7
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	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	2	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	9	10	10	0	0	9	9	8	8	7	0	0	3	3
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	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	0	0	0	0	0	0
	3200 ppm	4	3	0	0	0	0	1	0	2	2	0	0	0	1
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	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	1	5	4	0	0	1	8	5	5	5	0	0	0	1
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	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	7	0	0	0	2	0	0	0	0	0	0	0	0
	3200 ppm	3	6	6	5	5	8	1	6	5	7	2	1	5	3

Clinical sign	Group Name	Administration Week-day 2-7 1
DEATH	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	7
LOCOMOTOR MOVEMENT DECR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PRONE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
LATERAL	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
HUNCHBACK POSITION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	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
	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	9	1	0	0	0	0	4	1
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	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	0	0	0	0	0	0
	3200 ppm	10	10	10	0	0	9	0	2	0	0	0	0	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	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	7	0	0	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	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	0	0	0	0	0	0	0	7	0	0	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	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	6	0	0	0	0

Clinical sign	Group Name	Administration Week-day 2-7 1
ATAXIC GAIT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PARALYTIC GAIT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
SOUND-RESPONSE.DECREASED	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
TOUCH-RESPONSE.DISAPPEAR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
RIGHTING REPLEX REDUCE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

Clinical sign	Group Name	Administration Week-day 0-0 1	1-1 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 1
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	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	0	0	0	0	0	0	0	0	3	3	2	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	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	2	2	1	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	1	8	6	6	3	2	1	0	0	0	0	0	0
	1600 ppm	1	10	10	10	10	9	9	9	9	8	1	1	10	7
	3200 ppm	10	10	10	10	10	9	9	8	8	7	7	7	5	3
LOSS OF HAIR	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	1	1
	400 ppm	0	0	0	0	0	0	0	0	1	1	1	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	0	0	0	1	1	1	1	1	1	1	1	0
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	0	0	0	0	0	0	0
	800 ppm	0	1	2	1	1	2	2	2	1	0	1	0	0	0
	1600 ppm	0	0	2	0	0	0	0	0	1	0	0	0	0	1
	3200 ppm	2	7	10	1	1	4	9	7	6	6	2	0	4	3

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

Clinical sign	Group Name	Administration Week-day 0-0 1	1-1 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 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	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	5	2	2	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	10	10	10	0	0	9	9	8	8	7	0	0	5	3
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	1	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	4	4	4	0	1	0	1	0	0	0	0	0
MIOSIS	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	7	0	0	0	0
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	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	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	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	2	0	0	0	0	0	1	0	0	0	0	0	0	0
	3200 ppm	7	2	2	7	7	0	9	2	6	7	0	0	5	2

Clinical sign	Group Name	Administration Week-day 2-7 1
LACRYMATION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
GUM	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
MIOSIS	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
NOSE SEROUS DISCHARGE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
IRREGULAR BREATHING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

STUDY NO. : 0079
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 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 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	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	2	0	0	3	2	4	3	5	0	0	1	2
TACHYPNEA	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	0	0	0	0	0	0
	3200 ppm	0	0	4	0	0	2	0	4	0	0	0	0	0	0
BRADYPNEA	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	0	0	0	0	0	0
	3200 ppm	0	5	0	0	0	0	2	0	3	5	0	0	0	0
DEEP 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	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	7	10	9	0	0	9	9	8	8	7	0	0	3	3
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	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	0	0	0	0	0	0	0	0	0	0	4	3

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	0
TACHYPNEA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
BRADYPNEA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
DEEP BREATHING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
SALIVATION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

APPENDIX A 1-3

CLINICAL OBSERVATION : SUMMARY, MOSUE : MALE

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 0-0 1	1-1 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 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	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	0	0	0	0	0	0
	3200 ppm	0	1	5	5	5	6	9	9	9	9	9	9	9	9
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	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	0	0	0	0	0	0
	3200 ppm	10	6	4	0	0	2	1	0	1	0	0	0	1	1
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	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	0	0	0	0	0	0
	3200 ppm	3	0	1	0	0	0	1	0	1	0	0	0	1	1
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	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	1	2	0	0	0	0	0	0	0	0	0	0	0	0
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	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	0	0	0	0	0	0
	3200 ppm	6	7	4	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 2-7 1
DEATH	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	9
LOCOMOTOR MOVEMENT DECR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PRONE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
LATERAL	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
HUNCHBACK POSITION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 0-0 1	1-1 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 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	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	2	5	1	0	0	0	0	0	0	0	0	0	0	0
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	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	0	0	0	0	0	0
	3200 ppm	8	2	0	0	0	1	0	0	0	0	0	0	0	0
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	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	1	0	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0
	3200 ppm	0	0	1	0	0	0	0	0	0	0	0	0	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	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	1	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 2-7 1
ATAXIC GAIT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PARALYTIC GAIT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
TREMOR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
SOUND-RESPONSE.DECREASED	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
TOUCH-RESPONSE.DISAPPEAR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
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
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	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	0	0	0	0	0	0
	3200 ppm	0	0	1	0	0	0	0	0	0	0	0	0	0	0
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	200 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	400 ppm	0	0	0	0	0	0	0	1	0	0	0	0	1	1
	800 ppm	0	0	0	0	0	0	1	1	1	0	0	0	1	1
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	3	1	5	0	0	1	1	1	1	1	1	0	0	1
LOSS OF HAIR	Control	0	0	0	0	0	0	1	1	1	2	2	2	2	2
	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	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1	0	1	1	0	0	0	1	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	1	0	1	0
	800 ppm	0	0	0	0	0	0	0	0	1	0	0	0	1	0
	1600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	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	10	1	2	0	0	0	1	0	0	0	0	0	0	1

Clinical sign	Group Name	Administration Week-day 2-7 1
RIGHTING REPLEX REDUCE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PILOERECTION	Control	0
	200 ppm	1
	400 ppm	2
	800 ppm	1
	1600 ppm	0
	3200 ppm	0
LOSS OF HAIR	Control	2
	200 ppm	0
	400 ppm	0
	800 ppm	1
	1600 ppm	1
	3200 ppm	0
SOILED PERI GENITALIA	Control	0
	200 ppm	1
	400 ppm	2
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
LACRYMATION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

Clinical sign	Group Name	Administration Week-day 0-0 1	1-1 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 1
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	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	1	1	0	0	3	0	0	0	0	0	0	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	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	3	1	0	0	0	1	1	1	0	0	0	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	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	2	5	0	0	0	1	1	0	1	0	0	0	1	0
TACHYPNEA	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	0	0	0	0	0	0
	3200 ppm	1	1	0	0	0	1	0	0	0	0	0	0	0	0
BRADYPNEA	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	0	0	0	0	0	0
	3200 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 2-7 1
GUM	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
IRREGULAR BREATHING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	1
RESPIRATORY SOUND ABNOR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
TACHYPNEA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
BRADYPNEA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 0-0 1	1-1 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 1
DEEP 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	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	9	4	1	0	0	0	1	0	1	0	0	0	1	1
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	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	1	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 2-7 1
DEEP BREATHING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
SUBNORMAL TEMP	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

APPENDIX A 1-4

CLINICAL OBSERVATION : SUMMARY, MOSUE: FEMALE

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
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
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	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	0	0	0	0	0	0
	3200 ppm	0	3	5	5	5	5	5	5	5	6	6	6	6	6
MORIBUND SACRIFICE	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
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	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	0	0	0	0	0	0
	3200 ppm	7	0	4	0	0	2	0	0	2	2	0	0	0	1
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	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	0	0	0	0	0	0
	3200 ppm	3	0	0	0	0	0	0	0	1	2	0	0	0	1
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	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	1	0	0	0	0	2	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 2-7 1
DEATH	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	6
MORIBUND SACRIFICE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	1
LOCOMOTOR MOVEMENT DECR	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PRONE	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
LATERAL	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

Clinical sign	Group Name	Administration Week-day 0-0 1	1-1 1	1-2 1	1-3 1	1-4 1	1-5 1	1-6 1	1-7 1	2-1 1	2-2 1	2-3 1	2-4 1	2-5 1	2-6 1
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	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	0	0	0	0	0	0
	3200 ppm	1	0	3	0	0	0	1	2	2	2	0	0	0	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	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	3	2	0	0	0	0	0	0	0	0	0	0	0	0
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	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	0	0	0	0	0	0
	3200 ppm	3	0	0	0	0	0	0	1	2	0	0	0	0	0
ROTATING	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	1	0	1	0	0	0	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	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	1	0	1	0	0	0	0	0
	3200 ppm	0	1	4	0	0	2	3	2	0	3	2	2	0	0

Clinical sign	Group Name	Administration Week-day 2-7 1
HUNCHBACK POSITION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
ATAXIC GAIT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PARALYTIC GAIT	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
ROTATING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
PILOERECTION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

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
LOSS OF HAIR	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	1
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600 ppm	0	1	1	1	1	1	1	1	1	1	1	1	0	0
	3200 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0
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	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	2	5	0	0	0	2	5	0	2	1	0	0	3	3
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	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	3	0	0	0	0	4	3	5	4	0	0	2	3
CYANOSIS	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	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	1	0	0	0	0	0	0	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	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	0	0	0	0	0	0
	3200 ppm	0	1	2	0	0	3	2	2	4	2	1	0	0	0

Clinical sign	Group Name	Administration Week-day 2-7 / 1
LOSS OF HAIR	Control	0
	200 ppm	0
	400 ppm	1
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
LACRYMATION	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
GUM	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
CYANOSIS	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
IRREGULAR BREATHING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	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
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	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	4	0	0	0	0	2	0	0	1	1	0	0	0	1
TACHYPNEA	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	0	0	0	0	0	0
	3200 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	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	0	0	0	0	0	0
	3200 ppm	1	0	0	0	0	1	0	0	1	1	0	0	0	0
DEEP 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	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	6	0	0	0	0	2	0	1	1	2	0	0	0	1
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	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	0	0	0	2	0	0	1	1	0	0	0	1

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	0
TACHYPNEA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
BRADYPNEA	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
DEEP BREATHING	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0
SUBNORMAL TEMP	Control	0
	200 ppm	0
	400 ppm	0
	800 ppm	0
	1600 ppm	0
	3200 ppm	0

APPENDIX A 2-1

BODY WEIGHT CHANGES :SUMMARY, RAT : MALE

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
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
Control	125± 4	128± 5	131± 5	135± 6	150± 8	163± 9	181± 10
200 ppm	125± 4	128± 6	132± 5	135± 5	151± 8	165± 9	182± 8
400 ppm	125± 4	129± 5	133± 4	136± 5	152± 6	165± 7	180± 7
800 ppm	125± 4	128± 4	130± 4	135± 4	150± 6	163± 7	180± 8
1600 ppm	125± 4	125± 5	124± 5**	125± 5**	138± 7**	149± 7**	166± 8**
3200 ppm	125± 4	119± 3**	115± 4**	112± 4**	117± 4**	116± 4**	125± 3**

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

APPENDIX A 2-2

BODY WEIGHT CHANGES : SUMMARY, RAT : FEMALE

(2Week STUDY)

STUDY NO. : 0079
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
Control	102± 3	105± 3	105± 3	107± 3	114± 3	120± 2	128± 3
200 ppm	102± 3	105± 3	106± 3	108± 3	114± 4	121± 5	130± 6
400 ppm	102± 3	105± 4	106± 3	107± 4	115± 4	122± 5	129± 6
800 ppm	102± 3	104± 4	105± 4	107± 3	115± 3	122± 3	129± 4
1600 ppm	102± 3	103± 3	102± 3	103± 3*	111± 4	118± 4	127± 4
3200 ppm	102± 3	98± 3**	96± 3**	93± 3**	94± 3**	93± 3**	102± 3**

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

APPENDIX A 2-3

BODY WEIGHT CHANGES :SUMMARY, MOSUE : MALE

(2Week STUDY)

STUDY NO. : 0080
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
Control	23.1± 1.0	22.4± 0.9	22.7± 0.9	23.1± 1.0	23.7± 0.9	23.9± 1.0	24.5± 1.1
200 ppm	23.1± 1.0	22.6± 1.0	23.4± 1.0	23.5± 1.2	24.3± 1.2	24.9± 1.2	25.2± 1.4
400 ppm	23.1± 1.1	22.7± 1.0	23.2± 1.0	23.6± 1.0	24.4± 1.2	24.9± 1.2	25.3± 1.1
800 ppm	23.1± 1.1	22.5± 1.2	22.8± 1.0	23.4± 1.0	24.4± 0.9	25.0± 1.0	25.3± 1.1
1600 ppm	23.1± 1.1	22.2± 1.1	21.9± 1.0	22.1± 1.0	23.1± 1.0	23.5± 1.0	24.0± 0.9
3200 ppm	23.1± 1.1	21.8± 0.8	21.1± 0.7**	21.2± 0.5**	22.1± 0.0 ?	22.3± 0.0 ?	23.3± 0.0 ?

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

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

APPENDIX A 2-4

BODY WEIGHT CHANGES : SUMMARY, MOSUE: FEMALE

(2Week STUDY)

STUDY NO. : 0080
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
Control	19.2± 0.6	18.4± 0.6	18.3± 0.7	18.6± 0.8	18.8± 0.9	19.7± 1.0	20.1± 1.1
200 ppm	19.2± 0.7	18.2± 0.7	18.5± 0.6	18.7± 0.6	19.2± 0.7	20.5± 0.8	21.1± 0.8
400 ppm	19.2± 0.6	18.4± 0.5	18.7± 0.5	19.0± 0.7	19.9± 1.0*	20.5± 0.7	20.9± 0.8
800 ppm	19.2± 0.7	18.4± 0.7	18.4± 0.7	19.1± 0.8	20.0± 0.9**	20.8± 0.8*	21.1± 0.6
1600 ppm	19.2± 0.7	18.3± 0.7	18.1± 0.7	18.5± 0.7	19.4± 0.9	20.8± 1.0*	21.0± 1.0
3200 ppm	19.2± 0.6	18.0± 0.7	17.2± 0.5**	16.7± 0.7**	17.5± 0.4*	18.8± 1.4	19.1± 0.8

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

APPENDIX A 3-1

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : MALE

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 1-7(7)	2-7(7)
Control	14.4± 1.3	15.5± 1.2
200 ppm	14.0± 0.8	15.0± 1.2
400 ppm	14.5± 0.9	15.9± 1.2
800 ppm	13.8± 0.8	15.5± 1.1
1600 ppm	11.5± 0.9**	14.1± 0.8*
3200 ppm	8.6± 0.7**	10.5± 0.8**

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

APPENDIX A 3-2

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : FEMALE

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration 1-7(7)	week-day(effective) 2-7(7)
Control	11.3± 0.4	10.9± 0.4
200 ppm	11.0± 0.8	11.1± 0.7
400 ppm	11.3± 0.9	11.1± 0.7
800 ppm	10.7± 0.7	11.1± 0.6
1600 ppm	10.1± 0.6**	11.5± 0.6
3200 ppm	6.8± 0.6**	8.9± 0.9**

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

APPENDIX A 3-3

FOOD CONSUMPTION CHANGES : SUMMARY, MOSUE : MALE

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration 1-7(7)	week-day(effective) 2-7(7)
Control	3.7± 0.2	3.6± 0.2
200 ppm	3.7± 0.3	3.8± 0.3
400 ppm	3.8± 0.1	3.9± 0.2
800 ppm	3.8± 0.3	4.4± 0.5**
1600 ppm	3.4± 0.2*	4.6± 0.7**
3200 ppm	2.7± 0.0 ?	3.9± 0.0 ?

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

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

APPENDIX A 3-4

FOOD CONSUMPTION CHANGES : SUMMARY, MOSUE : FEMALE

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration 1-7(7)	week-day(effective) 2-7(7)
Control	2.9± 0.4	3.0± 0.4
200 ppm	3.0± 0.2	3.4± 0.2**
400 ppm	3.3± 0.3*	3.4± 0.2*
800 ppm	3.4± 0.3**	3.5± 0.2**
1600 ppm	3.3± 0.2*	3.9± 0.2**
3200 ppm	2.3± 0.3**	3.8± 0.1**

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

APPENDIX A 4-1

HEMATOLOGY : SUMMARY, RAT : MALE

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	10	8.08± 0.19	16.0± 0.4	43.1± 1.1	53.3± 0.9	19.8± 0.3	37.2± 0.7	978± 42
200 ppm	10	7.89± 0.24	15.8± 0.4	42.2± 1.1	53.4± 0.7	20.0± 0.3	37.5± 0.8	959± 59
400 ppm	10	8.05± 0.19	16.0± 0.4	43.1± 0.8	53.5± 0.6	20.0± 0.5	37.3± 1.0	973± 55
800 ppm	10	7.91± 0.24	15.9± 0.6	42.4± 1.1	53.6± 0.4	20.1± 0.4	37.5± 0.8	989± 60
1600 ppm	10	8.03± 0.14	16.2± 0.4	43.0± 0.8	53.5± 0.4	20.1± 0.3	37.6± 0.8	903± 55*
3200 ppm	5	8.29± 0.20	16.6± 0.2*	43.6± 1.1	52.5± 0.1	20.1± 0.3	38.1± 0.6	971± 64

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

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	10	4.12± 1.20	0± 0	12± 4	1± 1	0± 0	3± 2	84± 4	0± 0
200 ppm	10	4.89± 1.18	0± 0	11± 3	1± 1	0± 0	3± 1	85± 4	0± 0
400 ppm	10	5.36± 1.65	0± 0	12± 4	1± 1	0± 0	5± 2	82± 4	1± 1
800 ppm	10	4.71± 1.58	0± 0	15± 7	0± 1	0± 0	4± 3	81± 8	0± 0
1600 ppm	10	4.61± 0.58	0± 0	16± 5	0± 1	0± 0	5± 2	78± 6	0± 0
3200 ppm	5	4.14± 1.01	0± 0	23± 7**	0± 1	0± 0	3± 2	73± 7**	1± 0

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

APPENDIX A 4-2

HEMATOLOGY : SUMMARY, RAT : FEMALE

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV f ℓ	MCH p g	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	10	8.30± 0.20	16.7± 0.4	44.0± 1.0	52.9± 0.3	20.1± 0.4	38.0± 0.6	923± 68
200 ppm	10	8.15± 0.21	16.6± 0.3	43.5± 0.9	53.3± 0.5	20.3± 0.3	38.1± 0.6	929± 60
400 ppm	10	8.16± 0.24	16.6± 0.5	43.5± 1.1	53.3± 0.5	20.3± 0.3	38.1± 0.5	949± 60
800 ppm	10	8.33± 0.24	16.9± 0.4	44.6± 1.2	53.5± 0.5	20.3± 0.4	37.9± 0.5	919± 42
1600 ppm	10	8.39± 0.24	17.0± 0.4	44.7± 1.1	53.2± 0.5	20.3± 0.5	38.0± 0.6	908± 68
3200 ppm	3	8.40± 0.02	16.7± 0.2	44.2± 0.1	52.5± 0.2	19.9± 0.2	37.9± 0.2	952± 57

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

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	10	5.33± 1.47	0± 0	11± 3	0± 1	0± 0	3± 1	86± 4	0± 0
200 ppm	10	4.93± 0.81	0± 0	13± 3	1± 1	0± 0	3± 1	84± 4	0± 0
400 ppm	10	6.63± 2.20	0± 0	11± 3	0± 0	0± 0	5± 3	84± 3	0± 0
800 ppm	10	5.05± 1.48	0± 0	12± 3	1± 1	0± 0	4± 3	83± 5	0± 0
1600 ppm	10	4.60± 0.96	0± 0	13± 3	1± 1	0± 0	5± 2	81± 3*	0± 0
3200 ppm	3	3.83± 0.85	0± 1	25± 7**	1± 2	0± 0	6± 3	67± 5**	0± 0

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

APPENDIX A 4-3

HEMATOLOGY : SUMMARY, MOSUE : MALE

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	10	11.63± 0.47	17.3± 0.6	51.9± 2.2	44.5± 0.6	14.9± 0.2	33.5± 0.4	1413± 119
200 ppm	10	11.27± 0.52	16.9± 0.6	50.5± 2.7	44.7± 0.6	15.0± 0.2	33.6± 0.6	1115± 361*
400 ppm	10	11.26± 0.41	16.9± 0.6	50.5± 2.0	44.8± 0.8	15.0± 0.1	33.5± 0.5	1318± 108
800 ppm	8	11.23± 0.48	16.9± 0.7	50.0± 2.1	44.5± 0.8	15.0± 0.3	33.7± 0.5	1142± 82**
1600 ppm	9	11.86± 0.32	17.8± 0.5	53.0± 1.8	44.7± 0.6	15.1± 0.2	33.7± 0.5	1149± 274*
3200 ppm	1	11.20± 0.00 ?	17.0± 0.0 ?	50.6± 0.0 ?	45.1± 0.0 ?	15.1± 0.0 ?	33.5± 0.0 ?	1455± 0 ?

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

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

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	10	3.22± 1.57	1± 1	12± 5	1± 1	0± 0	3± 1	84± 6	0± 0
200 ppm	10	3.44± 1.42	0± 1	14± 5	1± 1	0± 0	2± 2	83± 6	0± 0
400 ppm	10	3.60± 1.58	0± 1	11± 5	0± 0	0± 0	3± 2	76± 27	0± 0
800 ppm	8	2.70± 1.03	0± 0	15± 4	1± 0	0± 0	4± 3	81± 6	0± 0
1600 ppm	9	2.42± 0.87	1± 1	20± 5**	0± 0	0± 0	3± 3	76± 7	0± 0
3200 ppm	1	1.10± 0.00 ?	0± 0 ?	39± 0 ?	0± 0 ?	0± 0 ?	0± 0 ?	61± 0 ?	0± 0 ?

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

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

APPENDIX A 4-4

HEMATOLOGY : SUMMARY, MOSUE : FEMALE

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV f ℓ	MCH p g	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	10	11.03± 0.45	16.6± 0.6	49.1± 2.3	44.5± 0.6	15.1± 0.2	33.8± 0.6	1065± 228
200 ppm	10	10.78± 0.32	16.3± 0.4	48.4± 1.6	44.9± 0.3	15.2± 0.1	33.8± 0.4	991± 336
400 ppm	10	11.07± 0.51	16.8± 0.6	49.8± 2.3	44.9± 0.3	15.2± 0.2	33.8± 0.5	1071± 96
800 ppm	9	11.06± 0.67	16.7± 0.8	50.1± 3.0	45.2± 0.5*	15.2± 0.6	33.5± 1.2	778± 307*
1600 ppm	10	11.21± 0.36	17.0± 0.5	50.6± 1.8	45.1± 0.6*	15.2± 0.2	33.7± 0.2	936± 133
3200 ppm	3	11.18± 0.75	17.0± 1.0	50.2± 3.8	44.8± 0.6	15.2± 0.1	33.9± 0.8	1151± 137

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

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	10	3.10± 1.17	1± 1	11± 5	1± 1	0± 0	4± 3	84± 5	0± 0
200 ppm	10	3.33± 1.85	1± 1	14± 3	1± 1	0± 0	4± 3	81± 5	0± 0
400 ppm	10	3.92± 1.67	0± 1	11± 4	0± 1	0± 0	3± 2	86± 3	0± 0
800 ppm	9	3.16± 1.84	0± 1	12± 5	1± 1	0± 0	5± 2	82± 5	0± 0
1600 ppm	10	3.17± 1.48	1± 1	18± 4**	0± 1	0± 0	3± 3	79± 6	0± 0
3200 ppm	3	1.90± 0.56	0± 0	29± 3**	1± 1	0± 0	3± 2	67± 3**	0± 0

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

APPENDIX A 5-1

BIOCHEMISTRY : SUMMARY, RAT : MALE

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	T-BILIRUBIN mg/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	GOT IU/ℓ	GPT IU/ℓ
Control	10	6.0± 0.2	3.5± 0.1	0.16± 0.03	192± 8	60± 4	52± 3	15± 1
200 ppm	10	5.8± 0.1	3.4± 0.1	0.12± 0.04	185± 10	60± 3	52± 2	16± 1
400 ppm	10	6.0± 0.1	3.5± 0.1	0.13± 0.03	191± 18	59± 2	52± 2	17± 4
800 ppm	10	5.8± 0.1	3.4± 0.1	0.14± 0.04	188± 6	61± 3	53± 3	16± 2
1600 ppm	10	5.8± 0.1**	3.4± 0.1	0.15± 0.03	187± 12	63± 3	54± 2	17± 2*
3200 ppm	5	6.1± 0.2	3.7± 0.1**	0.19± 0.06	177± 14	71± 6**	45± 1**	15± 3

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

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	LDH IU/ℓ	CPK IU/ℓ	UREA NITROGEN mg/dℓ	CREATININE mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ
Control	10	126± 26	129± 13	13.7± 2.0	0.3± 0.1	141± 2	4.2± 0.2	106± 2
200 ppm	10	131± 18	127± 9	14.2± 2.6	0.4± 0.1	140± 1	4.3± 0.2	105± 1
400 ppm	10	133± 19	140± 16	14.3± 1.9	0.4± 0.0	141± 1	4.1± 0.3	105± 1
800 ppm	10	127± 22	135± 15	14.2± 2.1	0.4± 0.1	141± 1	4.2± 0.3	105± 2
1600 ppm	10	133± 24	142± 15	14.0± 1.3	0.3± 0.1	141± 1	4.3± 0.3	106± 2
3200 ppm	5	126± 22	102± 14**	14.5± 2.2	0.3± 0.0	142± 2	4.5± 0.5	106± 2

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

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	CALCIUM mg/dℓ	INORGANIC PHOSPHORUS mg/dℓ
Control	10	11.0± 0.6	7.7± 0.9
200 ppm	10	10.7± 0.3	7.8± 1.3
400 ppm	10	10.8± 0.3	7.4± 1.0
800 ppm	10	10.8± 0.3	8.0± 1.4
1600 ppm	10	10.5± 0.4*	8.4± 1.1
3200 ppm	5	10.2± 0.1**	7.3± 1.2

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

APPENDIX A 5-2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	T-BILIRUBIN mg/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	GOT IU/ℓ	GPT IU/ℓ
Control	10	5.7± 0.1	3.4± 0.1	0.16± 0.02	188± 11	72± 4	50± 3	13± 1
200 ppm	10	5.8± 0.1	3.4± 0.1	0.15± 0.04	180± 8	73± 5	50± 3	14± 1
400 ppm	10	5.8± 0.1	3.5± 0.1	0.15± 0.03	185± 5	72± 3	51± 3	14± 2
800 ppm	10	5.7± 0.2	3.4± 0.1	0.15± 0.04	180± 13	73± 2	52± 3	15± 1
1600 ppm	10	5.7± 0.1	3.3± 0.1	0.16± 0.03	180± 8	73± 4	53± 2	16± 2**
3200 ppm	3	6.1± 0.2**	3.6± 0.1**	0.20± 0.04	182± 19	80± 8	56± 16	16± 3

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

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	LDH IU/ℓ	CPK IU/ℓ	UREA NITROGEN mg/dℓ	CREATININE mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ
Control	10	131± 22	115± 9	14.2± 2.8	0.4± 0.1	140± 1	3.8± 0.2	107± 1
200 ppm	10	142± 27	113± 12	14.9± 1.7	0.4± 0.0	140± 1	4.0± 0.2	107± 1
400 ppm	10	150± 41	122± 14	15.7± 2.0	0.4± 0.1	140± 1	3.8± 0.3	107± 1
800 ppm	10	169± 44	127± 12	15.5± 2.3	0.4± 0.0	140± 2	3.8± 0.4	107± 1
1600 ppm	10	153± 29	130± 12*	15.6± 2.2	0.3± 0.1	140± 1	3.9± 0.2	107± 1
3200 ppm	3	163± 42	109± 8	15.5± 2.3	0.3± 0.0	141± 2	4.4± 0.6**	107± 1

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

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	CALCIUM mg/dℓ		INORGANIC PHOSPHORUS mg/dℓ	
Control	10	10.6±	0.5	6.3±	1.1
200 ppm	10	10.5±	0.2	6.4±	1.2
400 ppm	10	10.5±	0.2	6.7±	1.2
800 ppm	10	10.4±	0.3	6.8±	1.2
1600 ppm	10	10.4±	0.3	7.2±	1.3
3200 ppm	3	10.0±	0.4	6.5±	0.9

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

APPENDIX A 5-3

BIOCHEMISTRY : SUMMARY, MOSUE : MALE

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	T-BILIRUBIN mg/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	GOT IU/ℓ	GPT IU/ℓ
Control	10	5.5± 0.3	3.0± 0.2	1.03± 0.23	297± 24	99± 8	39± 5	17± 3
200 ppm	8	5.2± 0.4	2.9± 0.2	1.03± 0.27	298± 27	105± 12	40± 5	19± 3
400 ppm	9	5.2± 0.2	3.0± 0.1	0.90± 0.15	303± 26	96± 10	43± 5	23± 5
800 ppm	8	5.3± 0.4	3.1± 0.2	0.86± 0.13	289± 18	91± 8	58± 16*	43± 17**
1600 ppm	9	5.5± 0.4	3.2± 0.3	1.17± 0.24	279± 29	111± 10*	80± 8**	76± 11**
3200 ppm	1	4.6± 0.0 ?	2.4± 0.0 ?	0.87± 0.00 ?	247± 0 ?	160± 0 ?	108± 0 ?	102± 0 ?

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

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

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	LDH IU/ℓ	CPK IU/ℓ	UREA NITROGEN mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ
Control	10	455± 155	107± 38	24.1± 4.2	150± 2	5.1± 0.3	119± 2	9.6± 0.4
200 ppm	8	477± 214	103± 35	24.0± 7.2	149± 2	4.9± 0.7	118± 2	9.3± 0.4
400 ppm	9	380± 75	95± 35	21.6± 2.1	149± 1	4.8± 0.5	118± 2	9.6± 0.5
800 ppm	8	401± 79	105± 24	21.0± 3.3	149± 2	4.8± 0.3	119± 2	9.4± 0.5
1600 ppm	9	584± 118	126± 90	22.2± 3.9	149± 3	5.2± 0.9	118± 3	9.5± 0.6
3200 ppm	1	599± 0 ?	99± 0 ?	23.3± 0.0 ?	148± 0 ?	4.2± 0.0 ?	120± 0 ?	9.2± 0.0 ?

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

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

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	INORGANIC PHOSPHORUS mg/dl
Control	10	8.7± 1.9
200 ppm	8	8.9± 1.4
400 ppm	9	9.1± 2.1
800 ppm	8	9.1± 2.2
1600 ppm	9	7.2± 1.2
3200 ppm	1	5.6± 0.0 ?

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

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

APPENDIX A 5-4

BIOCHEMISTRY : SUMMARY, MOSUE : FEMALE

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	T-BILIRUBIN mg/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	GOT IU/ℓ	GPT IU/ℓ
Control	8	5.3± 0.3	3.2± 0.2	0.92± 0.10	268± 36	89± 9	46± 8	19± 5
200 ppm	9	5.0± 0.2	3.0± 0.1	0.90± 0.16	273± 29	86± 8	43± 5	17± 3
400 ppm	10	5.5± 0.5	3.3± 0.3	0.94± 0.10	265± 31	85± 7	53± 7	23± 4
800 ppm	9	5.0± 0.2	3.0± 0.2	1.00± 0.26	244± 22	80± 6	74± 43	42± 27*
1600 ppm	10	5.3± 0.3	3.2± 0.2	1.16± 0.14*	255± 34	99± 8	70± 16**	51± 14**
3200 ppm	3	5.1± 0.6	2.9± 0.3	1.32± 0.45	253± 28	126± 21**	81± 13*	62± 16**

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

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	LDH IU/ℓ	CPK IU/ℓ	UREA NITROGEN mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ
Control	8	355± 77	111± 41	23.9± 5.2	148± 1	5.1± 0.2	120± 1	9.6± 0.6
200 ppm	9	364± 140	96± 32	21.0± 3.3	148± 1	4.8± 0.5	119± 1	9.5± 0.7
400 ppm	10	413± 68	106± 28	21.6± 2.0	148± 2	4.9± 0.6	120± 1	9.6± 0.6
800 ppm	9	475± 186	118± 54	17.3± 1.7*	149± 3	5.3± 0.6	119± 1	9.1± 0.4
1600 ppm	10	518± 213	110± 58	19.2± 3.7	148± 3	5.6± 0.5	118± 2	9.6± 0.5
3200 ppm	3	740± 302*	131± 33	26.9± 10.2	147± 3	6.1± 0.7*	117± 3	10.1± 1.2

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

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (2)

Group Name	NO. of Animals	INORGANIC PHOSPHORUS mg/dℓ
Control	8	8.1± 1.3
200 ppm	9	8.6± 1.3
400 ppm	10	8.7± 1.3
800 ppm	9	9.1± 0.8
1600 ppm	10	8.5± 1.5
3200 ppm	3	7.1± 1.6

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

APPENDIX A 6-1

GROSS FINDINGS : SUMMARY, RAT : MALE : DEAD AND MORIBUND ANIMALS

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name / NO. of Animals	Control 0 (%)	200 ppm 0 (%)	400 ppm 0 (%)	800 ppm 0 (%)
lung	red		- (-)	- (-)	- (-)	- (-)
thymus	atrophic		- (-)	- (-)	- (-)	- (-)
	red zone		- (-)	- (-)	- (-)	- (-)
cecum	dilated		- (-)	- (-)	- (-)	- (-)
liver	red		- (-)	- (-)	- (-)	- (-)
urin bladd	urine:marked retention		- (-)	- (-)	- (-)	- (-)
Harder gl	white		- (-)	- (-)	- (-)	- (-)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name / NO. of Animals	1600 ppm 0 (%)	3200 ppm 5 (%)
lung	red		- (-)	4 (80)
thymus	atrophic		- (-)	1 (20)
	red zone		- (-)	2 (40)
cecum	dilated		- (-)	1 (20)
liver	red		- (-)	1 (20)
urin bladd	urine:marked retention		- (-)	1 (20)
Harder gl	white		- (-)	1 (20)

APPENDIX A 6-2

GROSS FINDINGS : SUMMARY, RAT : FEMALE : DEAD AND MORIBUND ANIMALS

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name / NO. of Animals	Control 0 (%)	200 ppm 0 (%)	400 ppm 0 (%)	800 ppm 0 (%)
trachea	fluid:transparent		- (-)	- (-)	- (-)	- (-)
lung	red		- (-)	- (-)	- (-)	- (-)
	red zone		- (-)	- (-)	- (-)	- (-)
lymph node	red		- (-)	- (-)	- (-)	- (-)
thymus	red zone		- (-)	- (-)	- (-)	- (-)
Harder gl	white		- (-)	- (-)	- (-)	- (-)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name / NO. of Animals	1600 ppm 0 (%)	3200 ppm 7 (%)
trachea	fluid:transparent		- (-)	1 (14)
lung	red		- (-)	4 (57)
	red zone		- (-)	3 (43)
lymph node	red		- (-)	1 (14)
thymus	red zone		- (-)	1 (14)
Harder gl	white		- (-)	1 (14)

APPENDIX A 6-3

GROSS FINDINGS : SUMMARY, RAT : MALE : SACRIFICED ANIMALS

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name / NO. of Animals	Control 10 (%)	200 ppm 10 (%)	400 ppm 10 (%)	800 ppm 10 (%)
lung	red		0 (0)	0 (0)	0 (0)	1 (10)
	red patch/zone		1 (10)	1 (10)	1 (10)	0 (0)
thymus	atrophic		0 (0)	0 (0)	0 (0)	0 (0)
	red zone		0 (0)	0 (0)	1 (10)	1 (10)
tongue	white patch/zone		0 (0)	0 (0)	0 (0)	1 (10)
liver	herniation		0 (0)	0 (0)	1 (10)	0 (0)
pancreas	nodule		0 (0)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name NO. of Animals	1600 ppm 10 (%)	3200 ppm 5 (%)
lung	red		0 (0)	0 (0)
	red patch/zone		0 (0)	0 (0)
thymus	atrophic		0 (0)	5 (100)
	red zone		0 (0)	1 (20)
tongue	white patch/zone		0 (0)	0 (0)
liver	herniation		1 (10)	0 (0)
pancreas	nodule		0 (0)	1 (20)

APPENDIX A 6-4

GROSS FINDINGS : SUMMARY, RAT : FEMALE : SACRIFICED ANIMALS

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

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

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name	1600 ppm	3200 ppm
		NO. of Animals	10 (%)	3 (%)
lung	red		0 (0)	0 (0)
	red zone		0 (0)	0 (0)
thymus	atrophic		0 (0)	3 (100)
	red zone		1 (10)	1 (33)

APPENDIX A 6-5

GROSS FINDINGS : SUMMARY, MOSUE : MALE : DEAD AND MORIBUND ANIMALS

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name NO. of Animals	Control 0 (%)	200 ppm 0 (%)	400 ppm 0 (%)	800 ppm 0 (%)
lung	red		- (-)	- (-)	- (-)	- (-)
liver	pale		- (-)	- (-)	- (-)	- (-)
urin bladd	urine:marked retention		- (-)	- (-)	- (-)	- (-)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name NO. of Animals	1600 ppm 0 (%)	3200 ppm 9 (%)
lung	red		- (-)	5 (56)
liver	pale		- (-)	8 (89)
urin bladd	urine:marked retention		- (-)	2 (22)

APPENDIX A 6-6

GROSS FINDINGS : SUMMARY, MOSUE : FEMALE : DEAD AND MORIBUND ANIMALS

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name NO. of Animals	Control 0 (%)	200 ppm 0 (%)	400 ppm 0 (%)	800 ppm 0 (%)
lung	red		- (-)	- (-)	- (-)	- (-)
	red zone		- (-)	- (-)	- (-)	- (-)
thymus	red zone		- (-)	- (-)	- (-)	- (-)
stomach	dilated		- (-)	- (-)	- (-)	- (-)
small intes	dilated		- (-)	- (-)	- (-)	- (-)
liver	pale		- (-)	- (-)	- (-)	- (-)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name / NO. of Animals	1600 ppm 0 (%)	3200 ppm 7 (%)
lung	red		- (-)	2 (29)
	red zone		- (-)	2 (29)
thymus	red zone		- (-)	1 (14)
stomach	dilated		- (-)	1 (14)
small intes	dilated		- (-)	1 (14)
liver	pale		- (-)	4 (57)

APPENDIX A 6-7

GROSS FINDINGS : SUMMARY, MOSUE : MALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name / NO. of Animals	Control 10 (%)	200 ppm 10 (%)	400 ppm 10 (%)	800 ppm 10 (%)
spleen	pale		0 (0)	0 (0)	0 (0)	0 (0)
	black zone		1 (10)	0 (0)	1 (10)	1 (10)
liver	pale		0 (0)	0 (0)	9 (90)	10 (100)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name NO. of Animals	1600 ppm 10 (%)	3200 ppm 1 (%)
spleen	pale		0 (0)	1 (100)
	black zone		0 (0)	0 (0)
liver	pale		10 (100)	1 (100)

APPENDIX A 6-8

GROSS FINDINGS : SUMMARY, MOSUE : FEMALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name / NO. of Animals	Control 10 (%)	200 ppm 10 (%)	400 ppm 10 (%)	800 ppm 10 (%)
spleen	atrophic		0 (0)	0 (0)	0 (0)	0 (0)
	black zone		0 (0)	1 (10)	0 (0)	1 (10)
liver	pale		0 (0)	0 (0)	7 (70)	10 (100)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (2W)

Organ	Findings	Group Name	1600 ppm	3200 ppm
		NO. of Animals	10 (%)	3 (%)
spleen	atrophic		0 (0)	1 (33)
	black zone		2 (20)	0 (0)
liver	pale		10 (100)	3 (100)

APPENDIX A 7-1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : DEAD AND MORIBUND ANIMALS

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	Control				200 ppm				400 ppm				800 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	congestion		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Hematopoietic system]																		
thymus	congestion		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

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

Organ	Findings	Group Name	1600 ppm				3200 ppm			
		No. of Animals	0				5			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]										
lung	congestion		- (-)	- (-)	- (-)	- (-)	3 (60)	0 (0)	0 (0)	0 (0)
[Hematopoietic system]										
thymus	congestion		- (-)	- (-)	- (-)	- (-)	1 (20)	0 (0)	0 (0)	0 (0)

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

APPENDIX A 7-2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : DEAD AND MORIBUND ANIMALS

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name	Control				200 ppm				400 ppm				800 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	congestion		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	hemorrhage		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

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

Organ	Findings	Group Name	1600 ppm				3200 ppm			
		No. of Animals	0				6			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Respiratory system]										
lung	congestion		- (-)	- (-)	- (-)	- (-)	3 (50)	0 (0)	0 (0)	0 (0)
	hemorrhage		- (-)	- (-)	- (-)	- (-)	1 (17)	0 (0)	0 (0)	0 (0)

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

APPENDIX A 7-3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : SACRIFICED ANIMALS

(2Week STUDY)

STUDY NO. : 0079
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	Control				200 ppm				400 ppm				800 ppm			
		No. of Animals	2				2				2				2			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Digestive system]																		
liver	herniation		0 (0)	0 (0)	0 (0)	0 (0)	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	eosinophilic body		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)	0 (0)	0 (0)

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

Organ	Findings	Group Name	1600 ppm				3200 ppm			
		No. of Animals	2				2			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Digestive system]										
liver	herniation		1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Urinary system]										
kidney	eosinophilic body		1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

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

APENDIX A 7-4

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : SACRIFICED ANIMALS

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	Control	200 ppm	400 ppm	800 ppm
		No. of Animals	0	0	0	0
		<1> (%)	- (-)	- (-)	- (-)	- (-)
		<2> (%)	- (-)	- (-)	- (-)	- (-)
		<3> (%)	- (-)	- (-)	- (-)	- (-)
		<4> (%)	- (-)	- (-)	- (-)	- (-)
[Digestive system]						
liver	swelling:central	<1> (%)	- (-)	- (-)	- (-)	- (-)
		<2> (%)	- (-)	- (-)	- (-)	- (-)
		<3> (%)	- (-)	- (-)	- (-)	- (-)
		<4> (%)	- (-)	- (-)	- (-)	- (-)
[Urinary system]						
kidney	mineralization:papilla	<1> (%)	- (-)	- (-)	- (-)	- (-)
		<2> (%)	- (-)	- (-)	- (-)	- (-)
		<3> (%)	- (-)	- (-)	- (-)	- (-)
		<4> (%)	- (-)	- (-)	- (-)	- (-)
	regeneration proximal tubule	<1> (%)	- (-)	- (-)	- (-)	- (-)
		<2> (%)	- (-)	- (-)	- (-)	- (-)
		<3> (%)	- (-)	- (-)	- (-)	- (-)
		<4> (%)	- (-)	- (-)	- (-)	- (-)
	tubular necrosis:proximale tubule	<1> (%)	- (-)	- (-)	- (-)	- (-)
		<2> (%)	- (-)	- (-)	- (-)	- (-)
		<3> (%)	- (-)	- (-)	- (-)	- (-)
		<4> (%)	- (-)	- (-)	- (-)	- (-)

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

Organ	Findings	Group Name	1600 ppm				3200 ppm			
		No. of Animals	0				6			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Digestive system]										
liver	swelling:central		- (-)	- (-)	- (-)	- (-)	5 (83)	0 (0)	0 (0)	0 (0)
[Urinary system]										
kidney	mineralization:papilla		- (-)	- (-)	- (-)	- (-)	1 (17)	0 (0)	0 (0)	0 (0)
	regeneration proximal tubule		- (-)	- (-)	- (-)	- (-)	2 (33)	3 (50)	0 (0)	0 (0)
	tubular necrosis:proximale tubule		- (-)	- (-)	- (-)	- (-)	2 (33)	4 (67)	0 (0)	0 (0)

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

APPENDIX A 7-5

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE: MALE : DEAD AND MORIBUND ANIMALS

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	Control				200 ppm				400 ppm				800 ppm			
		No. of Animals	0				0				0				0			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Digestive system]																		
liver	swelling:central		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Urinary system]																		
kidney	mineralization:papilla		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	regeneration proximal tubule		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	tubular necrosis:proximale tubule		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

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

Organ	Findings	Group Name	1600 ppm				3200 ppm			
		No. of Animals	0				6			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Digestive system]										
liver	swelling:central		- (-)	- (-)	- (-)	- (-)	5 (83)	0 (0)	0 (0)	0 (0)
[Urinary system]										
kidney	mineralization:papilla		- (-)	- (-)	- (-)	- (-)	1 (17)	0 (0)	0 (0)	0 (0)
	regeneration proximal tubule		- (-)	- (-)	- (-)	- (-)	2 (33)	3 (50)	0 (0)	0 (0)
	tubular necrosis:proximale tubule		- (-)	- (-)	- (-)	- (-)	2 (33)	4 (67)	0 (0)	0 (0)

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

APPENDIX A 7-6

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE: FEMALE : DEAD AND MORIBUND ANIMALS

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name	Control				200 ppm				400 ppm				800 ppm			
		No. of Animals	0				0				0				0			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Hematopoietic system]																		
thymus	karyorrhexis		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Digestive system]																		
liver	swelling:central		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
[Urinary system]																		
kidney	regeneration proximal tubule		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
	tubular necrosis:proximale tubule		- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)

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

Organ	Findings	Group Name	1600 ppm				3200 ppm			
		No. of Animals	0				4			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Hematopoietic system]										
thymus	karyorrhexis		- (-)	- (-)	- (-)	- (-)	2 (50)	0 (0)	0 (0)	0 (0)
[Digestive system]										
liver	swelling:central		- (-)	- (-)	- (-)	- (-)	1 (25)	2 (50)	0 (0)	0 (0)
[Urinary system]										
kidney	regeneration proximal tubule		- (-)	- (-)	- (-)	- (-)	1 (25)	1 (25)	0 (0)	0 (0)
	tubular necrosis:proximale tubule		- (-)	- (-)	- (-)	- (-)	3 (75)	1 (25)	0 (0)	0 (0)

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

APPENDIX A 7-7

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOSUE : MALE : SACRIFICED ANIMALS

(2Week STUDY)

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

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

Organ	Findings	Group Name	Control				200 ppm				400 ppm				800 ppm			
		No. of Animals	2				2				2				2			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Digestive system]																		
liver	swelling:central		0 (0)	0 (0)	0 (0)	0 (0)	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	regeneration proximal tubule		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)
	tubular necrosis:proximale tubule		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)
	nuclear enlargement:proximal tubule		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)

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

Organ	Findings	Group Name	1600 ppm				3200 ppm			
		No. of Animals	2				1			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Digestive system]										
liver	swelling:central		2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)
[Urinary system]										
kidney	regeneration proximal tubule		2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)
	tubular necrosis:proximale tubule		1 (50)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)
	nuclear enlargement:proximal tubule		1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

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

APPENDIX A 7-8

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOSUE : FEMALE : SACRIFICED ANIMALS

(2Week STUDY))

STUDY NO. : 0080
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

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

Organ	Findings	Group Name	Control				200 ppm				400 ppm				800 ppm			
		No. of Animals	2				2				2				2			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Hematopoietic system]																		
spleen	melanin		0 (0)	0 (0)	0 (0)	0 (0)	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	melanin		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	swelling:central		0 (0)	0 (0)	0 (0)	0 (0)	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	regeneration proximal tubule		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)
	tubular necrosis:proximale tubule		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

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

Organ	Findings	Group Name	1600 ppm				3200 ppm			
		No. of Animals	2				2			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Hematopoietic system]										
spleen	melanin		2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Digestive system]										
liver	melanin		1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	swelling:central		1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)
[Urinary system]										
kidney	regeneration proximal tubule		0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)
	tubular necrosis:proximale tubule		0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)

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

APPENDIX A 8-1

IDENTITY AND PURITY OF TETRACHLOROETHYLENE PERFORMED AT THE JAPAN BIOASSAY LABORATORY

(2Week STUDY)

INDENTITY AND PURITY OF TETRACHLOROETHYLENE PERFORMED AT THE JAPANBIOASSAY LABORATORY(TWO-WEEK STUDIES)

Lot no.LAG4435

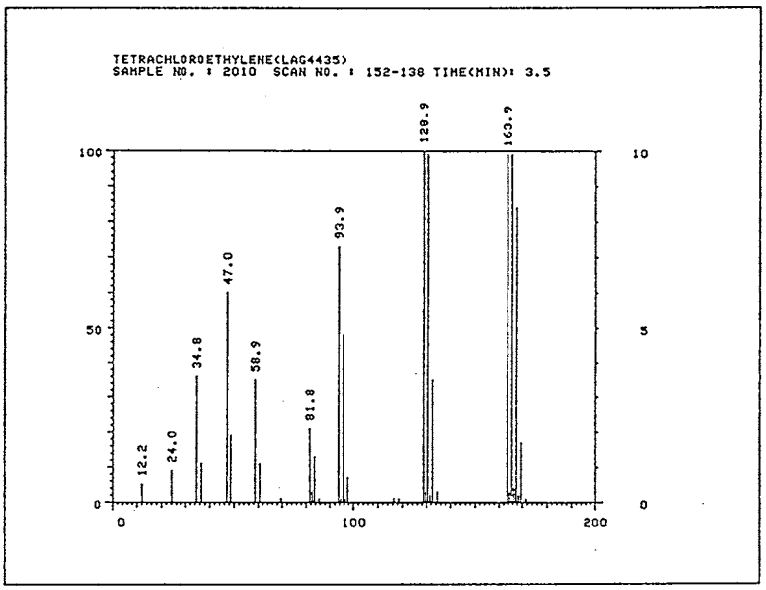
1. Spectral data

Mass Spectrometry

Instrument: Hitachi M-80B

Ionization: EI(Electron Ionization)

Ionization Voltage: 70eV



Mass Spectrum of TETRACHLOROETHYLENE

Result:

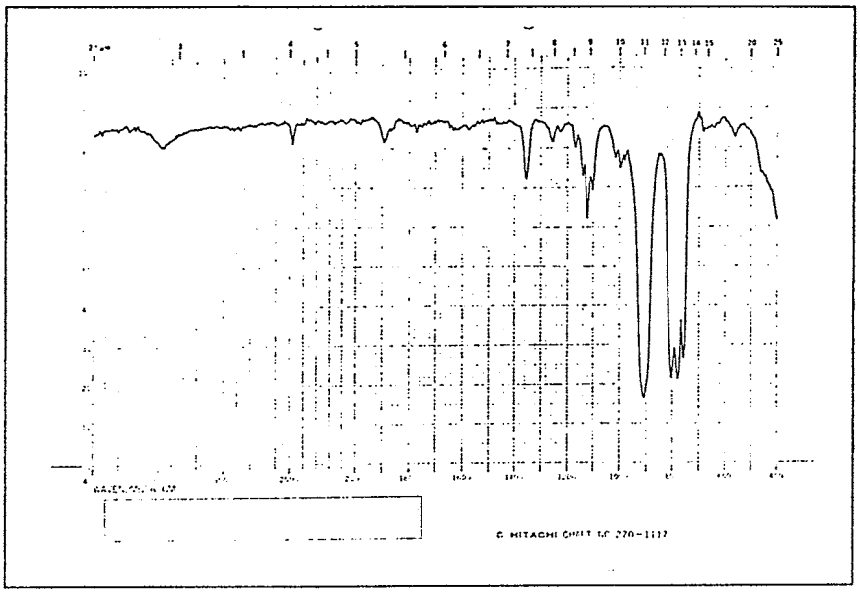
	Molecule Weight
Theory	165.8(JAPAN PHARMACOPOEIA X I)
	163.9(Calculated without isotope)
Determined	
Test Substance	163.9

Infrared

Instrument: Hitachi 270-30

Cell: Fixed Thickness Cell(NaCl)

Slit: Medium



Infrared Spectrum of TETRACHLOROETHYLENE

Results:

Determined	Literature Values
Wave Number (CM^{-1})	
Test Substance	Substance (Performed by the WAKO PURE CHEMICAL INDUSTRIES,LTD.)
750～ 820	750～ 820
860～ 950	860～ 950
1080～1180	1080～1180
1240～1280	1240～1280
1340～1380	1340～1380
1860～1920	1860～1920
2450～2500	2450～2500

2. Gas Chromatography

Instrument:	Hewlett Packard 5890A
Column:	Methyl Silicone(0.2mmϕ ×50m)
Column Temperature:	180°C
Flow Rate:	1ml/min
Detector:	FID(Hydrogen Flame Ionization)
Injection Volume:	1μl

Results: Major peak and two impurities

Peak No.	Retention Time(min)	Retention Time Relative to Maijor Peak	AREA (percent of major peak)
1	3.25	0.93	0.062
2	3.373	0.96	0.15
3	3.5	1.00	100

3. Conclusions: The results of the Mass spectra agreed with the theoretical values and the infrared spectra agreed with the Litrature values.
Gas chromtography indicated two impurities with areas totaling<0.3% of the major peak.

APPENDIX A 8-2

STABILITY OF TETRACHLOROETHYLENE AT THE JAPAN BIOASSAY LABORATORY

(2Week STUDY)

STABILITY OF TETRACHLOROETHYLENE AT THE JAPAN BIOASSAY LABORATORY
(TWO-WEEK STUDIES)

Lot no.LAG4435

1.Sample storage: Tetrachloroethylene were stored for about 2 month at 5°C.

	Previous determined of test (01/14/87)	After determined of test (03/19/87)

2.Spectral data

Infrared

Instrument: Hitachi 270-30

Cell: Fixed thickness Cell(NaCl)

Slit: Medium

Results:

Wave Number (CM^{-1})	
750～ 820	750～ 820
860～ 950	860～ 950
1080～1180	1080～1180
1240～1280	1240～1280
1340～1380	1340～1380
1860～1920	1860～1920
2450～2500	2450～2500

3.Gas Chromatography

Instrument: Hewlett Packard 5890A

Column: Methyl Silicone(0.2mmϕ ×50m)

Column Temperature: 180°C

Flow Rate: 1ml/min

Detector: FID(Hydrogen Flame Ionization)

Injection Volume: 1μl

Results: Major peak and two impurities

Date	Retention Time(min)	Retention Time Relative to Major Peak	Area (percent of Major peak)
01/14/87	3.25	0.93	0.062
	3.373	0.96	0.15
	3.5	1.00	100
03/19/87	3.253	0.93	0.065
	3.373	0.96	0.15
	3.5	1.00	100

4. Conclusions: Gas chlomatography indicates two impurities with areas totaling<0.3% of the major peak.The infrared spectra agreed with the previous determine of test values.

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

APPENDIX A 9-1

CONCENTRATION OF TETRACHLOROETHYLENE IN INHALATION CHAMBER

(2Week STUDY)

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	199.4	±	1.8
400ppm	397.4	±	2.0
800ppm	794.0	±	6.1
1600ppm	1592.5	±	5.8
3200ppm	3189.9	±	22.9

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

Group Name	Concentration(ppm) Mean	±	S.D.
Control	0.0	±	0.0
200ppm	199.5	±	1.4
400ppm	399.3	±	1.4
800ppm	795.9	±	3.7
1600ppm	1596.4	±	5.2
3200ppm	3193.4	±	33.8

APPENDIX A 9-2

ENVIRONMENT OF INHALATION CHAMBER

(2Week STUDY)

ENVIRONMENT OF INHALATION CHAMBER

(RAT : TWO-WEEK STUDIES)

Group Name	TEMPERATURE(℃) MEAN ± S.D.	HUMIDITY(%) MEAN ± S.D.	VENTILATION RATE(ℓ/min) MEAN ± S.D.	ROOM AIR CHANGE(time/h) MEAN
Control	24.1 ± 0.1	57.7 ± 0.9	265.6 ± 0.6	15.0
200ppm	24.5 ± 0.1	58.3 ± 0.6	264.1 ± 0.5	14.9
400ppm	24.2 ± 0.1	54.9 ± 0.7	266.4 ± 0.7	15.1
800ppm	24.7 ± 0.1	55.3 ± 0.8	266.9 ± 1.2	15.1
1600ppm	24.7 ± 0.1	55.1 ± 1.3	265.1 ± 1.4	15.0
3200ppm	23.8 ± 0.2	56.1 ± 2.4	263.6 ± 0.6	14.9

ENVIRONMENT OF INHALATION CHAMBER

(MOUSE : TWO-WEEK STUDIES)

Group Name	TEMPERATURE(℃) MEAN ± S.D.	HUMIDITY(%) MEAN ± S.D.	VENTILATION RATE(ℓ/min) MEAN ± S.D.	ROOM AIR CHANGE(time/h) MEAN
Control	23.7 ± 0.2	55.7 ± 0.5	130.7 ± 0.5	15.1
200ppm	23.4 ± 0.1	56.6 ± 0.7	131.6 ± 0.4	15.2
400ppm	23.3 ± 0.1	53.8 ± 0.8	131.5 ± 0.5	15.2
800ppm	23.5 ± 0.1	55.2 ± 0.9	132.6 ± 0.4	15.3
1600ppm	24.0 ± 0.2	53.6 ± 1.5	131.0 ± 0.6	15.1
3200ppm	23.1 ± 0.4	55.2 ± 2.0	131.8 ± 0.6	15.2