グリシドールのラットを用いた
吸入によるがん原性試験報告書

試験番号：０３４２

APPENDIX

APPENDICES

APPENDICES (CONTINUED)

APPENDICES (CONTINUED)

APPENDICES (CONTINUED)

APPENDIX A 1

CLINICAL OBSERVATION : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 15-7 1	16-7 1	17-7 1	18-7 1	19-7 1	20-7 1	21-7 1	22-7 1	23-7 1	24-7 1	25-7 1	26-7 1	27-7 1	28-7 1
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 57-7	58-7	59-7	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	3 ppm	0	1	1	1	1	1	1	1	1	1	1	1	1	2
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	3 ppm	2	2	2	2	2	2	2	3	3	3	3	3	3	3
	10 ppm	0	0	0	0	0	0	0	0	0	2	2	2	2	3
	30 ppm	1	2	2	2	3	3	3	3	3	4	4	4	4	4
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	3 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	2	2	3	3	4
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	0	1	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	1
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	1	1	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	2	2	2	2	2	2	2	3	3	3	4	4	4	4
	3 ppm	3	3	3	4	5	5	5	6	6	6	6	6	6	6
	10 ppm	3	3	3	3	3	3	3	3	3	3	4	4	4	4
	30 ppm	4	4	4	4	4	4	4	4	4	5	5	5	7	8
MORIBUND SACRIFICE	0 ppm	1	2	2	2	2	2	2	2	3	3	3	4	4	4
	3 ppm	1	1	1	1	1	1	1	1	1	1	1	2	2	2
	10 ppm	0	1	1	1	1	1	2	3	3	3	3	3	4	4
	30 ppm	4	4	4	5	7	7	8	8	8	9	9	9	9	11
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	1	0	0	1	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	10 ppm	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	30 ppm	0	0	0	0	1	0	0	0	0	1	0	0	0	2
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	2	1	1	0	2
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	2
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
		1	1	1	1	1	1
DEATH	0 ppm	4	4	5	6	6	6
	3 ppm	6	6	6	6	6	6
	10 ppm	5	5	5	5	6	6
	30 ppm	9	9	10	10	11	12
MORIBUND SACRIFICE	0 ppm	4	4	4	4	4	4
	3 ppm	2	2	2	2	2	2
	10 ppm	4	4	5	6	6	6
	30 ppm	13	13	14	15	15	15
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	1	0	0	0
	30 ppm	0	0	1	1	0	0
LATERAL	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	2	2	2	3	2	5
PARALYTIC GAIT	0 ppm	0	0	1	0	0	1
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	1	0	0
SOILED	0 ppm	0	0	1	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-7 1	2-7 1	3-7 1	4-7 1	5-7 1	6-7 1	7-7 1	8-7 1	9-7 1	10-7 1	11-7 1	12-7 1	13-7 1	14-7 1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
EYE OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GROWTH OF TEETH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	1	1	1	1	1	1	1
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GROWTH OF TEETH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 29-7 1	30-7 1	31-7 1	32-7 1	33-7 1	34-7 1	35-7 1	36-7 1	37-7 1	38-7 1	39-7 1	40-7 1	41-7 1	42-7 1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GROWTH OF TEETH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 43-7 1	44-7 1	45-7 1	46-7 1	47-7 1	48-7 1	49-7 1	50-7 1	51-7 1	52-7 1	53-7 1	54-7 1	55-7 1	56-7 1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GROWTH OF TEETH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 57-7	58-7	59-7	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	2	2	2	2	2	2	2	2
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GROWTH OF TEETH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	0	1	1	1	0	0	1	1	2	2	2	2	1	1
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GROWTH OF TEETH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	1	1	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	1	1	1	2	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	1	1	1	2	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	1	1	1	1	1	0	0	0	0	0	0
EYE OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	3	3	3	3	3	2	2	2	1	1	1	1	1	1
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
ABNORMAL GROWTH OF TEETH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
		1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	1	0	1
FROG BELLY	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	1	1	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	1	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
EYE OPACITY	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	1
CATARACT	0 ppm	3	3	3	3	3	3
	3 ppm	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
ABNORMAL GROWTH OF TEETH	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 43-7 1	44-7 1	45-7 1	46-7 1	47-7 1	48-7 1	49-7 1	50-7 1	51-7 1	52-7 1	53-7 1	54-7 1	55-7 1	56-7 1
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 57-7 1	58-7 1	59-7 1	60-7 1	61-7 1	62-7 1	63-7 1	64-7 1	65-7 1	66-7 1	67-7 1	68-7 1	69-7 1	70-7 1
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	1	1	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	2	2	2
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
M. EAR	0 ppm	1	1	1	1	1	1	2	2	2	2	2	2	2	2
	3 ppm	0	0	1	1	1	1	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	2	1	1	1	1	1	1	1	1	1	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. EAR	0 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	1	1	1	1	1	1	1	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	0	0	0	0	0
	30 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
INTERNAL MASS	0 ppm	1	0	0	0	0	0	0	0	0	0	1	2	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	2
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	1	1	0	1	2	2	1	1	1	2
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	1	1	1	1	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	1	2	2	2	2
	30 ppm	1	1	1	1	1	1	1	1	0	0	0	0	1	1
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	2	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	1	1	1	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	30 ppm	1	1	1	0	0	0	0	0	1	1	1	1	1	1

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
		1	1	1	1	1	1
INTERNAL MASS	0 ppm	1	1	1	0	0	1
	3 ppm	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1
M. NOSE	0 ppm	0	0	0	0	0	0
	3 ppm	1	1	1	1	1	1
	10 ppm	1	1	1	1	1	1
	30 ppm	1	1	1	2	1	3
M. EYE	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	1	1
M. PERI MOUTH	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	2	2	2	2	2	2
	30 ppm	2	2	2	2	2	2
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
M. EAR	0 ppm	1	1	1	1	1	1
	3 ppm	0	0	0	0	1	0
	10 ppm	0	1	1	1	0	0
	30 ppm	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR. DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR. DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR. DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	1	2	2	2	2	2	2	2	2	2
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR. DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 57-7 1	58-7 1	59-7 1	60-7 1	61-7 1	62-7 1	63-7 1	64-7 1	65-7 1	66-7 1	67-7 1	68-7 1	69-7 1	70-7 1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	1	1	2	2	2	2
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	30 ppm	0	1	1	1	1	1	1	1	1	1	1	1	1	1
M. ANTERIOR. DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	1	1	1	1	2	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	10 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
M. HINDLIMB	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	1	1	1	1	1	1	1	1	0	0	0	0	2	2
	3 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	1	1	1	1	1	1	1	1	0	0	0	0	0
	30 ppm	2	2	3	3	3	3	3	3	3	3	3	3	3	3
M. ABDOMEN	0 ppm	1	1	2	2	2	1	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	2	2	2	2	2	2	2	2	2	1	1	1	1	1
	30 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR. DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	1	1	1	0	1	1	2	2
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
M. POSTERIOR DORSUM	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	1	1	1	1	1	1	1	2	2	2	2	2	2	2
	10 ppm	1	1	1	2	2	2	2	2	2	2	2	2	2	2
	30 ppm	0	1	1	1	1	1	1	1	1	1	1	1	1	1
M. HINDLIMB	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	2	2	2	2	3	3	3	3	3	3	4	4	5	5
	3 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	3	3	3	3	3	3	3	3	3	4	4	4	3	2
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	10 ppm	1	1	1	1	2	2	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	2
M. ANTERIOR. DORSUM	0 ppm	0	1	1	1	1	1	1	0	0	0	0	0	0	0
	3 ppm	0	0	0	1	2	2	1	1	1	1	1	1	1	1
	10 ppm	2	2	2	3	4	4	4	4	4	4	4	4	4	4
	30 ppm	1	1	1	1	1	1	0	0	0	0	1	1	1	1
M. POSTERIOR DORSUM	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3
	10 ppm	2	2	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	2	2	2	2	2	2	2	2	2	2
M. HINDLIMB	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	2	1	1	1	1	1	1	1	1	1
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	1	0	1	1	1	0	0	0	1	1	0	3	2	2
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	0	1	1	1	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
		1	1	1	1	1	1
M. NECK	0 ppm	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	1	0	0	0
	30 ppm	0	0	0	0	0	0
M. BREAST	0 ppm	6	6	5	5	5	5
	3 ppm	1	1	1	1	1	1
	10 ppm	0	0	0	0	1	1
	30 ppm	1	1	1	1	0	1
M. ABDOMEN	0 ppm	1	2	2	3	3	3
	3 ppm	1	1	1	2	2	2
	10 ppm	1	1	1	2	2	2
	30 ppm	2	2	2	3	3	3
M. ANTERIOR. DORSUM	0 ppm	0	0	0	0	0	0
	3 ppm	1	1	1	1	1	1
	10 ppm	4	4	4	3	3	3
	30 ppm	1	3	3	5	5	5
M. POSTERIOR DORSUM	0 ppm	1	1	1	1	1	1
	3 ppm	3	3	3	3	3	3
	10 ppm	1	1	1	1	1	1
	30 ppm	2	2	2	2	2	2
M. HINDLIMB	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1
M. GENITALIA	0 ppm	0	0	0	0	0	0
	3 ppm	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
ANEMIA	0 ppm	2	1	0	0	0	0
	3 ppm	0	0	0	0	0	1
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHALLOW BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHALLOW BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHALLOW BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHALLOW BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 57-7 1	58-7 1	59-7 1	60-7 1	61-7 1	62-7 1	63-7 1	64-7 1	65-7 1	66-7 1	67-7 1	68-7 1	69-7 1	70-7 1
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHALLOW BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	0
	30 ppm	0	0	0	0	0	0	0	0	1	1	0	1	0	1
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHALLOW BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	1	1	1	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	1	0	0	0	1	1	0
	30 ppm	0	0	0	0	2	1	0	0	1	1	0	0	0	4
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	1
SHALLOW BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	1	1	0	0	2	2	2	2	1	2
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	2	0	0	0	0	0	0	0	1	0
														0	2

Clinical sign	Group Name	Administration Week-day 99-7 1	100-7 1	101-7 1	102-7 1	103-7 1	104-7 1
CRUSTA	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	1	1	1
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
TORTICOLLIS	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	1	0	0	0
	30 ppm	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	1	0	0	0
	30 ppm	2	3	4	7	6	8
BRADYPNEA	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	1	0	1
SHALLOW BREATHING	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	1	4	4	7	6	9
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	1	0	0	0

APPENDIX A 2

CLINICAL OBSERVATION : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 29-7 1	30-7 1	31-7 1	32-7 1	33-7 1	34-7 1	35-7 1	36-7 1	37-7 1	38-7 1	39-7 1	40-7 1	41-7 1	42-7 1
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 57-7 1	58-7 1	59-7 1	60-7 1	61-7 1	62-7 1	63-7 1	64-7 1	65-7 1	66-7 1	67-7 1	68-7 1	69-7 1	70-7 1
DEATH	0 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	2
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	2	2	2	3	3	3	3	3	3	3	3	4	4	4
	3 ppm	0	0	0	1	1	1	1	1	2	2	2	2	2	2
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	1	1	1	1	1	1	2	2	2	3	3	3
MORIBUND SACRIFICE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	2	2	2	2	2	2	2	2
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	1	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
DEATH	0 ppm	4	4	4	4	4	4	4	4	4	4	5	5	6	7
	3 ppm	2	2	2	2	4	6	6	6	6	7	7	8	10	10
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	2
	30 ppm	3	3	3	4	4	4	4	4	4	4	5	5	5	6
MORIBUND SACRIFICE	0 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	1	1	1	1	2	2	2	2	2
	10 ppm	1	1	1	3	3	3	3	3	3	3	3	4	4	4
	30 ppm	2	2	3	3	3	3	3	4	5	6	6	8	8	10
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	1	0	0	0	1	0	0	0	0
	10 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	1	1	0	0	2	0	1
LATERAL	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	1
SOILED	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	1	1	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
		1	1	1	1	1	1
DEATH	0 ppm	7	7	7	7	7	7
	3 ppm	10	10	10	10	10	10
	10 ppm	2	3	3	3	3	3
	30 ppm	6	6	6	6	6	6
MORIBUND SACRIFICE	0 ppm	2	2	2	2	2	2
	3 ppm	2	2	2	2	2	2
	10 ppm	5	6	6	7	7	7
	30 ppm	10	11	11	11	12	12
LOCOMOTOR MOVEMENT DECR	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	1	1	0	1	0	0
	30 ppm	0	1	0	0	1	0
LATERAL	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
HUNCHBACK POSITION	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
PARALYTIC GAIT	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
WASTING	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	1	0	0
	30 ppm	0	0	0	0	0	0
SOILED	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	1	0	0
	30 ppm	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 15-7 1	16-7 1	17-7 1	18-7 1	19-7 1	20-7 1	21-7 1	22-7 1	23-7 1	24-7 1	25-7 1	26-7 1	27-7 1	28-7 1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	0 ppm	0	0	1	1	1	1	1	1	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 29-7 1	30-7 1	31-7 1	32-7 1	33-7 1	34-7 1	35-7 1	36-7 1	37-7 1	38-7 1	39-7 1	40-7 1	41-7 1	42-7 1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	1	1	1	2	2	2	2	2	2	2	2	2	2	2
	10 ppm	1	1	2	2	2	2	2	2	2	2	2	2	2	2
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 43-7 1	44-7 1	45-7 1	46-7 1	47-7 1	48-7 1	49-7 1	50-7 1	51-7 1	52-7 1	53-7 1	54-7 1	55-7 1	56-7 1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 57-7	58-7	59-7	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	1	0	1	1	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	1
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	0	1	0	0	0	0	0	0	0	0	1	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	0 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	0 ppm	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	0	0	0	0	0	0	0	0	1	1	1	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
SOILED PERI GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	1	1	1	0	0	0	0	0	0	0	0	1	0
	30 ppm	0	0	1	0	0	0	1	1	1	1	0	1	0	1
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	0 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	2
	3 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	0 ppm	1	1	1	2	1	1	1	1	1	1	0	0	0	0
	3 ppm	0	0	1	1	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	0	0	0	0	0	1	1	0	1	2
	30 ppm	0	0	1	0	0	0	0	0	0	1	0	0	0	0

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
		1	1	1	1	1	1
PILOERECTION	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
FROG BELLY	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
SOILED PERI GENITALIA	0 ppm	1	1	1	1	1	1
	3 ppm	0	0	0	0	0	1
	10 ppm	1	0	0	0	0	0
	30 ppm	0	0	0	0	1	0
EXOPHTHALMOS	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
CATARACT	0 ppm	2	3	3	3	3	3
	3 ppm	2	2	2	2	2	2
	10 ppm	2	2	2	2	2	2
	30 ppm	0	0	0	0	0	0
CORNEAL OPACITY	0 ppm	0	0	0	0	0	1
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
INTERNAL MASS	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	1	1	2
	10 ppm	2	3	2	2	1	2
	30 ppm	0	0	1	2	2	3

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HEAD	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 15-7 1	16-7 1	17-7 1	18-7 1	19-7 1	20-7 1	21-7 1	22-7 1	23-7 1	24-7 1	25-7 1	26-7 1	27-7 1	28-7 1
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HEAD	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HEAD	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HEAD	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 57-7	58-7	59-7	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HEAD	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HEAD	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NOSE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	0 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
M. EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	0
M. PERI EAR	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HEAD	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 99-7 1	100-7 1	101-7 1	102-7 1	103-7 1	104-7 1
M. NOSE	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0
M. EYE	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
M. PERI MOUTH	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
M. ORAL CAVITY	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	1	1	1	1
M. MANDIBULAR	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1
M. EAR	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
M. PERI EAR	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
M. HEAD	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JAUNDISE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JAUNDISE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 29-7 1	30-7 1	31-7 1	32-7 1	33-7 1	34-7 1	35-7 1	36-7 1	37-7 1	38-7 1	39-7 1	40-7 1	41-7 1	42-7 1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JAUNDISE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JAUNDISE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 57-7	58-7	59-7	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	1
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JAUNDISE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	1	1	1	1	1	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	10 ppm	0	0	0	0	0	0	0	1	1	1	1	1	1	2
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	2	2	2
M. ABDOMEN	0 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1	1
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JAUNDISE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	0 ppm	1	1	1	1	1	1	2	2	2	3	3	3	3	3
	3 ppm	1	0	0	0	0	0	1	1	1	1	1	1	0	0
	10 ppm	2	3	3	2	1	1	1	2	2	2	3	4	4	5
	30 ppm	2	3	3	4	4	4	5	5	5	4	4	4	5	8
M. ABDOMEN	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3 ppm	0	0	0	1	1	1	1	1	1	1	2	2	1	1
	10 ppm	0	0	0	0	0	1	1	1	1	2	2	2	2	1
	30 ppm	1	1	1	1	1	1	1	1	2	2	2	2	4	3
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. GENITALIA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	1	1	1	0	0	0	0	0
	10 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1	2
	30 ppm	0	0	0	0	0	0	1	1	0	0	1	1	1	0
ANEMIA	0 ppm	0	0	0	0	1	0	0	0	0	1	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	0
JAUNDISE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
CRUSTA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
		1	1	1	1	1	1
M. NECK	0 ppm	0	0	0	0	0	1
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
M. BREAST	0 ppm	4	4	4	4	4	4
	3 ppm	1	1	1	3	3	3
	10 ppm	5	5	6	7	7	8
	30 ppm	8	8	7	9	9	12
M. ABDOMEN	0 ppm	1	2	2	2	2	3
	3 ppm	1	2	2	2	2	2
	10 ppm	1	2	3	5	5	5
	30 ppm	3	3	3	3	3	6
M. POSTERIOR DORSUM	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1
M. GENITALIA	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	2	1	1	1	1	1
	30 ppm	0	0	0	0	0	0
ANEMIA	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	1	0	0	0	0
	30 ppm	0	1	0	0	1	1
JAUNDISE	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
CRUSTA	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
HEMORRHAGE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALIVATION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
HEMORRHAGE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALIVATION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
HEMORRHAGE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALIVATION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 43-7 1	44-7 1	45-7 1	46-7 1	47-7 1	48-7 1	49-7 1	50-7 1	51-7 1	52-7 1	53-7 1	54-7 1	55-7 1	56-7 1
HEMORRHAGE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALIVATION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 57-7	58-7	59-7	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
HEMORRHAGE	0 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALIVATION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 71-7 1	72-7 1	73-7 1	74-7 1	75-7 1	76-7 1	77-7 1	78-7 1	79-7 1	80-7 1	81-7 1	82-7 1	83-7 1	84-7 1
HEMORRHAGE	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	2	2	2	0	0	0	0	0	0	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALIVATION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 85-7 1	86-7 1	87-7 1	88-7 1	89-7 1	90-7 1	91-7 1	92-7 1	93-7 1	94-7 1	95-7 1	96-7 1	97-7 1	98-7 1
HEMORRHAGE	0 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	1	0	0	0	1	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	1	1	0	0	2	0	0
BRADYPNEA	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	1	1	0	0	0	0	0
DEEP BREATHING	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	10 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	1	0	0	1	0	1
SALIVATION	0 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
		1	1	1	1	1	1
HEMORRHAGE	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
IRREGULAR BREATHING	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	1	1	0	0	0	0
	30 ppm	0	1	0	0	1	0
BRADYPNEA	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	1	0	0	0	0
	30 ppm	0	0	0	0	0	0
DEEP BREATHING	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
SUBNORMAL TEMP	0 ppm	0	0	0	0	0	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	1	0	1	0	0
	30 ppm	0	0	0	0	0	0
SALIVATION	0 ppm	0	0	0	1	1	0
	3 ppm	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0

APPENDIX B 1

BODY WEIGHT CHANGES :SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 0	1	2	3	4	5	6
0 ppm	122± 4	152± 6	180± 8	204± 10	221± 11	242± 12	256± 13
3 ppm	122± 4	152± 6	180± 8	202± 10	219± 11	238± 12	252± 14
10 ppm	122± 4	152± 6	180± 7	203± 9	219± 10	238± 11	251± 12
30 ppm	122± 4	152± 6	179± 7	201± 8	217± 9	235± 10	249± 12*

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 7	8	9	10	11	12	13
0 ppm	270± 14	280± 15	289± 15	297± 16	304± 17	311± 16	317± 16
3 ppm	265± 14	276± 15	284± 16	292± 17	299± 17	305± 17	314± 19
10 ppm	264± 13*	274± 14	283± 15	291± 15	298± 16	305± 17	312± 17
30 ppm	261± 13**	271± 13**	279± 13**	288± 14*	295± 15*	300± 16**	307± 16**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 14	18	22	26	30	34	38
0 ppm	324± 17	340± 19	354± 20	368± 20	378± 22	387± 23	393± 23
3 ppm	319± 19	337± 20	350± 22	365± 24	376± 25	385± 26	393± 26
10 ppm	317± 17	333± 18	347± 18	359± 19	368± 21	378± 21	384± 21
30 ppm	313± 16**	328± 17**	341± 18**	351± 19**	360± 19**	370± 20**	377± 20**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 42	46	50	54	58	62	66
0 ppm	401± 24	406± 24	412± 24	416± 24	420± 25	422± 25	423± 27
3 ppm	400± 27	405± 27	411± 28	415± 28	417± 30	420± 29	419± 30
10 ppm	391± 22	395± 22	402± 22	407± 22	409± 23	411± 23	411± 25
30 ppm	385± 22**	390± 21**	397± 22**	401± 22**	404± 22**	402± 21**	401± 20**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 70	74	78	82	86	90	94
0 ppm	427± 28	427± 32	426± 26	422± 23	421± 23	419± 25	413± 24
3 ppm	421± 31	419± 34	423± 29	421± 29	423± 30	419± 28	415± 35
10 ppm	414± 26	415± 30	413± 37	408± 26*	408± 26	406± 25*	403± 26
30 ppm	400± 19**	395± 22**	389± 28**	393± 34**	386± 31**	376± 27**	370± 39**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 98	102	104
0 ppm	412± 29	406± 42	401± 47
3 ppm	415± 35	413± 44	411± 50
10 ppm	395± 32	395± 37	392± 43
30 ppm	349± 57**	347± 54**	336± 33**

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

APPENDIX B 2

BODY WEIGHT CHANGES : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 0	1	2	3	4	5	6
0 ppm	96± 3	110± 5	122± 5	133± 6	139± 7	150± 7	156± 8
3 ppm	96± 3	109± 4	122± 4	132± 5	138± 5	148± 7	154± 7
10 ppm	96± 3	110± 5	122± 5	132± 6	138± 6	148± 8	153± 9
30 ppm	96± 3	110± 4	121± 5	132± 5	137± 5	147± 6	152± 7*

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 7	8	9	10	11	12	13
0 ppm	162± 9	165± 9	170± 9	176± 9	180± 10	182± 10	185± 11
3 ppm	159± 7	161± 7	166± 8	172± 8	175± 9	178± 9	182± 10
10 ppm	158± 9*	161± 10	166± 10*	171± 10**	174± 11*	176± 11*	180± 11
30 ppm	157± 7**	159± 8**	164± 8**	168± 8**	171± 8**	173± 8**	177± 8**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 14	18	22	26	30	34	38
0 ppm	188± 11	192± 11	197± 11	205± 13	211± 12	216± 15	217± 14
3 ppm	182± 9*	188± 11	195± 11	204± 12	209± 12	215± 13	216± 13
10 ppm	182± 11*	185± 12**	190± 12**	198± 13*	203± 14**	208± 16**	211± 16
30 ppm	179± 9**	183± 9**	188± 9**	195± 9**	200± 10**	206± 10**	206± 10**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 42	46	50	54	58	62	66
0 ppm	221± 15	224± 16	227± 16	232± 18	234± 19	240± 20	243± 22
3 ppm	220± 14	225± 16	230± 17	234± 19	235± 18	239± 20	244± 21
10 ppm	214± 16*	219± 15	222± 17	228± 18	230± 19	233± 20	238± 21
30 ppm	211± 11**	215± 11**	220± 12*	225± 13	226± 13*	229± 14*	235± 15

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 70	74	78	82	86	90	94
0 ppm	246± 23	250± 23	254± 23	258± 24	262± 25	266± 25	266± 26
3 ppm	250± 21	254± 20	259± 20	262± 22	266± 21	267± 24	270± 24
10 ppm	244± 22	247± 21	252± 22	256± 22	262± 22	267± 22	267± 22
30 ppm	239± 16	240± 18*	243± 21*	249± 21	252± 25	256± 24	256± 30

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 98	102	104
0 ppm	269± 25	270± 27	267± 27
3 ppm	274± 19	272± 21	271± 22
10 ppm	266± 22	267± 29	271± 26
30 ppm	254± 20**	255± 20*	251± 24*

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

APPENDIX C 1

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 1	2	3	4	5	6	7
0 ppm	15.2± 0.9	15.8± 1.1	16.9± 1.1	17.5± 1.2	17.3± 1.3	17.1± 1.2	17.6± 1.3
3 ppm	15.4± 1.0	16.1± 1.2	17.0± 1.3	17.1± 1.2	16.8± 1.1	16.5± 1.3	16.9± 1.0*
10 ppm	15.3± 1.0	16.0± 1.1	16.9± 1.1	17.1± 1.1	16.8± 1.1	16.3± 1.1**	17.0± 1.2*
30 ppm	15.1± 1.0	16.1± 1.1	17.5± 1.3*	17.2± 1.6	17.1± 1.9	16.9± 1.4	17.1± 1.5

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 8	9	10	11	12	13	14
0 ppm	17.4± 1.3	17.1± 1.1	16.8± 1.0	16.8± 1.1	16.4± 0.9	16.6± 0.9	16.7± 0.8
3 ppm	16.8± 0.9	16.6± 1.0	16.4± 1.0	16.2± 1.1*	15.7± 1.1**	16.2± 1.2	16.0± 1.2**
10 ppm	16.8± 1.1	16.6± 1.2	16.1± 1.0**	16.0± 1.2**	16.1± 1.2	16.2± 1.1	16.0± 1.1**
30 ppm	17.1± 1.4	16.6± 1.1	16.1± 1.0**	16.5± 1.4	16.2± 1.3	16.2± 1.2	15.9± 1.0**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 18	22	26	30	34	38	42
0 ppm	16.4± 1.1	16.4± 0.9	16.8± 1.0	16.4± 1.0	16.9± 1.0	17.2± 1.1	17.4± 1.1
3 ppm	16.4± 1.0	16.2± 1.1	16.6± 1.2	16.3± 1.1	16.7± 1.0	17.2± 1.1	17.3± 1.1
10 ppm	16.2± 1.0	16.2± 0.9	16.7± 1.1	16.2± 1.1	16.7± 1.0	16.9± 1.0	17.0± 1.1
30 ppm	15.9± 1.1	16.1± 1.1	16.4± 1.1	16.3± 1.0	16.5± 0.9	16.7± 1.0	17.1± 1.0

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 46	50	54	58	62	66	70
0 ppm	17.1± 1.1	17.4± 1.1	17.4± 1.0	17.5± 1.0	17.8± 1.1	17.8± 1.9	17.9± 1.2
3 ppm	17.0± 0.9	17.2± 1.0	17.4± 1.0	17.3± 1.0	17.6± 1.0	17.7± 1.0	17.8± 1.2
10 ppm	16.7± 0.9	16.9± 1.0*	17.0± 0.9	16.8± 1.0**	17.1± 1.1**	17.3± 0.9**	17.4± 1.2*
30 ppm	16.9± 0.9	16.9± 1.1*	17.1± 1.0	16.7± 1.0**	16.9± 0.9**	17.0± 1.8**	16.8± 1.1**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 74	78	82	86	90	94	98
0 ppm	17.8± 1.2	17.9± 1.6	17.9± 1.1	17.3± 1.1	17.1± 1.3	16.1± 2.5	17.2± 1.3
3 ppm	17.4± 2.0	17.6± 1.1	17.9± 1.2	17.4± 1.6	17.0± 1.3	16.9± 1.9	17.7± 1.6
10 ppm	17.2± 1.5*	17.2± 1.6*	16.7± 1.9**	16.9± 1.0	16.4± 1.9*	16.3± 0.9	16.5± 2.1
30 ppm	16.6± 1.5**	16.7± 1.9**	16.7± 1.5**	15.8± 1.5**	16.2± 1.7*	16.1± 2.2	14.7± 5.4*

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 102	104
0 ppm	17.4± 1.5	17.2± 1.9
3 ppm	18.3± 1.6*	18.1± 1.6*
10 ppm	17.0± 1.7	16.9± 1.2
30 ppm	16.2± 1.7*	16.2± 2.1

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

APPENDIX C 2

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 1	2	3	4	5	6	7
0 ppm	11.0± 0.8	10.8± 0.6	11.3± 0.9	11.7± 0.8	11.8± 0.9	11.5± 1.0	11.9± 1.0
3 ppm	11.3± 0.7	10.5± 0.7*	11.4± 0.8	11.4± 0.7	11.6± 0.9	11.2± 1.0	11.4± 1.1
10 ppm	11.1± 0.8	10.7± 0.7	11.4± 0.9	11.5± 1.2	11.6± 1.9	11.0± 1.4**	11.3± 1.0*
30 ppm	11.0± 0.7	10.7± 0.7	11.6± 0.8	11.3± 0.7*	11.6± 0.8	11.2± 0.8	11.2± 1.0**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 8	9	10	11	12	13	14
0 ppm	10.9± 0.8	11.8± 1.0	12.1± 1.0	12.2± 1.1	11.5± 1.0	11.6± 1.6	11.7± 1.8
3 ppm	10.8± 0.9	11.4± 1.1	11.8± 0.9	11.5± 0.9*	11.1± 0.9	11.6± 1.1	11.1± 0.9
10 ppm	10.9± 0.9	11.1± 0.9**	11.1± 0.8**	11.2± 1.0**	11.3± 1.3	11.4± 1.1	11.3± 1.2
30 ppm	10.5± 0.7	11.0± 0.8**	10.9± 0.8**	11.1± 0.8**	11.1± 0.9	11.2± 0.8	10.9± 0.9**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 18	22	26	30	34	38	42
0 ppm	11.2± 1.0	11.2± 1.0	11.6± 1.3	11.6± 1.1	11.7± 1.3	11.8± 1.0	11.8± 0.9
3 ppm	11.2± 1.1	11.2± 1.0	11.9± 1.9	11.6± 1.2	12.1± 1.4	11.9± 1.2	11.8± 1.0
10 ppm	10.6± 0.9*	10.8± 0.8*	11.5± 0.9	11.0± 1.0*	11.8± 1.3	11.6± 1.1	11.4± 0.8
30 ppm	10.9± 0.9	10.7± 0.9**	11.3± 1.2	11.2± 1.0	11.8± 1.1	11.2± 0.8*	11.5± 1.0

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 46	50	54	58	62	66	70
0 ppm	11.8± 1.1	12.1± 1.0	11.9± 1.0	12.0± 0.9	12.6± 1.1	12.7± 1.1	13.0± 1.1
3 ppm	12.2± 1.1	12.3± 1.6	12.1± 1.3	11.9± 0.9	12.4± 1.0	12.8± 1.1	13.1± 1.0
10 ppm	11.8± 1.1	11.8± 1.1	11.9± 1.1	11.6± 1.3	11.7± 1.0**	12.4± 1.0	12.8± 1.1
30 ppm	11.6± 0.8	12.0± 0.9	11.7± 0.9	11.6± 0.7	11.5± 0.8**	12.4± 1.0	12.3± 1.2**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 74	78	82	86	90	94	98
0 ppm	12.8± 1.2	12.8± 1.0	12.9± 1.0	12.9± 1.0	12.7± 1.0	12.2± 1.0	13.0± 1.5
3 ppm	12.5± 0.9	12.8± 1.0	12.9± 1.2	12.4± 1.4	12.1± 1.3*	12.1± 2.0	13.0± 1.3
10 ppm	12.2± 1.0*	12.5± 1.2	12.5± 1.2	12.7± 1.1	12.5± 1.0	12.0± 1.7	12.6± 1.4
30 ppm	11.8± 1.1**	12.0± 1.2**	12.4± 1.0	12.2± 1.0**	12.1± 1.3*	11.7± 1.7*	12.6± 1.9

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 102	104
0 ppm	13.4± 1.2	12.9± 1.3
3 ppm	13.2± 1.3	12.7± 1.6
10 ppm	12.8± 2.2	13.1± 1.2
30 ppm	12.3± 1.4**	11.9± 2.3

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

APPENDIX D 1

HEMATOLOGY : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$		HEMOGLOBIN g/dℓ		HEMATOCRIT %		MCV fℓ		MCH pg		MCHC g/dℓ		PLATELET $10^3/\mu\ell$	
0 ppm	39	8.38±	1.39	13.9±	2.3	42.9±	6.1	51.6±	4.0	16.7±	1.3	32.3±	1.1	868±	209
3 ppm	40	7.93±	1.32	13.0±	2.7	40.6±	7.0	51.3±	3.2	16.2±	1.5	31.6±	1.9	1009±	320
10 ppm	36	8.50±	1.49	13.8±	2.8	43.0±	7.5	50.8±	3.2	16.2±	1.3	32.0±	1.5	892±	181
30 ppm	21	8.61±	1.55	13.9±	3.1	43.5±	8.4	50.4±	2.8	16.0±	1.5	31.8±	1.8	852±	215

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
0 ppm	39	6.19± 2.46	1± 1	42± 11	2± 2	0± 0	5± 3	47± 10	3± 5
3 ppm	40	5.84± 1.77	1± 1	41± 11	2± 2	0± 0	5± 2	47± 10	4± 5
10 ppm	36	5.52± 1.37	1± 1	40± 9	2± 1	0± 0	4± 2	48± 10	4± 5
30 ppm	21	7.47± 2.89	1± 2	45± 14	1± 1*	0± 0	4± 2	42± 14	6± 8

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

(HCL070)

APPENDIX D 2

HEMATOLOGY : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
0 ppm	41	8.25± 0.99	15.0± 1.6	44.6± 4.1	54.7± 5.2	18.3± 1.3	33.6± 0.8	605± 84
3 ppm	38	8.27± 0.50	14.9± 1.0	44.7± 2.5	54.1± 1.9	18.1± 0.7	33.4± 0.7	603± 109
10 ppm	39	8.18± 0.66	14.8± 1.2	44.2± 3.0	54.2± 2.3	18.1± 0.7	33.4± 0.6	618± 69
30 ppm	32	7.67± 1.21**	14.0± 2.0**	42.3± 5.0**	55.9± 6.0	18.4± 1.3	33.0± 1.6*	656± 135

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
0 ppm	41	4.50± 11.04	1± 1	39± 12	2± 1	0± 0	5± 2	48± 11	5± 16
3 ppm	38	3.02± 2.41	1± 1	39± 13	2± 1	0± 0	5± 2	50± 13	3± 5
10 ppm	39	3.54± 3.21	1± 1	37± 11	2± 1	0± 0	5± 2	53± 10	3± 4
30 ppm	32	8.00± 15.25**	1± 2	38± 16	1± 1	0± 0	4± 2	45± 17	10± 23

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

(HCL070)

APPENDIX E 1

BIOCHEMISTRY : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	TOTAL PROTEIN g/dl		ALBUMIN g/dl		A/G RATIO		T-BILIRUBIN mg/dl		GLUCOSE mg/dl		T-CHOLESTEROL mg/dl		TRIGLYCERIDE mg/dl	
0 ppm	39	6.3±	0.6	3.3±	0.3	1.1±	0.1	0.21±	0.22	146±	29	187±	62	118±	85
3 ppm	41	6.4±	0.5	3.4±	0.3	1.1±	0.1	0.16±	0.06	155±	23	193±	68	133±	77
10 ppm	37	6.4±	0.3	3.4±	0.3	1.1±	0.1	0.18±	0.03	157±	22	189±	73	129±	87
30 ppm	21	6.3±	0.8	3.1±	0.3*	1.0±	0.2**	0.18±	0.08	135±	35	209±	71	167±	177

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dℓ	GOT IU/ℓ	GPT IU/ℓ	LDH IU/ℓ	ALP IU/ℓ	G-GTP IU/ℓ	CPK IU/ℓ
0 ppm	39	269± 93	114± 125	48± 36	215± 97	208± 98	11± 7	105± 36
3 ppm	41	280± 82	75± 41	34± 14	193± 54	207± 72	11± 6	93± 17
10 ppm	37	274± 104	78± 28	36± 15	195± 46	200± 61	13± 8	91± 12
30 ppm	21	332± 167	110± 81	50± 33	218± 73	232± 128	14± 10	106± 23

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ	CREATININE mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ	INORGANIC PHOSPHORUS mg/dℓ
0 ppm	39	21.1± 5.1	0.6± 0.1	143± 2	3.9± 0.3	106± 2	10.2± 0.4	4.2± 0.7
3 ppm	41	22.1± 5.8	0.5± 0.1	143± 2	3.9± 0.4	106± 2	10.3± 0.3	4.4± 0.6
10 ppm	37	21.3± 5.0	0.5± 0.1	143± 1	3.8± 0.3	106± 2	10.3± 0.4	4.2± 0.6
30 ppm	21	22.8± 4.4	0.5± 0.1	142± 1	3.9± 0.5	104± 2**	10.3± 0.5	4.5± 0.8

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

(HCL074)

APPENDIX E 2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	A/G RATIO	T-BILIRUBIN mg/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	TRIGLYCERIDE mg/dℓ
0 ppm	41	6.8± 0.4	4.0± 0.3	1.5± 0.2	0.16± 0.09	144± 15	140± 27	75± 57
3 ppm	38	6.8± 0.4	3.9± 0.4	1.4± 0.2	0.15± 0.05	143± 18	158± 65	105± 161
10 ppm	39	6.7± 0.3	4.0± 0.3	1.4± 0.2	0.15± 0.03	147± 13	140± 29	74± 32
30 ppm	32	6.6± 0.4	3.8± 0.2	1.4± 0.2	0.16± 0.06	143± 23	149± 67	87± 72

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dℓ	GOT IU/ℓ	GPT IU/ℓ	LDH IU/ℓ	ALP IU/ℓ	G-GTP IU/ℓ	CPK IU/ℓ
0 ppm	41	253± 41	138± 152	57± 27	264± 206	132± 57	5± 4	96± 36
3 ppm	38	275± 103	139± 66	61± 26	265± 93	136± 66	5± 2	95± 27
10 ppm	39	251± 49	151± 79	63± 31	287± 154	124± 51	5± 3	93± 40
30 ppm	32	262± 96	157± 114	55± 23	307± 245	151± 72	6± 5	100± 50

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	UREA NITROGEN mg/dl	CREATININE mg/dl	SODIUM mEq/l	POTASSIUM mEq/l	CHLORIDE mEq/l	CALCIUM mg/dl	INORGANIC PHOSPHORUS mg/dl
0 ppm	41	18.8± 2.1	0.5± 0.1	142± 1	3.6± 0.4	104± 2	10.2± 0.3	3.8± 0.7
3 ppm	38	19.3± 2.5	0.5± 0.1	141± 2	3.6± 0.4	104± 2	10.4± 0.5	4.1± 0.7
10 ppm	39	18.2± 1.6	0.5± 0.1	141± 1	3.4± 0.4	104± 2	10.2± 0.3	3.9± 0.7
30 ppm	32	18.0± 2.4	0.5± 0.1	142± 1	3.5± 0.4	104± 2	10.1± 0.4	4.1± 0.5

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

APPENDIX F 1

URINALYSIS : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Bilirubin −	+	2+	3+	CHI
0 ppm	40	0	1	2	5	26	6	0		0	0	0	1	13	26		40	0	0	0	0	0		36	3	1	0	0	0		39	1	0	0	
3 ppm	42	0	2	4	8	25	3	0		0	0	0	4	10	28		42	0	0	0	0	0		40	1	1	0	0	0		40	2	0	0	
10 ppm	38	0	0	2	4	21	9	2		0	0	0	1	12	25		38	0	0	0	0	0		38	0	0	0	0	0		38	0	0	0	
30 ppm	23	0	1	5	2	9	6	0		0	0	0	0	3	20		23	0	0	0	0	0		20	2	1	0	0	0		22	1	0	0	

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
0 ppm	40	40	0	0	0	0		40	0	0	0	0	
3 ppm	42	40	0	1	0	1		42	0	0	0	0	
10 ppm	38	38	0	0	0	0		38	0	0	0	0	
30 ppm	23	19	1	0	0	3	*	23	0	0	0	0	

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX F 2

URINALYSIS : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Bilirubin −	+	2+	3+	CHI
0 ppm	41	0	0	1	7	10	17	6		1	3	7	10	14	6		41	0	0	0	0	0		35	4	1	1	0	0		40	1	0	0	
3 ppm	38	0	0	3	4	12	18	1		0	1	7	12	8	10		38	0	0	0	0	0		31	5	2	0	0	0		38	0	0	0	
10 ppm	39	0	0	0	6	12	21	0		0	3	2	8	19	7		39	0	0	0	0	0		24	15	0	0	0	0	*	39	0	0	0	
30 ppm	32	0	1	2	3	11	10	5		0	0	2	7	16	7		32	0	0	0	0	0		18	13	1	0	0	0	*	31	1	0	0	

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
0 ppm	41	41	0	0	0	0		41	0	0	0	0	
3 ppm	38	36	0	0	2	0		38	0	0	0	0	
10 ppm	39	36	2	0	1	0		39	0	0	0	0	
30 ppm	32	29	1	0	0	2		32	0	0	0	0	

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX G 1

GROSS FINDINGS : SUMMARY, RAT : MALE

ALL ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name / NO. of Animals	0 ppm 50 (%)	3 ppm 50 (%)	10 ppm 50 (%)	30 ppm 50 (%)
skin/app	nodule		3 (6)	4 (8)	5 (10)	12 (24)
	scab		0 (0)	1 (2)	0 (0)	0 (0)
subcutis	edema		0 (0)	0 (0)	1 (2)	0 (0)
	jaundice		0 (0)	0 (0)	0 (0)	1 (2)
	nodule		1 (2)	0 (0)	0 (0)	0 (0)
	mass		10 (20)	8 (16)	11 (22)	14 (28)
lung	red		1 (2)	0 (0)	0 (0)	1 (2)
	white zone		0 (0)	1 (2)	4 (8)	2 (4)
	red zone		0 (0)	0 (0)	0 (0)	1 (2)
	yellow zone		0 (0)	1 (2)	0 (0)	0 (0)
	red patch		0 (0)	1 (2)	0 (0)	1 (2)
	nodule		5 (10)	2 (4)	0 (0)	0 (0)
	voluminus		0 (0)	0 (0)	0 (0)	1 (2)
lymph node	enlarged		2 (4)	0 (0)	0 (0)	1 (2)
spleen	enlarged		9 (18)	3 (6)	3 (6)	4 (8)
	white zone		0 (0)	0 (0)	1 (2)	1 (2)
	nodule		0 (0)	0 (0)	0 (0)	1 (2)
	deformed		0 (0)	1 (2)	0 (0)	0 (0)
heart	white zone		0 (0)	0 (0)	1 (2)	0 (0)
	fluid:red		0 (0)	0 (0)	0 (0)	1 (2)
	fluid:brown		0 (0)	0 (0)	0 (0)	1 (2)
salivary gl	nodule		0 (0)	0 (0)	2 (4)	0 (0)

Organ	Findings	Group Name / NO. of Animals	0 ppm 50 (%)	3 ppm 50 (%)	10 ppm 50 (%)	30 ppm 50 (%)
forestomach	nodule		0 (0)	0 (0)	1 (2)	0 (0)
	ulcer		1 (2)	0 (0)	0 (0)	1 (2)
gl stomach	black zone		0 (0)	0 (0)	0 (0)	1 (2)
	ulcer		0 (0)	0 (0)	0 (0)	1 (2)
	erosion		1 (2)	0 (0)	0 (0)	0 (0)
stomach	nodule		0 (0)	1 (2)	0 (0)	0 (0)
small intes	red zone		0 (0)	0 (0)	0 (0)	1 (2)
	nodule		0 (0)	0 (0)	0 (0)	1 (2)
liver	enlarged		0 (0)	0 (0)	1 (2)	0 (0)
	pale		1 (2)	0 (0)	0 (0)	0 (0)
	nodule		1 (2)	3 (6)	1 (2)	0 (0)
	rough		5 (10)	1 (2)	2 (4)	3 (6)
	herniation		5 (10)	9 (18)	6 (12)	3 (6)
pancreas	nodule		2 (4)	0 (0)	0 (0)	0 (0)
kidney	enlarged		0 (0)	0 (0)	0 (0)	1 (2)
	cyst		0 (0)	0 (0)	0 (0)	1 (2)
	granular		18 (36)	19 (38)	20 (40)	16 (32)
urin bladd	nodule		0 (0)	0 (0)	0 (0)	1 (2)
	urine:marked retention		1 (2)	0 (0)	0 (0)	1 (2)
pituitary	enlarged		2 (4)	4 (8)	1 (2)	4 (8)
	red zone		3 (6)	3 (6)	3 (6)	1 (2)
	nodule		4 (8)	5 (10)	3 (6)	7 (14)

Organ	Findings	Group Name / NO. of Animals	0 ppm 50 (%)	3 ppm 50 (%)	10 ppm 50 (%)	30 ppm 50 (%)
thyroid	enlarged		3 (6)	2 (4)	2 (4)	6 (12)
adrenal	enlarged		1 (2)	1 (2)	2 (4)	1 (2)
testis	atrophic		0 (0)	0 (0)	3 (6)	1 (2)
	nodule		38 (76)	39 (78)	41 (82)	44 (88)
brain	red zone		0 (0)	0 (0)	1 (2)	1 (2)
	hemorrhage		0 (0)	1 (2)	0 (0)	0 (0)
	deformed		0 (0)	0 (0)	0 (0)	1 (2)
spinal cord	hemorrhage		0 (0)	1 (2)	0 (0)	0 (0)
eye	turbid		0 (0)	0 (0)	0 (0)	2 (4)
	white		3 (6)	0 (0)	1 (2)	2 (4)
	red		0 (0)	0 (0)	0 (0)	1 (2)
	nodule		0 (0)	0 (0)	0 (0)	1 (2)
Zymbal gl	nodule		0 (0)	3 (6)	1 (2)	2 (4)
muscle	nodule		0 (0)	0 (0)	1 (2)	0 (0)
bone	nodule		0 (0)	1 (2)	0 (0)	0 (0)
peritoneum	nodule		2 (4)	5 (10)	9 (18)	18 (36)
	thick		0 (0)	0 (0)	0 (0)	1 (2)
retroperit	mass		0 (0)	0 (0)	1 (2)	1 (2)
	cyst		0 (0)	0 (0)	1 (2)	0 (0)
abdominal c	hemorrhage		0 (0)	0 (0)	1 (2)	0 (0)
	pleural fluid		0 (0)	0 (0)	0 (0)	1 (2)
	ascites		1 (2)	1 (2)	5 (10)	11 (22)

Organ	Findings	Group Name / NO. of Animals	0 ppm 50 (%)	3 ppm 50 (%)	10 ppm 50 (%)	30 ppm 50 (%)
mesenterium	mass		1 (2)	0 (0)	0 (0)	0 (0)
thoracic ca	hemorrhage		0 (0)	0 (0)	1 (2)	0 (0)
	nodule		0 (0)	0 (0)	1 (2)	0 (0)
	pleural fluid		2 (4)	0 (0)	1 (2)	3 (6)
	ascites		0 (0)	0 (0)	0 (0)	1 (2)
other	ear:nodule		2 (4)	0 (0)	0 (0)	0 (0)
	hindlimb:nodule		0 (0)	0 (0)	0 (0)	1 (2)
	nose:elevated		0 (0)	0 (0)	0 (0)	6 (12)
	nose:nodule		0 (0)	0 (0)	0 (0)	1 (2)
whole body	anemic		0 (0)	1 (2)	1 (2)	0 (0)

APPENDIX G 2

GROSS FINDINGS : SUMMARY, RAT : MALE

DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name / NO. of Animals	0 ppm 10	(%)	3 ppm 8	(%)	10 ppm 12	(%)	30 ppm 27	(%)
skin/app	nodule		0	(0)	0	(0)	2	(17)	5	(19)
subcutis	edema		0	(0)	0	(0)	1	(8)	0	(0)
	jaundice		0	(0)	0	(0)	0	(0)	1	(4)
	mass		3	(30)	1	(13)	4	(33)	5	(19)
lung	red		1	(10)	0	(0)	0	(0)	1	(4)
	white zone		0	(0)	0	(0)	1	(8)	0	(0)
	red zone		0	(0)	0	(0)	0	(0)	1	(4)
	yellow zone		0	(0)	1	(13)	0	(0)	0	(0)
	red patch		0	(0)	1	(13)	0	(0)	1	(4)
	nodule		0	(0)	1	(13)	0	(0)	0	(0)
	voluminus		0	(0)	0	(0)	0	(0)	1	(4)
lymph node	enlarged		2	(20)	0	(0)	0	(0)	1	(4)
spleen	enlarged		7	(70)	2	(25)	2	(17)	3	(11)
	white zone		0	(0)	0	(0)	1	(8)	0	(0)
	nodule		0	(0)	0	(0)	0	(0)	1	(4)
heart	white zone		0	(0)	0	(0)	1	(8)	0	(0)
	fluid:red		0	(0)	0	(0)	0	(0)	1	(4)
	fluid:brown		0	(0)	0	(0)	0	(0)	1	(4)
salivary gl	nodule		0	(0)	0	(0)	1	(8)	0	(0)
forestomach	nodule		0	(0)	0	(0)	1	(8)	0	(0)
	ulcer		1	(10)	0	(0)	0	(0)	1	(4)
gl stomach	black zone		0	(0)	0	(0)	0	(0)	1	(4)

Organ	Findings	Group Name / NO. of Animals	0 ppm 10 (%)	3 ppm 8 (%)	10 ppm 12 (%)	30 ppm 27 (%)
gl stomach	ulcer		0 (0)	0 (0)	0 (0)	1 (4)
	erosion		1 (10)	0 (0)	0 (0)	0 (0)
small intes	red zone		0 (0)	0 (0)	0 (0)	1 (4)
liver	enlarged		0 (0)	0 (0)	1 (8)	0 (0)
	pale		1 (10)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	1 (13)	0 (0)	0 (0)
	rough		1 (10)	0 (0)	1 (8)	0 (0)
	herniation		0 (0)	3 (38)	0 (0)	3 (11)
kidney	enlarged		0 (0)	0 (0)	0 (0)	1 (4)
	cyst		0 (0)	0 (0)	0 (0)	1 (4)
	granular		1 (10)	0 (0)	2 (17)	1 (4)
urin bladd	urine:marked retention		1 (10)	0 (0)	0 (0)	1 (4)
pituitary	enlarged		1 (10)	0 (0)	0 (0)	2 (7)
	nodule		1 (10)	1 (13)	1 (8)	1 (4)
thyroid	enlarged		0 (0)	0 (0)	0 (0)	1 (4)
adrenal	enlarged		0 (0)	1 (13)	1 (8)	1 (4)
testis	atrophic		0 (0)	0 (0)	2 (17)	1 (4)
	nodule		3 (30)	2 (25)	8 (67)	23 (85)
brain	red zone		0 (0)	0 (0)	1 (8)	1 (4)
	hemorrhage		0 (0)	1 (13)	0 (0)	0 (0)
	deformed		0 (0)	0 (0)	0 (0)	1 (4)
spinal cord	hemorrhage		0 (0)	1 (13)	0 (0)	0 (0)

Organ	Findings	Group Name / NO. of Animals	0 ppm 10	(%)	3 ppm 8	(%)	10 ppm 12	(%)	30 ppm 27	(%)
eye	turbid		0	(0)	0	(0)	0	(0)	1	(4)
	white		0	(0)	0	(0)	0	(0)	2	(7)
Zymbal gl	nodule		0	(0)	1	(13)	1	(8)	1	(4)
muscle	nodule		0	(0)	0	(0)	1	(8)	0	(0)
bone	nodule		0	(0)	1	(13)	0	(0)	0	(0)
peritoneum	nodule		0	(0)	1	(13)	2	(17)	13	(48)
	thick		0	(0)	0	(0)	0	(0)	1	(4)
retroperit	mass		0	(0)	0	(0)	0	(0)	1	(4)
abdominal c	hemorrhage		0	(0)	0	(0)	1	(8)	0	(0)
	pleural fluid		0	(0)	0	(0)	0	(0)	1	(4)
	ascites		1	(10)	0	(0)	2	(17)	10	(37)
mesenterium	mass		1	(10)	0	(0)	0	(0)	0	(0)
thoracic ca	hemorrhage		0	(0)	0	(0)	1	(8)	0	(0)
	nodule		0	(0)	0	(0)	1	(8)	0	(0)
	pleural fluid		0	(0)	0	(0)	1	(8)	3	(11)
	ascites		0	(0)	0	(0)	0	(0)	1	(4)
other	ear:nodule		1	(10)	0	(0)	0	(0)	0	(0)
	hindlimb:nodule		0	(0)	0	(0)	0	(0)	1	(4)
	nose:elevated		0	(0)	0	(0)	0	(0)	3	(11)
	nose:nodule		0	(0)	0	(0)	0	(0)	1	(4)
whole body	anemic		0	(0)	0	(0)	1	(8)	0	(0)

APPENDIX G 3

GROSS FINDINGS : SUMMARY, RAT : MALE

SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name / NO. of Animals	0 ppm 40 (%)	3 ppm 42 (%)	10 ppm 38 (%)	30 ppm 23 (%)
skin/app	nodule		3 (8)	4 (10)	3 (8)	7 (30)
	scab		0 (0)	1 (2)	0 (0)	0 (0)
subcutis	nodule		1 (3)	0 (0)	0 (0)	0 (0)
	mass		7 (18)	7 (17)	7 (18)	9 (39)
lung	white zone		0 (0)	1 (2)	3 (8)	2 (9)
	nodule		5 (13)	1 (2)	0 (0)	0 (0)
spleen	enlarged		2 (5)	1 (2)	1 (3)	1 (4)
	white zone		0 (0)	0 (0)	0 (0)	1 (4)
	deformed		0 (0)	1 (2)	0 (0)	0 (0)
salivary gl	nodule		0 (0)	0 (0)	1 (3)	0 (0)
stomach	nodule		0 (0)	1 (2)	0 (0)	0 (0)
small intes	nodule		0 (0)	0 (0)	0 (0)	1 (4)
liver	nodule		1 (3)	2 (5)	1 (3)	0 (0)
	rough		4 (10)	1 (2)	1 (3)	3 (13)
	herniation		5 (13)	6 (14)	6 (16)	0 (0)
pancreas	nodule		2 (5)	0 (0)	0 (0)	0 (0)
kidney	granular		17 (43)	19 (45)	18 (47)	15 (65)
urin bladd	nodule		0 (0)	0 (0)	0 (0)	1 (4)
pituitary	enlarged		1 (3)	4 (10)	1 (3)	2 (9)
	red zone		3 (8)	3 (7)	3 (8)	1 (4)
	nodule		3 (8)	4 (10)	2 (5)	6 (26)
thyroid	enlarged		3 (8)	2 (5)	2 (5)	5 (22)

Organ	Findings	Group Name NO. of Animals	0 ppm 40 (%)	3 ppm 42 (%)	10 ppm 38 (%)	30 ppm 23 (%)
adrenal	enlarged		1 (3)	0 (0)	1 (3)	0 (0)
testis	atrophic		0 (0)	0 (0)	1 (3)	0 (0)
	nodule		35 (88)	37 (88)	33 (87)	21 (91)
eye	turbid		0 (0)	0 (0)	0 (0)	1 (4)
	white		3 (8)	0 (0)	1 (3)	0 (0)
	red		0 (0)	0 (0)	0 (0)	1 (4)
	nodule		0 (0)	0 (0)	0 (0)	1 (4)
Zymbal gl	nodule		0 (0)	2 (5)	0 (0)	1 (4)
peritoneum	nodule		2 (5)	4 (10)	7 (18)	5 (22)
retroperit	mass		0 (0)	0 (0)	1 (3)	0 (0)
	cyst		0 (0)	0 (0)	1 (3)	0 (0)
abdominal c	ascites		0 (0)	1 (2)	3 (8)	1 (4)
thoracic ca	pleural fluid		2 (5)	0 (0)	0 (0)	0 (0)
other	ear:nodule		1 (3)	0 (0)	0 (0)	0 (0)
	nose:elevated		0 (0)	0 (0)	0 (0)	3 (13)
whole body	anemic		0 (0)	1 (2)	0 (0)	0 (0)

APPENDIX G 4

GROSS FINDINGS : SUMMARY, RAT : FEMALE

ALL ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name / NO. of Animals	0 ppm 50	(%)	3 ppm 50	(%)	10 ppm 49	(%)	30 ppm 50	(%)
skin/app	nodule		1	(2)	0	(0)	2	(4)	4	(8)
	scab		0	(0)	0	(0)	0	(0)	1	(2)
subcutis	jaundice		1	(2)	0	(0)	1	(2)	1	(2)
	nodule		0	(0)	0	(0)	1	(2)	0	(0)
	mass		9	(18)	9	(18)	19	(39)	20	(40)
lung	red		0	(0)	1	(2)	0	(0)	0	(0)
	white zone		0	(0)	2	(4)	2	(4)	1	(2)
	red zone		0	(0)	1	(2)	0	(0)	2	(4)
	brown zone		1	(2)	0	(0)	0	(0)	0	(0)
	nodule		0	(0)	0	(0)	2	(4)	1	(2)
lymph node	enlarged		0	(0)	0	(0)	2	(4)	2	(4)
spleen	enlarged		4	(8)	5	(10)	2	(4)	9	(18)
	nodule		0	(0)	0	(0)	1	(2)	1	(2)
heart	white zone		0	(0)	0	(0)	0	(0)	1	(2)
oral cavity	nodule		0	(0)	0	(0)	1	(2)	0	(0)
tongue	nodule		0	(0)	1	(2)	1	(2)	1	(2)
gl stomach	nodule		0	(0)	0	(0)	1	(2)	0	(0)
	ulcer		0	(0)	2	(4)	0	(0)	0	(0)
small intes	nodule		0	(0)	0	(0)	0	(0)	1	(2)
	dilated		1	(2)	0	(0)	0	(0)	0	(0)
cecum	nodule		0	(0)	0	(0)	0	(0)	1	(2)
liver	white zone		2	(4)	2	(4)	1	(2)	0	(0)

Organ	Findings	Group Name / NO. of Animals	0 ppm 50 (%)	3 ppm 50 (%)	10 ppm 49 (%)	30 ppm 50 (%)
liver	red zone		1 (2)	0 (0)	4 (8)	0 (0)
	nodule		1 (2)	0 (0)	0 (0)	1 (2)
	rough		2 (4)	3 (6)	1 (2)	2 (4)
	granular		0 (0)	0 (0)	0 (0)	1 (2)
	nodular		0 (0)	1 (2)	1 (2)	0 (0)
	herniation		15 (30)	4 (8)	14 (29)	4 (8)
pancreas	nodule		1 (2)	1 (2)	0 (0)	0 (0)
kidney	white zone		0 (0)	0 (0)	0 (0)	3 (6)
	nodule		0 (0)	1 (2)	1 (2)	0 (0)
	cyst		0 (0)	1 (2)	0 (0)	0 (0)
	granular		0 (0)	3 (6)	1 (2)	3 (6)
urin bladd	nodule		0 (0)	0 (0)	1 (2)	0 (0)
	urine:marked retention		0 (0)	0 (0)	1 (2)	1 (2)
pituitary	enlarged		7 (14)	8 (16)	5 (10)	3 (6)
	red zone		4 (8)	5 (10)	8 (16)	7 (14)
	black zone		0 (0)	0 (0)	0 (0)	1 (2)
	nodule		9 (18)	7 (14)	8 (16)	5 (10)
thyroid	enlarged		1 (2)	0 (0)	1 (2)	3 (6)
	nodule		1 (2)	0 (0)	0 (0)	1 (2)
adrenal	enlarged		1 (2)	2 (4)	1 (2)	0 (0)
	adhesion		0 (0)	0 (0)	1 (2)	0 (0)
ovary	enlarged		0 (0)	1 (2)	0 (0)	0 (0)

Organ	Findings	Group Name / NO. of Animals	0 ppm 50 (%)	3 ppm 50 (%)	10 ppm 49 (%)	30 ppm 50 (%)
ovary	nodule		0 (0)	0 (0)	0 (0)	1 (2)
	cyst		1 (2)	3 (6)	2 (4)	1 (2)
uterus	enlarged		0 (0)	1 (2)	0 (0)	0 (0)
	nodule		5 (10)	10 (20)	13 (27)	11 (22)
	cyst		1 (2)	1 (2)	1 (2)	2 (4)
vagina	fluid:red		0 (0)	0 (0)	0 (0)	1 (2)
brain	swollen		0 (0)	0 (0)	1 (2)	0 (0)
eye	turbid		1 (2)	0 (0)	1 (2)	0 (0)
	white		3 (6)	2 (4)	1 (2)	0 (0)
Zymbal gl	nodule		0 (0)	0 (0)	1 (2)	0 (0)
bone	nodule		0 (0)	0 (0)	0 (0)	1 (2)
articulus	swollen		0 (0)	0 (0)	1 (2)	0 (0)
mediastinum	mass		1 (2)	0 (0)	0 (0)	0 (0)
peritoneum	nodule		0 (0)	0 (0)	1 (2)	0 (0)
	thick		0 (0)	0 (0)	0 (0)	1 (2)
abdominal c	hemorrhage		0 (0)	2 (4)	0 (0)	0 (0)
	mass		0 (0)	0 (0)	0 (0)	2 (4)
	ascites		0 (0)	0 (0)	0 (0)	2 (4)
thoracic ca	hemorrhage		1 (2)	0 (0)	0 (0)	1 (2)
	pleural fluid		0 (0)	0 (0)	0 (0)	2 (4)
other	ear:nodule		0 (0)	0 (0)	0 (0)	1 (2)
	nose:elevated		0 (0)	0 (0)	0 (0)	1 (2)

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		NO. of Animals	50 (%)	50 (%)	49 (%)	50 (%)
whole body	anemic		0 (0)	0 (0)	0 (0)	1 (2)

APPENDIX G 5

GROSS FINDINGS : SUMMARY, RAT : FEMALE

DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name / NO. of Animals	0 ppm 9 (%)	3 ppm 12 (%)	10 ppm 10 (%)	30 ppm 18 (%)
skin/app	nodule		0 (0)	0 (0)	0 (0)	2 (11)
subcutis	jaundice		1 (11)	0 (0)	1 (10)	1 (6)
	mass		1 (11)	2 (17)	4 (40)	4 (22)
lung	red		0 (0)	1 (8)	0 (0)	0 (0)
	red zone		0 (0)	1 (8)	0 (0)	1 (6)
	nodule		0 (0)	0 (0)	1 (10)	1 (6)
lymph node	enlarged		0 (0)	0 (0)	2 (20)	1 (6)
spleen	enlarged		2 (22)	4 (33)	2 (20)	6 (33)
	nodule		0 (0)	0 (0)	0 (0)	1 (6)
heart	white zone		0 (0)	0 (0)	0 (0)	1 (6)
tongue	nodule		0 (0)	0 (0)	0 (0)	1 (6)
gl stomach	ulcer		0 (0)	1 (8)	0 (0)	0 (0)
liver	red zone		0 (0)	0 (0)	1 (10)	0 (0)
	nodule		0 (0)	0 (0)	0 (0)	1 (6)
	rough		1 (11)	2 (17)	0 (0)	0 (0)
	granular		0 (0)	0 (0)	0 (0)	1 (6)
	herniation		1 (11)	1 (8)	5 (50)	1 (6)
pancreas	nodule		1 (11)	1 (8)	0 (0)	0 (0)
kidney	white zone		0 (0)	0 (0)	0 (0)	1 (6)
	nodule		0 (0)	0 (0)	1 (10)	0 (0)
urin bladd	urine:marked retention		0 (0)	0 (0)	1 (10)	1 (6)
pituitary	enlarged		3 (33)	4 (33)	2 (20)	2 (11)

Organ	Findings	Group Name NO. of Animals	0 ppm 9 (%)	3 ppm 12 (%)	10 ppm 10 (%)	30 ppm 18 (%)
pituitary	red zone		0 (0)	0 (0)	1 (10)	1 (6)
	black zone		0 (0)	0 (0)	0 (0)	1 (6)
	nodule		2 (22)	0 (0)	0 (0)	0 (0)
thyroid	enlarged		0 (0)	0 (0)	0 (0)	1 (6)
	nodule		0 (0)	0 (0)	0 (0)	1 (6)
adrenal	enlarged		0 (0)	1 (8)	1 (10)	0 (0)
	adhesion		0 (0)	0 (0)	1 (10)	0 (0)
ovary	enlarged		0 (0)	1 (8)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	0 (0)	1 (6)
	cyst		0 (0)	1 (8)	0 (0)	0 (0)
uterus	enlarged		0 (0)	1 (8)	0 (0)	0 (0)
	nodule		1 (11)	3 (25)	4 (40)	7 (39)
	cyst		0 (0)	0 (0)	0 (0)	1 (6)
vagina	fluid:red		0 (0)	0 (0)	0 (0)	1 (6)
brain	swollen		0 (0)	0 (0)	1 (10)	0 (0)
Zymbal gl	nodule		0 (0)	0 (0)	1 (10)	0 (0)
articulus	swollen		0 (0)	0 (0)	1 (10)	0 (0)
mediastinum	mass		1 (11)	0 (0)	0 (0)	0 (0)
peritoneum	thick		0 (0)	0 (0)	0 (0)	1 (6)
abdominal c	hemorrhage		0 (0)	2 (17)	0 (0)	0 (0)
	mass		0 (0)	0 (0)	0 (0)	2 (11)
	ascites		0 (0)	0 (0)	0 (0)	2 (11)

Organ	Findings	Group Name / NO. of Animals	0 ppm 9	(%)	3 ppm 12	(%)	10 ppm 10	(%)	30 ppm 18	(%)
thoracic ca	hemorrhage		1	(11)	0	(0)	0	(0)	0	(0)
	pleural fluid		0	(0)	0	(0)	0	(0)	1	(6)
other	ear:nodule		0	(0)	0	(0)	0	(0)	1	(6)
	nose:elevated		0	(0)	0	(0)	0	(0)	1	(6)
whole body	anemic		0	(0)	0	(0)	0	(0)	1	(6)

APPENDIX G 6

GROSS FINDINGS : SUMMARY, RAT : FEMALE

SACRIFICED ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name / NO. of Animals	0 ppm 41 (%)	3 ppm 38 (%)	10 ppm 39 (%)	30 ppm 32 (%)
skin/app	nodule		1 (2)	0 (0)	2 (5)	2 (6)
	scab		0 (0)	0 (0)	0 (0)	1 (3)
subcutis	nodule		0 (0)	0 (0)	1 (3)	0 (0)
	mass		8 (20)	7 (18)	15 (38)	16 (50)
lung	white zone		0 (0)	2 (5)	2 (5)	1 (3)
	red zone		0 (0)	0 (0)	0 (0)	1 (3)
	brown zone		1 (2)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (3)	0 (0)
lymph node	enlarged		0 (0)	0 (0)	0 (0)	1 (3)
spleen	enlarged		2 (5)	1 (3)	0 (0)	3 (9)
	nodule		0 (0)	0 (0)	1 (3)	0 (0)
oral cavity	nodule		0 (0)	0 (0)	1 (3)	0 (0)
tongue	nodule		0 (0)	1 (3)	1 (3)	0 (0)
gl stomach	nodule		0 (0)	0 (0)	1 (3)	0 (0)
	ulcer		0 (0)	1 (3)	0 (0)	0 (0)
small intes	nodule		0 (0)	0 (0)	0 (0)	1 (3)
	dilated		1 (2)	0 (0)	0 (0)	0 (0)
cecum	nodule		0 (0)	0 (0)	0 (0)	1 (3)
liver	white zone		2 (5)	2 (5)	1 (3)	0 (0)
	red zone		1 (2)	0 (0)	3 (8)	0 (0)
	nodule		1 (2)	0 (0)	0 (0)	0 (0)
	rough		1 (2)	1 (3)	1 (3)	2 (6)

Organ	Findings	Group Name / NO. of Animals	0 ppm 41 (%)	3 ppm 38 (%)	10 ppm 39 (%)	30 ppm 32 (%)
liver	nodular		0 (0)	1 (3)	1 (3)	0 (0)
	herniation		14 (34)	3 (8)	9 (23)	3 (9)
kidney	white zone		0 (0)	0 (0)	0 (0)	2 (6)
	nodule		0 (0)	1 (3)	0 (0)	0 (0)
	cyst		0 (0)	1 (3)	0 (0)	0 (0)
	granular		0 (0)	3 (8)	1 (3)	3 (9)
urin bladd	nodule		0 (0)	0 (0)	1 (3)	0 (0)
pituitary	enlarged		4 (10)	4 (11)	3 (8)	1 (3)
	red zone		4 (10)	5 (13)	7 (18)	6 (19)
	nodule		7 (17)	7 (18)	8 (21)	5 (16)
thyroid	enlarged		1 (2)	0 (0)	1 (3)	2 (6)
	nodule		1 (2)	0 (0)	0 (0)	0 (0)
adrenal	enlarged		1 (2)	1 (3)	0 (0)	0 (0)
ovary	cyst		1 (2)	2 (5)	2 (5)	1 (3)
uterus	nodule		4 (10)	7 (18)	9 (23)	4 (13)
	cyst		1 (2)	1 (3)	1 (3)	1 (3)
eye	turbid		1 (2)	0 (0)	1 (3)	0 (0)
	white		3 (7)	2 (5)	1 (3)	0 (0)
bone	nodule		0 (0)	0 (0)	0 (0)	1 (3)
peritoneum	nodule		0 (0)	0 (0)	1 (3)	0 (0)
thoracic ca	hemorrhage		0 (0)	0 (0)	0 (0)	1 (3)
	pleural fluid		0 (0)	0 (0)	0 (0)	1 (3)

APPENDIX H 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105W)

Group Name	NO. of Animals	Body Weight	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
0 ppm	40	376± 50	0.081± 0.024	3.360± 1.462	1.167± 0.098	1.421± 0.171	2.680± 0.224
3 ppm	42	384± 52	0.078± 0.013	3.577± 1.744	1.190± 0.107	1.391± 0.104	2.701± 0.240
10 ppm	38	365± 48	0.079± 0.015	4.051± 1.426	1.179± 0.121	1.400± 0.135	2.681± 0.275
30 ppm	23	313± 36**	0.076± 0.011	4.043± 1.752	1.177± 0.110	1.493± 0.306	2.779± 0.365

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105W)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
0 ppm	40	1.041± 0.650	11.254± 2.244	1.955± 0.050
3 ppm	42	0.949± 0.268	11.201± 1.654	1.957± 0.061
10 ppm	38	0.913± 0.189	10.938± 1.569	1.940± 0.057
30 ppm	23	0.935± 0.458	10.865± 1.906	1.932± 0.070

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

APPENDIX H 2

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105W)

Group Name	NO. of Animals	Body Weight	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
0 ppm	41	249± 25	0.083± 0.032	0.127± 0.020	0.834± 0.067	1.014± 0.176	1.721± 0.112
3 ppm	38	251± 22	0.107± 0.179	0.151± 0.194	0.836± 0.054	0.990± 0.071	1.797± 0.270
10 ppm	39	252± 25	0.077± 0.010	0.129± 0.054	0.838± 0.061	0.978± 0.071	1.788± 0.147
30 ppm	32	235± 22*	0.076± 0.011	0.127± 0.048	0.854± 0.075	1.055± 0.187	1.874± 0.167**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105W)

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
0 ppm	41	0.628±	0.840	6.434±	1.080	1.792±	0.057
3 ppm	38	0.611±	0.500	6.695±	0.890	1.785±	0.057
10 ppm	39	0.648±	0.972	6.507±	0.880	1.790±	0.050
30 ppm	32	0.836±	0.935*	6.593±	0.933	1.797±	0.048

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

APPENDIX I 1

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105W)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
0 ppm	40	376± 50	0.022± 0.007	0.917± 0.421	0.313± 0.031	0.381± 0.050	0.720± 0.080
3 ppm	42	384± 52	0.021± 0.004	0.943± 0.480	0.314± 0.045	0.367± 0.046	0.711± 0.079
10 ppm	38	365± 48	0.022± 0.005	1.140± 0.464	0.325± 0.027	0.387± 0.035	0.741± 0.080
30 ppm	23	313± 36**	0.025± 0.006*	1.282± 0.514**	0.382± 0.063**	0.482± 0.107**	0.898± 0.150**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105W)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
0 ppm	40	0.279± 0.173	3.013± 0.601	0.527± 0.055
3 ppm	42	0.250± 0.080	2.937± 0.403	0.516± 0.052
10 ppm	38	0.255± 0.068	3.009± 0.370	0.539± 0.063
30 ppm	23	0.298± 0.135	3.488± 0.621**	0.626± 0.084**

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

APPENDIX I 2

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105W)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
0 ppm	41	249± 25	0.034± 0.020	0.051± 0.009	0.338± 0.033	0.411± 0.074	0.698± 0.067
3 ppm	38	251± 22	0.045± 0.084	0.061± 0.083	0.335± 0.029	0.397± 0.038	0.723± 0.141
10 ppm	39	252± 25	0.031± 0.004	0.052± 0.024	0.335± 0.024	0.391± 0.038	0.713± 0.060
30 ppm	32	235± 22*	0.033± 0.005	0.054± 0.019	0.366± 0.050**	0.453± 0.100*	0.803± 0.096**

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

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105W)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
0 ppm	41	0.252± 0.326	2.596± 0.392	0.728± 0.079
3 ppm	38	0.248± 0.222	2.683± 0.367	0.717± 0.061
10 ppm	39	0.255± 0.368	2.583± 0.225	0.717± 0.068
30 ppm	32	0.362± 0.410*	2.817± 0.423**	0.771± 0.075*

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

APPENDIX J 1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : ALL ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0-105W)

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Integumentary system/appandage}																		
skin/app																		
	inflammation	<a>	<50>				<50>				<50>				<50>			
		b	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0
		(c)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)
	hyperplasia:epidermis		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	scab		0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	epidermal cyst		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)	(2)	(0)	(0)	(0)
{Respiratory system}																		
nasal cavit																		
	thrombus	<a>	<50>				<50>				<50>				<50>			
		b	0	2	2	0	1	0	2	0	2	2	1	0	1	1	0	0
		(c)	(0)	(4)	(4)	(0)	(2)	(0)	(4)	(0)	(4)	(4)	(2)	(0)	(2)	(2)	(0)	(0)
	mineralization		39	0	0	0	37	1	0	0	31	0	0	0	41	0	0	0
			(78)	(0)	(0)	(0)	(74)	(2)	(0)	(0)	(62)	(0)	(0)	(0)	(82)	(0)	(0)	(0)
	squamous cell hyperplasia		0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(4)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<50>				<50>				<50>				<50>			
	eosinophilic change:olfactory epithelium		24	17	3	0	28	15	2	0	19	16	5	0	33	2	0	0 **
			(48)	(34)	(6)	(0)	(56)	(30)	(4)	(0)	(38)	(32)	(10)	(0)	(66)	(4)	(0)	(0)
	eosinophilic change:respiratory epithelium		19	1	0	0	27	0	0	0	29	0	0	0	17	1	0	0
			(38)	(2)	(0)	(0)	(54)	(0)	(0)	(0)	(58)	(0)	(0)	(0)	(34)	(2)	(0)	(0)
	inflammation:foreign body		17	1	0	0	17	4	0	0	15	2	0	0	11	1	0	0
			(34)	(2)	(0)	(0)	(34)	(8)	(0)	(0)	(30)	(4)	(0)	(0)	(22)	(2)	(0)	(0)
	inflammation:squamous epithelium		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:respiratory epithelium		7	0	0	0	6	0	0	0	5	1	0	0	9	23	0	0 **
			(14)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(10)	(2)	(0)	(0)	(18)	(46)	(0)	(0)
	respiratory metaplasia:olfactory epithelium		3	0	0	0	3	0	0	0	2	0	0	0	4	0	0	0
			(6)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
	respiratory metaplasia:gland		41	0	0	0	48	0	0	0	48	0	0	0	44	0	0	0
			(82)	(0)	(0)	(0)	(96)	(0)	(0)	(0)	(96)	(0)	(0)	(0)	(88)	(0)	(0)	(0)
	inflammation:transitional epithelium		9	0	0	0	15	0	0	0	3	0	0	0	0	0	0	0 **
			(18)	(0)	(0)	(0)	(30)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<50>				<50>				<50>				<50>			
	squamous cell metaplasia:respiratory epithelium		1	0	0	0	2	0	0	0	3	0	0	0	1	0	1	0
			(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(2)	(0)
	squamous cell metaplasia with atypia:respiratory epithel		0	0	0	0	1	0	0	0	5	0	0	0	9	38	0	0 **
	ium		(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(18)	(76)	(0)	(0)
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	0	0	0	0	15	15	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(30)	(30)	(0)	(0)
	hyperplasia with atypia:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	hyperplasia with atypia:nasal gland		0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
	hyperplasia with atypia:transitional epithelium		0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
	hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	11	0	0	0 **	5	1	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(10)	(2)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system)																		
nasal cavit			<50>				<50>				<50>				<50>			
	necrosis:olfactory epithelium		0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	necrosis:respiratory epithelium		0	0	0	0	0	0	0	0	1	0	0	0	4	2	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(8)	(4)	(2)	(0)
	hyperplasia:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(12)	(2)	(0)	(0)
	thickening of bone:turbinate		0	0	0	0	3	0	0	0	24	14	0	0 **	15	6	0	0 **
			(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(48)	(28)	(0)	(0)	(30)	(12)	(0)	(0)
larynx			<50>				<50>				<50>				<50>			
	inflammation		8	0	0	0	5	0	0	0	12	0	0	0	8	1	0	0
			(16)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(24)	(0)	(0)	(0)	(16)	(2)	(0)	(0)
lung			<50>				<50>				<50>				<50>			
	congestion		0	1	0	0	0	2	0	0	1	1	0	0	0	3	0	0
			(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(6)	(0)	(0)
	hemorrhage		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)	(2)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
lung			<50>				<50>				<50>				<50>			
	edema		0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	perivascular inflammation		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)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	accumulation of foamy cells		1	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0
			(2)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
	bronchiolar-alveolar cell hyperplasia		0	1	0	0	2	0	0	0	1	2	0	0	3	3	0	0
			(0)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(4)	(0)	(0)	(6)	(6)	(0)	(0)
	inflammation:foreign body		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)	(2)	(0)	(0)
	hyperplasia:terminal bronchiole		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)	(2)	(0)	(0)	(0)
{Hematopoietic system}																		
bone marrow			<50>				<50>				<50>				<50>			
	angiectasis		0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
bone marrow			<50>				<50>				<50>				<50>			
	hemorrhage		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)	(2)	(0)	(0)
	granulation		7	0	0	0	3	0	0	0	2	1	0	0	1	0	0	0
			(14)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(2)	(0)	(0)	(0)
	proliferation:histiocyte		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	increased hematopoiesis		5	0	0	0	2	0	0	0	3	0	0	0	4	0	0	0
			(10)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
	decreased hematopoiesis		0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	erythropoiesis:increased		0	3	0	0	3	1	0	0	3	4	0	0	5	8	0	0 *
			(0)	(6)	(0)	(0)	(6)	(2)	(0)	(0)	(6)	(8)	(0)	(0)	(10)	(16)	(0)	(0)
	granulopoiesis:increased		0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:vascular		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)	(2)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
spleen			<50>				<50>				<50>				<50>			
	deposit of hemosiderin		17	1	0	0	4	0	0	0 **	2	0	0	0 **	9	1	0	0
			(34)	(2)	(0)	(0)	(8)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(18)	(2)	(0)	(0)
	fibrosis		0	0	0	0	5	0	0	0	3	0	0	0	10	0	1	0 **
			(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(20)	(0)	(2)	(0)
	extramedullary hematopoiesis		18	3	1	0	29	2	3	0	23	7	3	0	19	9	6	0 *
			(36)	(6)	(2)	(0)	(58)	(4)	(6)	(0)	(46)	(14)	(6)	(0)	(38)	(18)	(12)	(0)
	follicular hyperplasia		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)	(2)	(0)	(0)	(0)
{Circulatory system}																		
heart			<50>				<50>				<50>				<50>			
	thrombus		0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)
	myocardial fibrosis		18	28	0	0	34	15	0	0 **	29	16	0	0	35	9	0	0 **
			(36)	(56)	(0)	(0)	(68)	(30)	(0)	(0)	(58)	(32)	(0)	(0)	(70)	(18)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Circulatory system}																		
artery/aort			<50>				<50>				<50>				<50>			
	mineralization		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)	(2)	(0)	(0)	(0)
	arteritis		0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
vein			<50>				<50>				<50>				<50>			
	thrombus		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Digestive system}																		
tongue			<50>				<50>				<50>				<50>			
	inflammatory infiltration		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	arteritis		1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
salivary gl			<50>				<50>				<50>				<50>			
	atrophy		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
salivary gl			<50>				<50>				<50>				<50>			
	abscess		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
stomach			<50>				<50>				<50>				<50>			
	mineralization		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)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	erosion:forestomach		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	ulcer:forestomach		0	2	1	0	0	0	0	0	0	2	1	0	1	1	1	0
			(0)	(4)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(2)	(0)	(2)	(2)	(2)	(0)
	hyperplasia:forestomach		0	2	1	0	0	2	0	0	2	1	2	0	1	3	0	0
			(0)	(4)	(2)	(0)	(0)	(4)	(0)	(0)	(4)	(2)	(4)	(0)	(2)	(6)	(0)	(0)
	erosion:glandular stomach		4	0	0	0	1	1	0	0	5	1	0	0	6	1	0	0
			(8)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(10)	(2)	(0)	(0)	(12)	(2)	(0)	(0)
	ulcer:glandular stomach		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver			<50>				<50>				<50>				<50>			
	herniation		5	0	0	0	10	0	0	0	6	0	0	0	3	0	0	0
			(10)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(6)	(0)	(0)	(0)

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< a > a : Number of animals examined at the site
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(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<50>				<50>				<50>				<50>			
	peliosis-like lesion		2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	necrosis:central		0	0	0	0	1	0	0	0	1	1	0	0	4	1	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(8)	(2)	(0)	(0)
	necrosis:focal		2	1	0	0	2	0	0	0	2	2	0	0	2	0	0	0
			(4)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(4)	(0)	(0)	(4)	(0)	(0)	(0)
	fatty change		0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	lymphocytic infiltration		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)	(2)	(0)	(0)	(0)
	granulation		13	1	0	0	15	0	0	0	16	0	0	0	11	0	0	0
			(26)	(2)	(0)	(0)	(30)	(0)	(0)	(0)	(32)	(0)	(0)	(0)	(22)	(0)	(0)	(0)
	perivascular inflammation		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	extramedullary hematopoiesis		1	0	0	0	3	0	0	0	1	0	0	0	4	0	0	0
			(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(8)	(0)	(0)	(0)

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(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<50>				<50>				<50>				<50>			
	clear cell focus		4	0	0	0	3	1	0	0	10	0	0	0	3	0	0	0
			(8)	(0)	(0)	(0)	(6)	(2)	(0)	(0)	(20)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	acidophilic cell focus		6	1	0	0	16	1	0	0	4	1	0	0	5	0	0	0
			(12)	(2)	(0)	(0)	(32)	(2)	(0)	(0)	(8)	(2)	(0)	(0)	(10)	(0)	(0)	(0)
	basophilic cell focus		3	1	0	0	21	0	0	0 **	16	2	0	0 **	3	1	0	0
			(6)	(2)	(0)	(0)	(42)	(0)	(0)	(0)	(32)	(4)	(0)	(0)	(6)	(2)	(0)	(0)
	spongiosis hepatis		5	0	0	0	3	1	0	0	3	1	0	0	6	0	0	0
			(10)	(0)	(0)	(0)	(6)	(2)	(0)	(0)	(6)	(2)	(0)	(0)	(12)	(0)	(0)	(0)
	bile duct hyperplasia		48	2	0	0	49	1	0	0	47	3	0	0	44	6	0	0
			(96)	(4)	(0)	(0)	(98)	(2)	(0)	(0)	(94)	(6)	(0)	(0)	(88)	(12)	(0)	(0)
	cholangiofibrosis		0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	biliary cyst		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
pancreas			<50>				<49>				<50>				<50>			
	atrophy		3	0	0	0	3	0	0	0	2	0	0	0	4	0	0	0
			(6)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(8)	(0)	(0)	(0)

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(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
pancreas			<50>				<49>				<50>				<50>			
	islet cell hyperplasia		3	2	0	0	2	1	0	0	2	1	0	0	1	0	0	0
			(6)	(4)	(0)	(0)	(4)	(2)	(0)	(0)	(4)	(2)	(0)	(0)	(2)	(0)	(0)	(0)
{Urinary system}																		
kidney			<50>				<50>				<50>				<50>			
	infarct		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:focal		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)	(2)	(0)
	cyst		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)	(2)	(0)	(0)	(0)
	eosinophilic body		46	0	0	0	45	0	0	0	46	2	0	0	45	0	0	0
			(92)	(0)	(0)	(0)	(90)	(0)	(0)	(0)	(92)	(4)	(0)	(0)	(90)	(0)	(0)	(0)
	chronic nephropathy		13	23	13	0	10	19	18	0	8	23	18	0	9	18	20	0
			(26)	(46)	(26)	(0)	(20)	(38)	(36)	(0)	(16)	(46)	(36)	(0)	(18)	(36)	(40)	(0)
	hydronephrosis		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)	(2)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Urinary system}																		
kidney			<50>				<50>				<50>				<50>			
	mineralization:cortico-medullary junction		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization:papilla		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization:pelvis		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)
	mineralization:cortex		0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)
urin bladd			<50>				<50>				<50>				<50>			
	simple hyperplasia:transitional epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)
	xanthogranuloma		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
{Endocrine system}																		
pituitary			<50>				<50>				<50>				<50>			
	angiectasis		0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	3 (6)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary			<50>				<50>				<50>				<50>			
	hemorrhage		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)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	cyst		1	0	0	0	2	0	0	0	2	0	0	0	3	0	0	0
			(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	hyperplasia		11	2	0	0	7	2	0	0	6	5	0	0	1	1	0	0 **
			(22)	(4)	(0)	(0)	(14)	(4)	(0)	(0)	(12)	(10)	(0)	(0)	(2)	(2)	(0)	(0)
	Rathke pouch		5	0	0	0	1	0	0	0	1	0	0	0	2	1	0	0
			(10)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(2)	(0)	(0)
	focal hypertrophy		4	0	0	0	8	1	0	0	4	0	0	0	3	1	0	0
			(8)	(0)	(0)	(0)	(16)	(2)	(0)	(0)	(8)	(0)	(0)	(0)	(6)	(2)	(0)	(0)
thyroid			<50>				<50>				<50>				<50>			
	ultimibranchial body remanet		1	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	C-cell hyperplasia		11	0	0	0	10	1	0	0	7	1	1	0	4	0	0	0
			(22)	(0)	(0)	(0)	(20)	(2)	(0)	(0)	(14)	(2)	(2)	(0)	(8)	(0)	(0)	(0)
	focal follicular cell hyperplasia		4	0	0	0	0	1	0	0	3	0	0	0	3	2	0	0
			(8)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(6)	(0)	(0)	(0)	(6)	(4)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Endocrine system}																		
adrenal			<50>				<50>				<50>				<50>			
	extramedullary hematopoiesis		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)
	hyperplasia:cortical cell		4 (8)	0 (0)	0 (0)	0 (0)	3 (6)	0 (0)	0 (0)	0 (0)	4 (8)	1 (2)	0 (0)	0 (0)	5 (10)	1 (2)	0 (0)	0 (0)
	hyperplasia:medulla		6 (12)	0 (0)	0 (0)	0 (0)	5 (10)	0 (0)	0 (0)	0 (0)	2 (4)	2 (4)	0 (0)	0 (0)	5 (10)	0 (0)	0 (0)	0 (0)
	focal fatty change:cortex		9 (18)	1 (2)	1 (2)	0 (0)	12 (24)	1 (2)	0 (0)	0 (0)	7 (14)	0 (0)	0 (0)	0 (0)	10 (20)	1 (2)	0 (0)	0 (0)
{Reproductive system}																		
testis			<50>				<50>				<50>				<50>			
	atrophy		1 (2)	2 (4)	40 (80)	0 (0)	3 (6)	9 (18)	33 (66)	0 (0)	1 (2)	7 (14)	40 (80)	0 (0)	1 (2)	2 (4)	46 (92)	0 (0)
	mineralization		5 (10)	0 (0)	0 (0)	0 (0)	4 (8)	1 (2)	0 (0)	0 (0)	7 (14)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)
	arteritis		2 (4)	1 (2)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Reproductive system}																		
testis			<50>				<50>				<50>				<50>			
	interstitial cell hyperplasia		5	1	0	0	4	0	0	0	2	0	0	0	1	0	0	0
			(10)	(2)	(0)	(0)	(8)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
semin ves			<50>				<50>				<50>				<50>			
	inflammation		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
prostate			<50>				<50>				<50>				<50>			
	inflammation		9	7	1	0	8	8	1	0	8	5	1	0	9	3	1	0
			(18)	(14)	(2)	(0)	(16)	(16)	(2)	(0)	(16)	(10)	(2)	(0)	(18)	(6)	(2)	(0)
	hyperplasia		12	0	0	0	6	1	0	0	15	0	0	0	12	0	0	0
			(24)	(0)	(0)	(0)	(12)	(2)	(0)	(0)	(30)	(0)	(0)	(0)	(24)	(0)	(0)	(0)
mammary gl			<50>				<50>				<50>				<50>			
	duct ectasia		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia		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)	(2)	(0)	(0)
	galactocele		0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(8)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Nervous system}																		
brain			<50>				<50>				<50>				<50>			
	hemorrhage		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:focal		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)	(2)	(0)	(0)
	gliosis		0	1	0	0	0	0	0	0	0	1	0	0	2	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(4)	(0)	(0)	(0)
	vacuolic change:nerve cell		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
spinal cord			<50>				<50>				<50>				<50>			
	gliosis		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)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye			<50>				<50>				<50>				<50>			
	hemorrhage		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Special sense organs/appendage}																		
eye																		
	cataract		<50>				<50>				<50>				<50>			
			1	1	3	0	0	0	0	0	1	0	1	0	0	3	0	0
			(2)	(2)	(6)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(2)	(0)	(0)	(6)	(0)	(0)
	retinal atrophy		45	0	2	0	46	0	0	0	40	0	1	0	34	0	2	0 *
			(90)	(0)	(4)	(0)	(92)	(0)	(0)	(0)	(80)	(0)	(2)	(0)	(68)	(0)	(4)	(0)
	keratitis		1	0	0	0	0	0	1	0	0	0	0	0	3	1	2	0
			(2)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(6)	(2)	(4)	(0)
	iritis		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)	(2)	(0)	(0)
Harder gl																		
	degeneration		<50>				<50>				<50>				<50>			
			3	2	0	0	4	1	0	0	2	0	0	0	5	1	0	0
			(6)	(4)	(0)	(0)	(8)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(10)	(2)	(0)	(0)
	lymphocytic infiltration		2	0	0	0	3	0	0	0	2	0	0	0	1	0	0	0
			(4)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
Zymbal gl																		
	inflammation		<50>				<50>				<50>				<50>			
			0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Musculoskeletal system}																		
muscle																		
	atrophy		<50>				<50>				<50>				<50>			
			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)	(2)	(0)	(0)
{Body cavities}																		
peritoneum																		
	cyst		<50>				<50>				<50>				<50>			
			0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	peritonitis		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	mesothelial hyperplasia		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

APPENDIX J 2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Integumentary system/appandage}																		
skin/app			<10>				< 8>				<12>				<27>			
	inflammation		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)	(4)	(0)	(0)
	hyperplasia:epidermis		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)	(4)	(0)	(0)	(0)
{Respiratory system}																		
nasal cavit			<10>				< 8>				<12>				<27>			
	thrombus		0	2	2	0	1	0	2	0	2	1	1	0	1	1	0	0 *
			(0)	(20)	(20)	(0)	(13)	(0)	(25)	(0)	(17)	(8)	(8)	(0)	(4)	(4)	(0)	(0)
	mineralization		9	0	0	0	6	0	0	0	8	0	0	0	23	0	0	0
			(90)	(0)	(0)	(0)	(75)	(0)	(0)	(0)	(67)	(0)	(0)	(0)	(85)	(0)	(0)	(0)
	eosinophilic change:olfactory epithelium		6	0	0	0	5	0	0	0	3	0	1	0	17	0	0	0
			(60)	(0)	(0)	(0)	(63)	(0)	(0)	(0)	(25)	(0)	(8)	(0)	(63)	(0)	(0)	(0)
	eosinophilic change:respiratory epithelium		2	0	0	0	3	0	0	0	5	0	0	0	6	1	0	0
			(20)	(0)	(0)	(0)	(38)	(0)	(0)	(0)	(42)	(0)	(0)	(0)	(22)	(4)	(0)	(0)
	inflammation:foreign body		1	0	0	0	2	3	0	0 *	5	0	0	0	10	0	0	0
			(10)	(0)	(0)	(0)	(25)	(38)	(0)	(0)	(42)	(0)	(0)	(0)	(37)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<10>				< 8>				<12>				<27>			
	inflammation:respiratory epithelium		1	0	0	0	1	0	0	0	0	0	0	0	4	12	0	0 *
			(10)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(15)	(44)	(0)	(0)
	respiratory metaplasia:olfactory epithelium		1	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(7)	(0)	(0)	(0)
	respiratory metaplasia:gland		6	0	0	0	7	0	0	0	11	0	0	0	22	0	0	0
			(60)	(0)	(0)	(0)	(88)	(0)	(0)	(0)	(92)	(0)	(0)	(0)	(81)	(0)	(0)	(0)
	inflammation:transitional epithelium		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		1	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0
			(10)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(4)	(0)	(4)	(0)
	squamous cell metaplasia with atypia:respiratory epithel ium		0	0	0	0	0	0	0	0	4	0	0	0	4	21	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(33)	(0)	(0)	(0)	(15)	(78)	(0)	(0)
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	0	0	0	0	10	9	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(37)	(33)	(0)	(0)
	hyperplasia with atypia:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<10>				< 8>				<12>				<27>			
	hyperplasia with atypia:nasal gland		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)	(4)	(0)	(0)
	hyperplasia with atypia:transitional epithelium		0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(4)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(26)	(0)	(0)	(0)
	necrosis:olfactory epithelium		0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	necrosis:respiratory epithelium		0	0	0	0	0	0	0	0	1	0	0	0	3	2	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(11)	(7)	(4)	(0)
	hyperplasia:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	thickening of bone:turbinate		0	0	0	0	0	0	0	0	4	3	0	0 *	8	4	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(33)	(25)	(0)	(0)	(30)	(15)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
larynx			<10>				< 8>				<12>				<27>			
	inflammation		1	0	0	0	1	0	0	0	1	0	0	0	3	0	0	0
			(10)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
lung			<10>				< 8>				<12>				<27>			
	congestion		0	1	0	0	0	2	0	0	1	1	0	0	0	2	0	0
			(0)	(10)	(0)	(0)	(0)	(25)	(0)	(0)	(8)	(8)	(0)	(0)	(0)	(7)	(0)	(0)
	hemorrhage		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)	(4)	(0)	(0)
	edema		0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(13)	(0)	(0)	(8)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	perivascular inflammation		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)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	accumulation of foamy cells		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	bronchiolar-alveolar cell hyperplasia		0	0	0	0	0	0	0	0	0	1	0	0	2	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(7)	(7)	(0)	(0)
	inflammation:foreign body		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)	(4)	(0)	(0)

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Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Respiratory system}																		
lung			<10>				< 8>				<12>				<27>			
	hyperplasia:terminal bronchiole		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)	(4)	(0)	(0)	(0)
{Hematopoietic system}																		
bone marrow			<10>				< 8>				<12>				<27>			
	hemorrhage		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)	(4)	(0)	(0)
	proliferation:histiocyte		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	increased hematopoiesis		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	decreased hematopoiesis		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)	(4)	(0)	(0)	(0)
	erythropoiesis:increased		0	3	0	0	2	0	0	0	2	3	0	0	2	8	0	0
			(0)	(30)	(0)	(0)	(25)	(0)	(0)	(0)	(17)	(25)	(0)	(0)	(7)	(30)	(0)	(0)
	granulopoiesis:increased		0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)

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(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
bone marrow			<10>				< 8>				<12>				<27>			
	hyperplasia:vascular		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)	(4)	(0)	(0)	(0)
spleen			<10>				< 8>				<12>				<27>			
	deposit of hemosiderin		0	0	0	0	1	0	0	0	2	0	0	0	5	1	0	0
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(19)	(4)	(0)	(0)
	fibrosis		0	0	0	0	0	0	0	0	1	0	0	0	3	0	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(11)	(0)	(4)	(0)
	extramedullary hematopoiesis		0	2	1	0	3	0	2	0	1	3	3	0	7	6	6	0
			(0)	(20)	(10)	(0)	(38)	(0)	(25)	(0)	(8)	(25)	(25)	(0)	(26)	(22)	(22)	(0)
	follicular hyperplasia		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)	(4)	(0)	(0)	(0)
{Circulatory system}																		
heart			<10>				< 8>				<12>				<27>			
	thrombus		0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)

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Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Circulatory system}																		
heart			<10>				< 8>				<12>				<27>			
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)
	myocardial fibrosis		2	5	0	0	6	2	0	0 *	7	3	0	0	20	1	0	0 **
			(20)	(50)	(0)	(0)	(75)	(25)	(0)	(0)	(58)	(25)	(0)	(0)	(74)	(4)	(0)	(0)
artery/aort			<10>				< 8>				<12>				<27>			
	mineralization		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)	(4)	(0)	(0)	(0)
	arteritis		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
vein			<10>				< 8>				<12>				<27>			
	thrombus		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Digestive system}																		
salivary gl			<10>				< 8>				<12>				<27>			
	atrophy		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system)																		
salivary gl			<10>				< 8>				<12>				<27>			
	abscess		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
stomach			<10>				< 8>				<12>				<27>			
	mineralization		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)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	erosion:forestomach		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	ulcer:forestomach		0	2	1	0	0	0	0	0	0	2	1	0	1	0	1	0
			(0)	(20)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(8)	(0)	(4)	(0)	(4)	(0)
	hyperplasia:forestomach		0	2	1	0	0	1	0	0	1	1	2	0	1	2	0	0
			(0)	(20)	(10)	(0)	(0)	(13)	(0)	(0)	(8)	(8)	(17)	(0)	(4)	(7)	(0)	(0)
	erosion:glandular stomach		1	0	0	0	0	1	0	0	2	1	0	0	4	1	0	0
			(10)	(0)	(0)	(0)	(0)	(13)	(0)	(0)	(17)	(8)	(0)	(0)	(15)	(4)	(0)	(0)
	ulcer:glandular stomach		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver			<10>				< 8>				<12>				<27>			
	herniation		0	0	0	0	4	0	0	0 *	0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)

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Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<10>				< 8>				<12>				<27>			
	necrosis:central		0	0	0	0	1	0	0	0	1	1	0	0	3	1	0	0
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(8)	(8)	(0)	(0)	(11)	(4)	(0)	(0)
	necrosis:focal		0	0	0	0	0	0	0	0	2	2	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(17)	(0)	(0)	(7)	(0)	(0)	(0)
	granulation		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)	(4)	(0)	(0)	(0)
	extramedullary hematopoiesis		1	0	0	0	1	0	0	0	1	0	0	0	3	0	0	0
			(10)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	clear cell focus		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)	(4)	(0)	(0)	(0)
	acidophilic cell focus		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)
	basophilic cell focus		0	0	0	0	2	0	0	0	1	0	0	0	1	1	0	0
			(0)	(0)	(0)	(0)	(25)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(4)	(4)	(0)	(0)
	spongiosis hepatis		1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)

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< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<10>				< 8>				<12>				<27>			
	bile duct hyperplasia		10	0	0	0	8	0	0	0	12	0	0	0	24	3	0	0
			(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(89)	(11)	(0)	(0)
	cholangiofibrosis		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
pancreas			<10>				< 8>				<12>				<27>			
	atrophy		1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(10)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	islet cell hyperplasia		2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
{Urinary system}																		
kidney			<10>				< 8>				<12>				<27>			
	infarct		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:focal		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)	(4)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Urinary system)																		
kidney			<10>				< 8>				<12>				<27>			
	cyst		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 (4)	0 (0)	0 (0)	0 (0)
	eosinophilic body		6 (60)	0 (0)	0 (0)	0 (0)	3 (38)	0 (0)	0 (0)	0 (0)	9 (75)	2 (17)	0 (0)	0 (0)	24 (89)	0 (0)	0 (0)	0 (0)
	chronic nephropathy		4 (40)	3 (30)	2 (20)	0 (0)	4 (50)	1 (13)	0 (0)	0 (0)	1 (8)	8 (67)	2 (17)	0 (0)	8 (30)	10 (37)	6 (22)	0 (0)
	hydronephrosis		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 (4)	0 (0)	0 (0)	0 (0)
	mineralization:cortico-medullary junction		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization:pelvis		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 (7)	0 (0)	0 (0)	0 (0)
	mineralization:cortex		0 (0)	0 (0)	0 (0)	0 (0)	2 (25)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)
urin bladd			<10>				< 8>				<12>				<27>			
	simple hyperplasia:transitional epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Endocrine system}																		
pituitary			<10>				< 8>				<12>				<27>			
	cyst		0 (0)	0 (0)	0 (0)	0 (0)	1 (13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)
	hyperplasia		1 (10)	0 (0)	0 (0)	0 (0)	2 (25)	0 (0)	0 (0)	0 (0)	1 (8)	1 (8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Rathke pouch		0 (0)	0 (0)	0 (0)	0 (0)	1 (13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	1 (4)	0 (0)	0 (0)
	focal hypertrophy		1 (10)	0 (0)	0 (0)	0 (0)	1 (13)	1 (13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	1 (4)	0 (0)	0 (0)
thyroid			<10>				< 8>				<12>				<27>			
	ultimibranchial body remanet		1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)
	C-cell hyperplasia		1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)
	focal follicular cell hyperplasia		1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	1 (4)	0 (0)	0 (0)
adrenal			<10>				< 8>				<12>				<27>			
	hyperplasia:cortical cell		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	0 (0)	1 (4)	1 (4)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
adrenal			<10>				< 8>				<12>				<27>			
	hyperplasia:medulla		3	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0
			(30)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(8)	(0)	(0)	(4)	(0)	(0)	(0)
	focal fatty change:cortex		1	0	1	0	0	0	0	0	2	0	0	0	5	1	0	0
			(10)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(19)	(4)	(0)	(0)
{Reproductive system}																		
testis			<10>				< 8>				<12>				<27>			
	atrophy		0	0	3	0	1	1	1	0	1	2	7	0	1	2	23	0 **
			(0)	(0)	(30)	(0)	(13)	(13)	(13)	(0)	(8)	(17)	(58)	(0)	(4)	(7)	(85)	(0)
	mineralization		0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(25)	(0)	(0)	(0)	(7)	(0)	(0)	(0)
	arteritis		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	interstitial cell hyperplasia		2	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(20)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
prostate			<10>				< 8>				<12>				<27>			
	inflammation		2	0	1	0	1	0	0	0	1	1	1	0	2	1	1	0
			(20)	(0)	(10)	(0)	(13)	(0)	(0)	(0)	(8)	(8)	(8)	(0)	(7)	(4)	(4)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
prostate			<10>				< 8>				<12>				<27>			
	hyperplasia		1	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(7)	(0)	(0)	(0)
mammary gl			<10>				< 8>				<12>				<27>			
	duct ectasia		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	galactocele		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)	(4)	(0)	(0)	(0)
{Nervous system}																		
brain			<10>				< 8>				<12>				<27>			
	hemorrhage		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:focal		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)	(4)	(0)	(0)
	gliosis		0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(4)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Nervous system}																		
spinal cord			<10>				< 8>				<12>				<27>			
	gliosis		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)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye			<10>				< 8>				<12>				<27>			
	hemorrhage		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	cataract		0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)
	retinal atrophy		7	0	0	0	4	0	0	0	6	0	0	0	12	0	2	0
			(70)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(44)	(0)	(7)	(0)
	keratitis		0	0	0	0	0	0	1	0	0	0	0	0	2	0	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(4)	(0)
	iritis		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)	(4)	(0)	(0)
Harder gl			<10>				< 8>				<12>				<27>			
	degeneration		1	2	0	0	0	1	0	0	1	0	0	0	4	1	0	0
			(10)	(20)	(0)	(0)	(0)	(13)	(0)	(0)	(8)	(0)	(0)	(0)	(15)	(4)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	10				8				12				27			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Special sense organs/appendage}																		
Harder gl			<10>				< 8>				<12>				<27>			
	lymphocytic infiltration		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)	(4)	(0)	(0)	(0)
{Musculoskeletal system}																		
muscle			<10>				< 8>				<12>				<27>			
	atrophy		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)	(4)	(0)	(0)
{Body cavities}																		
peritoneum			<10>				< 8>				<12>				<27>			
	mesothelial hyperplasia		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)	(4)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

APPENDIX J 3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Integumentary system/appandage}																		
skin/app			<40>				<42>				<38>				<23>			
	inflammation		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)
	hyperplasia:epidermis		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	scab		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)
	epidermal cyst		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 (4)	0 (0)	0 (0)	0 (0)
{Respiratory system}																		
nasal cavit			<40>				<42>				<38>				<23>			
	thrombus		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization		30 (75)	0 (0)	0 (0)	0 (0)	31 (74)	1 (2)	0 (0)	0 (0)	23 (61)	0 (0)	0 (0)	0 (0)	18 (78)	0 (0)	0 (0)	0 (0)
	squamous cell hyperplasia		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (9)	2 (9)	0 (0)	0 * (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system)																		
nasal cavit			<40>				<42>				<38>				<23>			
	eosinophilic change:olfactory epithelium		18	17	3	0	23	15	2	0	16	16	4	0	16	2	0	0 **
			(45)	(43)	(8)	(0)	(55)	(36)	(5)	(0)	(42)	(42)	(11)	(0)	(70)	(9)	(0)	(0)
	eosinophilic change:respiratory epithelium		17	1	0	0	24	0	0	0	24	0	0	0	11	0	0	0
			(43)	(3)	(0)	(0)	(57)	(0)	(0)	(0)	(63)	(0)	(0)	(0)	(48)	(0)	(0)	(0)
	inflammation:foreign body		16	1	0	0	15	1	0	0	10	2	0	0	1	1	0	0 **
			(40)	(3)	(0)	(0)	(36)	(2)	(0)	(0)	(26)	(5)	(0)	(0)	(4)	(4)	(0)	(0)
	inflammation:squamous epithelium		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:respiratory epithelium		6	0	0	0	5	0	0	0	5	1	0	0	5	11	0	0 **
			(15)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(13)	(3)	(0)	(0)	(22)	(48)	(0)	(0)
	respiratory metaplasia:olfactory epithelium		2	0	0	0	3	0	0	0	1	0	0	0	2	0	0	0
			(5)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
	respiratory metaplasia:gland		35	0	0	0	41	0	0	0	37	0	0	0	22	0	0	0
			(88)	(0)	(0)	(0)	(98)	(0)	(0)	(0)	(97)	(0)	(0)	(0)	(96)	(0)	(0)	(0)
	inflammation:transitional epithelium		8	0	0	0	15	0	0	0	3	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(36)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<40>				<42>				<38>				<23>			
	squamous cell metaplasia:respiratory epithelium		0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	squamous cell metaplasia with atypia:respiratory epithelium		0	0	0	0	1	0	0	0	1	0	0	0	5	17	0	0 **
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(22)	(74)	(0)	(0)
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	0	0	0	0	5	6	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(26)	(0)	(0)
	hyperplasia with atypia:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
	hyperplasia with atypia:nasal gland		0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(9)	(0)	(0)
	hyperplasia with atypia:transitional epithelium		0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	11	0	0	0 **	4	0	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(29)	(0)	(0)	(0)	(17)	(0)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<40>				<42>				<38>				<23>			
	necrosis:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	hyperplasia:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(13)	(4)	(0)	(0)
	thickening of bone:turbinate		0	0	0	0	3	0	0	0	20	11	0	0 **	7	2	0	0 **
			(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(53)	(29)	(0)	(0)	(30)	(9)	(0)	(0)
larynx			<40>				<42>				<38>				<23>			
	inflammation		7	0	0	0	4	0	0	0	11	0	0	0	5	1	0	0
			(18)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(29)	(0)	(0)	(0)	(22)	(4)	(0)	(0)
lung			<40>				<42>				<38>				<23>			
	congestion		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)	(4)	(0)	(0)
	accumulation of foamy cells		1	0	0	0	3	0	0	0	4	0	0	0	3	0	0	0
			(3)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
	bronchiolar-alveolar cell hyperplasia		0	1	0	0	2	0	0	0	1	1	0	0	1	1	0	0
			(0)	(3)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(3)	(0)	(0)	(4)	(4)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
bone marrow			<40>				<42>				<38>				<23>			
	angiectasis		0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
	granulation		7	0	0	0	3	0	0	0	2	1	0	0	1	0	0	0
			(18)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(5)	(3)	(0)	(0)	(4)	(0)	(0)	(0)
	increased hematopoiesis		5	0	0	0	2	0	0	0	3	0	0	0	1	0	0	0
			(13)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	decreased hematopoiesis		0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	erythropoiesis:increased		0	0	0	0	1	1	0	0	1	1	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(3)	(3)	(0)	(0)	(13)	(0)	(0)	(0)
spleen			<40>				<42>				<38>				<23>			
	deposit of hemosiderin		17	1	0	0	3	0	0	0 **	0	0	0	0 **	4	0	0	0
			(43)	(3)	(0)	(0)	(7)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)
	fibrosis		0	0	0	0	5	0	0	0	2	0	0	0	7	0	0	0 **
			(0)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(30)	(0)	(0)	(0)
	extramedullary hematopoiesis		18	1	0	0	26	2	1	0	22	4	0	0	12	3	0	0
			(45)	(3)	(0)	(0)	(62)	(5)	(2)	(0)	(58)	(11)	(0)	(0)	(52)	(13)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Circulatory system}																		
heart			<40>				<42>				<38>				<23>			
	myocardial fibrosis		16 (40)	23 (58)	0 (0)	0 (0)	28 (67)	13 (31)	0 (0)	0 * (0)	22 (58)	13 (34)	0 (0)	0 (0)	15 (65)	8 (35)	0 (0)	0 (0)
artery/aort			<40>				<42>				<38>				<23>			
	arteritis		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
{Digestive system}																		
tongue			<40>				<42>				<38>				<23>			
	inflammatory infiltration		1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	arteritis		1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
stomach			<40>				<42>				<38>				<23>			
	ulcer:forestomach		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)
	hyperplasia:forestomach		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name / No. of Animals on Study / Grade	0 ppm 40				3 ppm 42				10 ppm 38				30 ppm 23			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Digestive system}																		
stomach			<40>				<42>				<38>				<23>			
	erosion:glandular stomach		3 (8)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	3 (8)	0 (0)	0 (0)	0 (0)	2 (9)	0 (0)	0 (0)	0 (0)
liver			<40>				<42>				<38>				<23>			
	herniation		5 (13)	0 (0)	0 (0)	0 (0)	6 (14)	0 (0)	0 (0)	0 (0)	6 (16)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	peliosis-like lesion		2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)
	necrosis: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)	1 (4)	0 (0)	0 (0)	0 (0)
	necrosis:focal		2 (5)	1 (3)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	fatty change		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	2 (9)	0 (0)	0 (0)	0 (0)
	lymphocytic infiltration		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 (4)	0 (0)	0 (0)	0 (0)
	granulation		13 (33)	1 (3)	0 (0)	0 (0)	15 (36)	0 (0)	0 (0)	0 (0)	16 (42)	0 (0)	0 (0)	0 (0)	10 (43)	0 (0)	0 (0)	0 (0)

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< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<40>				<42>				<38>				<23>			
	perivascular inflammation		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	extramedullary hematopoiesis		0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	clear cell focus		4	0	0	0	3	1	0	0	10	0	0	0	2	0	0	0
			(10)	(0)	(0)	(0)	(7)	(2)	(0)	(0)	(26)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
	acidophilic cell focus		6	1	0	0	16	1	0	0	4	1	0	0	3	0	0	0
			(15)	(3)	(0)	(0)	(38)	(2)	(0)	(0)	(11)	(3)	(0)	(0)	(13)	(0)	(0)	(0)
	basophilic cell focus		3	1	0	0	19	0	0	0 **	15	2	0	0 **	2	0	0	0
			(8)	(3)	(0)	(0)	(45)	(0)	(0)	(0)	(39)	(5)	(0)	(0)	(9)	(0)	(0)	(0)
	spongiosis hepatis		4	0	0	0	3	1	0	0	3	1	0	0	4	0	0	0
			(10)	(0)	(0)	(0)	(7)	(2)	(0)	(0)	(8)	(3)	(0)	(0)	(17)	(0)	(0)	(0)
	bile duct hyperplasia		38	2	0	0	41	1	0	0	35	3	0	0	20	3	0	0
			(95)	(5)	(0)	(0)	(98)	(2)	(0)	(0)	(92)	(8)	(0)	(0)	(87)	(13)	(0)	(0)
	cholangiofibrosis		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<40>				<42>				<38>				<23>			
	biliary cyst		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
pancreas			<40>				<41>				<38>				<23>			
	atrophy		2	0	0	0	2	0	0	0	2	0	0	0	3	0	0	0
			(5)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
	islet cell hyperplasia		1	2	0	0	2	1	0	0	1	1	0	0	0	0	0	0
			(3)	(5)	(0)	(0)	(5)	(2)	(0)	(0)	(3)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
{Urinary system}																		
kidney			<40>				<42>				<38>				<23>			
	eosinophilic body		40	0	0	0	42	0	0	0	37	0	0	0	21	0	0	0
			(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(97)	(0)	(0)	(0)	(91)	(0)	(0)	(0)
	chronic nephropathy		9	20	11	0	6	18	18	0	7	15	16	0	1	8	14	0 *
			(23)	(50)	(28)	(0)	(14)	(43)	(43)	(0)	(18)	(39)	(42)	(0)	(4)	(35)	(61)	(0)
	mineralization:papilla		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
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(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney			<40>				<42>				<38>				<23>			
	mineralization:pelvis		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
urin bladd			<40>				<42>				<38>				<23>			
	xanthogranuloma		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Endocrine system}																		
pituitary			<40>				<42>				<38>				<23>			
	angiectasis		0	0	0	0	2	0	0	0	1	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
	hemorrhage		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)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
	cyst		1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
			(3)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
	hyperplasia		10	2	0	0	5	2	0	0	5	4	0	0	1	1	0	0
			(25)	(5)	(0)	(0)	(12)	(5)	(0)	(0)	(13)	(11)	(0)	(0)	(4)	(4)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Endocrine system}																		
pituitary			<40>				<42>				<38>				<23>			
	Rathke pouch		5 (13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)
	focal hypertrophy		3 (8)	0 (0)	0 (0)	0 (0)	7 (17)	0 (0)	0 (0)	0 (0)	4 (11)	0 (0)	0 (0)	0 (0)	2 (9)	0 (0)	0 (0)	0 (0)
thyroid			<40>				<42>				<38>				<23>			
	ultimibranchial body remanet		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)
	C-cell hyperplasia		10 (25)	0 (0)	0 (0)	0 (0)	10 (24)	1 (2)	0 (0)	0 (0)	7 (18)	1 (3)	0 (0)	0 (0)	3 (13)	0 (0)	0 (0)	0 (0)
	focal follicular cell hyperplasia		3 (8)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	3 (8)	0 (0)	0 (0)	0 (0)	2 (9)	1 (4)	0 (0)	0 (0)
adrenal			<40>				<42>				<38>				<23>			
	extramedullary hematopoiesis		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)
	hyperplasia:cortical cell		4 (10)	0 (0)	0 (0)	0 (0)	3 (7)	0 (0)	0 (0)	0 (0)	3 (8)	1 (3)	0 (0)	0 (0)	4 (17)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name / No. of Animals on Study / Grade	0 ppm 40				3 ppm 42				10 ppm 38				30 ppm 23			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Endocrine system}																		
adrenal			<40>				<42>				<38>				<23>			
	hyperplasia:medulla		3 (8)	0 (0)	0 (0)	0 (0)	5 (12)	0 (0)	0 (0)	0 (0)	1 (3)	1 (3)	0 (0)	0 (0)	4 (17)	0 (0)	0 (0)	0 (0)
	focal fatty change:cortex		8 (20)	1 (3)	0 (0)	0 (0)	12 (29)	1 (2)	0 (0)	0 (0)	5 (13)	0 (0)	0 (0)	0 (0)	5 (22)	0 (0)	0 (0)	0 (0)
{Reproductive system}																		
testis			<40>				<42>				<38>				<23>			
	atrophy		1 (3)	2 (5)	37 (93)	0 (0)	2 (5)	8 (19)	32 (76)	0 (0)	0 (0)	5 (13)	33 (87)	0 (0)	0 (0)	0 (0)	23 (100)	0 (0)
	mineralization		5 (13)	0 (0)	0 (0)	0 (0)	4 (10)	1 (2)	0 (0)	0 (0)	4 (11)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	arteritis		2 (5)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)
	interstitial cell hyperplasia		3 (8)	0 (0)	0 (0)	0 (0)	4 (10)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
semin ves			<40>				<42>				<38>				<23>			
	inflammation		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Reproductive system}																		
prostate																		
	inflammation		<40>				<42>				<38>				<23>			
			7	7	0	0	7	8	1	0	7	4	0	0	7	2	0	0
			(18)	(18)	(0)	(0)	(17)	(19)	(2)	(0)	(18)	(11)	(0)	(0)	(30)	(9)	(0)	(0)
	hyperplasia		11	0	0	0	6	1	0	0	13	0	0	0	10	0	0	0
			(28)	(0)	(0)	(0)	(14)	(2)	(0)	(0)	(34)	(0)	(0)	(0)	(43)	(0)	(0)	(0)
mammary gl																		
	hyperplasia		<40>				<42>				<38>				<23>			
			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)	(4)	(0)	(0)
	galactocele		0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
{Nervous system}																		
brain																		
	gliosis		<40>				<42>				<38>				<23>			
			0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	vacuolic change:nerve cell		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name / No. of Animals on Study / Grade	0 ppm 40				3 ppm 42				10 ppm 38				30 ppm 23			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Special sense organs/appendage}																		
eye																		
	cataract		<40>				<42>				<38>				<23>			
			1	1	3	0	0	0	0	0	1	0	1	0	0	1	0	0
			(3)	(3)	(8)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(3)	(0)	(0)	(4)	(0)	(0)
	retinal atrophy		38	0	2	0	42	0	0	0	34	0	1	0	22	0	0	0
			(95)	(0)	(5)	(0)	(100)	(0)	(0)	(0)	(89)	(0)	(3)	(0)	(96)	(0)	(0)	(0)
	keratitis		1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0
			(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(4)	(4)	(0)
Harder gl																		
	degeneration		<40>				<42>				<38>				<23>			
			2	0	0	0	4	0	0	0	1	0	0	0	1	0	0	0
			(5)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	lymphocytic infiltration		2	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0
			(5)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Zymbal gl																		
	inflammation		<40>				<42>				<38>				<23>			
			0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Body cavities}																		
peritoneum																		
	cyst		<40>				<42>				<38>				<23>			
			0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	40				42				38				23			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Body cavities)																		
peritoneum			<40>				<42>				<38>				<23>			
	peritonitis		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	mesothelial hyperplasia		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

APPENDIX J 4

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE: ALL ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			<50>				<50>				<49>				<50>			
	hyperplasia:epidermis		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	scab		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)	(2)	(0)	(0)	(0)
subcutis			<50>				<50>				<49>				<50>			
	inflammation		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Respiratory system}																		
nasal cavit			<50>				<50>				<49>				<50>			
	thrombus		0	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0
			(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(0)
	mineralization		43	0	0	0	13	0	0	0 **	21	0	0	0 **	38	0	0	0
			(86)	(0)	(0)	(0)	(26)	(0)	(0)	(0)	(43)	(0)	(0)	(0)	(76)	(0)	(0)	(0)
	squamous cell hyperplasia		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ / Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
	No. of Animals on Study	50				50				49				50			
	Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Respiratory system}																	
nasal cavit																	
goblet cell hyperplasia		<50>				<50>				<49>				<50>			
		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
eosinophilic change:olfactory epithelium		10	29	10	0	1	18	30	0 **	2	27	20	0 *	9	37	3	0
		(20)	(58)	(20)	(0)	(2)	(36)	(60)	(0)	(4)	(55)	(41)	(0)	(18)	(74)	(6)	(0)
eosinophilic change:respiratory epithelium		36	6	0	0	36	2	0	0	37	1	0	0	27	2	0	0 *
		(72)	(12)	(0)	(0)	(72)	(4)	(0)	(0)	(76)	(2)	(0)	(0)	(54)	(4)	(0)	(0)
inflammation:foreign body		4	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0
		(8)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
inflammation:respiratory epithelium		1	0	0	0	1	0	0	0	3	0	0	0	21	5	0	0 **
		(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(42)	(10)	(0)	(0)
inflammation:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
respiratory metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
respiratory metaplasia:gland		49	0	0	0	47	0	0	0	48	0	0	0	49	0	0	0
		(98)	(0)	(0)	(0)	(94)	(0)	(0)	(0)	(98)	(0)	(0)	(0)	(98)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name / No. of Animals on Study / Grade	0 ppm 50				3 ppm 50				10 ppm 49				30 ppm 50			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Respiratory system)																		
nasal cavit			<50>				<50>				<49>				<50>			
	inflammation:transitional epithelium		6 (12)	1 (2)	0 (0)	0 (0)	16 (32)	0 (0)	0 (0)	0 * (0)	13 (27)	0 (0)	0 (0)	0 (0)	7 (14)	0 (0)	0 (0)	0 (0)
	squamous cell metaplasia:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	6 (12)	0 (0)	0 (0)	0 * (0)
	squamous cell metaplasia with atypia:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	10 (20)	26 (52)	0 (0)	0 ** (0)
	squamous cell hyperplasia with atypia		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	8 (16)	2 (4)	0 (0)	0 ** (0)
	hyperplasia:nasal gland		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 (2)	0 (0)	0 (0)	0 (0)
	hyperplasia with atypia:nasal gland		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 (2)	0 (0)	0 (0)	0 (0)
	hyperplasia with atypia:transitional 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)	4 (8)	0 (0)	0 (0)	0 (0)
	hyperplasia:transitional epithelium		0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	8 (16)	0 (0)	0 (0)	0 ** (0)	13 (26)	2 (4)	0 (0)	0 ** (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system)																		
nasal cavit			<50>				<50>				<49>				<50>			
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	12	1	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(24)	(2)	(0)	(0)
	necrosis:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	necrosis:respiratory epithelium		0	0	0	0	0	0	0	0	2	0	0	0	3	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(6)	(2)	(0)	(0)
	thickening of bone:turbinate		0	0	0	0	0	0	0	0	17	0	0	0 **	20	22	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(35)	(0)	(0)	(0)	(40)	(44)	(0)	(0)
larynx			<50>				<50>				<49>				<50>			
	inflammation		13	0	0	0	11	0	0	0	15	2	0	0	13	0	0	0
			(26)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(31)	(4)	(0)	(0)	(26)	(0)	(0)	(0)
lung			<50>				<50>				<49>				<50>			
	congestion		0	4	0	0	0	7	0	0	0	2	0	0	0	0	0	0
			(0)	(8)	(0)	(0)	(0)	(14)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)
	hemorrhage		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Respiratory system}																		
lung																		
	edema		<50>				<50>				<49>				<50>			
			0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	inflammation		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)
	foreign body granuloma		1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	accumulation of foamy cells		2 (4)	0 (0)	0 (0)	0 (0)	5 (10)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	interstitial pneumonia		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 (2)	0 (0)	0 (0)	0 (0)
	bronchiolar-alveolar cell hyperplasia		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	1 (2)	0 (0)	0 (0)	1 (2)	2 (4)	0 (0)	0 (0)
{Hematopoietic system}																		
bone marrow																		
	granulation		<50>				<50>				<49>				<50>			
			8 (16)	2 (4)	0 (0)	0 (0)	6 (12)	2 (4)	0 (0)	0 (0)	5 (10)	3 (6)	0 (0)	0 (0)	5 (10)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
bone marrow			<50>				<50>				<49>				<50>			
	proliferation:histiocyte		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)	(2)	(0)
	increased hematopoiesis		4	1	0	0	2	1	0	0	2	0	0	0	6	2	0	0
			(8)	(2)	(0)	(0)	(4)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(12)	(4)	(0)	(0)
	myelofibrosis		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	erythropoiesis:increased		1	0	0	0	2	1	0	0	2	0	0	0	3	3	0	0
			(2)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(6)	(6)	(0)	(0)
	granulopoiesis:increased		0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)
thymus			<50>				<50>				<49>				<50>			
	cyst		2	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0
			(4)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
spleen			<50>				<50>				<49>				<50>			
	deposit of hemosiderin		40	0	0	0	41	0	0	0	41	1	0	0	28	0	0	0 *
			(80)	(0)	(0)	(0)	(82)	(0)	(0)	(0)	(84)	(2)	(0)	(0)	(56)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
spleen			<50>				<50>				<49>				<50>			
	fibrosis		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	extramedullary hematopoiesis		30	9	1	0	34	7	1	0	37	6	0	0	24	7	6	0
			(60)	(18)	(2)	(0)	(68)	(14)	(2)	(0)	(76)	(12)	(0)	(0)	(48)	(14)	(12)	(0)
{Circulatory system}																		
heart			<50>				<50>				<49>				<50>			
	thrombus		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(2)	(0)
	mineralization		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	myocardial fibrosis		20	3	0	0	26	1	0	0	28	1	0	0	26	2	0	0
			(40)	(6)	(0)	(0)	(52)	(2)	(0)	(0)	(57)	(2)	(0)	(0)	(52)	(4)	(0)	(0)
artery/aort			<50>				<50>				<49>				<50>			
	arteritis		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
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(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
tooth			<50>				<50>				<49>				<50>			
	inflammation		0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
tongue			<50>				<50>				<49>				<50>			
	arteritis		0	0	0	0	5	0	0	0	4	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
stomach			<50>				<50>				<49>				<50>			
	mineralization		0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory infiltration		0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	erosion:forestomach		0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(2)	(0)	(0)	(0)
	ulcer:forestomach		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)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:forestomach		0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(2)	(2)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
stomach			<50>				<50>				<49>				<50>			
	erosion:glandular stomach		1	0	0	0	1	1	0	0	1	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	hyperplasia:glandular stomach		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)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
small intes			<50>				<50>				<49>				<50>			
	erosion		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver			<50>				<50>				<49>				<50>			
	herniation		15	0	0	0	4	0	0	0 *	14	0	0	0	4	0	0	0 *
			(30)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(29)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
	peliosis-like lesion		2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0
			(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:central		0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	necrosis:focal		2	0	0	0	5	1	0	0	4	1	0	0	6	1	0	0
			(4)	(0)	(0)	(0)	(10)	(2)	(0)	(0)	(8)	(2)	(0)	(0)	(12)	(2)	(0)	(0)

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(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<50>				<50>				<49>				<50>			
	fatty change		1	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	inflammatory infiltration		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	lymphocytic infiltration		1	1	0	0	2	0	0	0	2	0	0	0	0	0	0	0
			(2)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	granulation		28	2	0	0	22	6	1	0	23	4	0	0	12	4	0	0 **
			(56)	(4)	(0)	(0)	(44)	(12)	(2)	(0)	(47)	(8)	(0)	(0)	(24)	(8)	(0)	(0)
	organization		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	perivascular inflammation		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)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	fibrosis:focal		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)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	extramedullary hematopoiesis		0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)

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Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Digestive system}																		
liver			<50>				<50>				<49>				<50>			
	clear cell focus		1	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(12)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	acidophilic cell focus		2	2	0	0	2	1	0	0	5	1	0	0	6	1	0	0
			(4)	(4)	(0)	(0)	(4)	(2)	(0)	(0)	(10)	(2)	(0)	(0)	(12)	(2)	(0)	(0)
	basophilic cell focus		34	3	0	0	29	9	0	0	33	4	0	0	30	4	0	0
			(68)	(6)	(0)	(0)	(58)	(18)	(0)	(0)	(67)	(8)	(0)	(0)	(60)	(8)	(0)	(0)
	bile duct hyperplasia		33	0	0	0	31	1	0	0	36	1	0	0	29	0	0	0
			(66)	(0)	(0)	(0)	(62)	(2)	(0)	(0)	(73)	(2)	(0)	(0)	(58)	(0)	(0)	(0)
	cholangiofibrosis		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
pancreas			<50>				<50>				<49>				<50>			
	atrophy		1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	islet cell hyperplasia		0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Urinary system}																		
kidney			<50>				<50>				<49>				<50>			
	infarct		0	0	0	0	2	0	0	0	1	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(2)	(0)	(0)

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b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney			<50>				<50>				<49>				<50>			
	cyst		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyaline droplet		48	0	0	0	48	0	0	0	46	0	0	0	48	0	0	0
			(96)	(0)	(0)	(0)	(96)	(0)	(0)	(0)	(94)	(0)	(0)	(0)	(96)	(0)	(0)	(0)
	inflammatory infiltration		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)	(2)	(0)	(0)
	chronic nephropathy		32	6	0	0	25	9	6	0	26	10	3	0	28	10	3	0
			(64)	(12)	(0)	(0)	(50)	(18)	(12)	(0)	(53)	(20)	(6)	(0)	(56)	(20)	(6)	(0)
	hydronephrosis		0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(2)	(0)	(0)	(0)
	papillary necrosis		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)	(2)	(0)	(0)	(0)
	mineralization:cortico-medullary junction		1	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization:papilla		2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney			<50>				<50>				<49>				<50>			
	mineralization:pelvis		9	0	0	0	2	0	0	0	1	0	0	0 *	2	0	0	0
			(18)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	mineralization:cortex		0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(2)	(0)	(0)
	atypical tubule hyperplasia		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)	(2)	(0)	(0)
urin bladd			<50>				<50>				<49>				<50>			
	simple hyperplasia:transitional epithelium		0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
{Endocrine system}																		
pituitary			<50>				<50>				<49>				<50>			
	angiectasis		3	2	0	0	7	2	1	0	0	6	1	0	5	1	0	0
			(6)	(4)	(0)	(0)	(14)	(4)	(2)	(0)	(0)	(12)	(2)	(0)	(10)	(2)	(0)	(0)
	cyst		13	8	2	0	19	7	2	0	18	9	0	0	20	13	2	0
			(26)	(16)	(4)	(0)	(38)	(14)	(4)	(0)	(37)	(18)	(0)	(0)	(40)	(26)	(4)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Endocrine system}																		
pituitary			<50>				<50>				<49>				<50>			
	hyperplasia		4 (8)	4 (8)	0 (0)	0 (0)	3 (6)	1 (2)	0 (0)	0 (0)	7 (14)	7 (14)	0 (0)	0 (0)	4 (8)	5 (10)	1 (2)	0 (0)
	Rathke pouch		3 (6)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)
	focal hypertrophy		2 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)
thyroid			<50>				<50>				<49>				<50>			
	ultimibranchial body remanet		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	C-cell hyperplasia		12 (24)	1 (2)	0 (0)	0 (0)	8 (16)	2 (4)	0 (0)	0 (0)	13 (27)	0 (0)	0 (0)	0 (0)	9 (18)	0 (0)	0 (0)	0 (0)
	focal follicular cell hyperplasia		1 (2)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)
adrenal			<50>				<50>				<49>				<50>			
	hemorrhage		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	1 (2)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
adrenal			<50>				<50>				<49>				<50>			
	peliosis-like lesion		23	19	1	0	28	11	0	0	29	7	0	0 *	27	6	0	0 **
			(46)	(38)	(2)	(0)	(56)	(22)	(0)	(0)	(59)	(14)	(0)	(0)	(54)	(12)	(0)	(0)
	cyst		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	extramedullary hematopoiesis		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:cortical cell		1	0	0	0	0	0	0	0	0	2	0	0	1	5	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(2)	(10)	(0)	(0)
	hyperplasia:medulla		1	0	0	0	2	0	0	0	2	0	0	0	2	1	0	0
			(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(2)	(0)	(0)
	focal fatty change:cortex		8	2	0	0	12	1	0	0	11	6	0	0	10	10	1	0 *
			(16)	(4)	(0)	(0)	(24)	(2)	(0)	(0)	(22)	(12)	(0)	(0)	(20)	(20)	(2)	(0)
{Reproductive system}																		
ovary			<50>				<50>				<49>				<50>			
	cyst		1	1	0	0	1	2	0	0	1	2	0	0	2	0	0	0
			(2)	(2)	(0)	(0)	(2)	(4)	(0)	(0)	(2)	(4)	(0)	(0)	(4)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
uterus			<50>				<50>				<49>				<50>			
	dilatation		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)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	hemorrhage		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)	(2)	(0)
	inflammation		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:epithelium		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:gland		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	cystic endometrial hyperplasia		6	2	0	0	3	2	0	0	3	0	0	0	2	4	0	0
			(12)	(4)	(0)	(0)	(6)	(4)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(8)	(0)	(0)
vagina			<50>				<50>				<49>				<50>			
	squamous cell hyperplasia		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
mammary gl			<50>				<50>				<49>				<50>			
	hyperplasia		1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
mammary gl			<50>				<50>				<49>				<50>			
	galactocele		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
{Nervous system}																		
brain			<50>				<50>				<49>				<50>			
	hemorrhage		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	necrosis:focal		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)	(2)	(0)	(0)
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(2)	(2)	(0)	(0)
	gliosis		0	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0
			(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
{Special sense organs/appendage}																		
eye			<50>				<50>				<49>				<50>			
	cataract		0	3	0	0	0	1	1	0	0	2	0	0	0	0	0	0
			(0)	(6)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Special sense organs/appendage}																		
eye			<50>				<50>				<49>				<50>			
	retinal atrophy		42	1	1	0	40	0	2	0	44	0	2	0	46	0	0	0
			(84)	(2)	(2)	(0)	(80)	(0)	(4)	(0)	(90)	(0)	(4)	(0)	(92)	(0)	(0)	(0)
	keratitis		3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(6)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	iritis		0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
Harder gl			<50>				<50>				<49>				<50>			
	degeneration		2	0	0	0	2	0	0	0	2	1	0	0	4	1	0	0
			(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(8)	(2)	(0)	(0)
	lymphocytic infiltration		3	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0
			(6)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	granulation		3	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:mast cell		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)	(2)	(0)	(0)	(0)
nasolacr d			<50>				<50>				<49>				<50>			
	inflammation		22	6	0	0	13	6	0	0	8	0	0	0 **	4	0	0	0 **
			(44)	(12)	(0)	(0)	(26)	(12)	(0)	(0)	(16)	(0)	(0)	(0)	(8)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	50				50				49				50			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Musculoskeletal system}																		
bone			<50>				<50>				<49>				<50>			
	osteosclerosis		3 (6)	1 (2)	1 (2)	0 (0)	6 (12)	0 (0)	0 (0)	0 (0)	2 (4)	1 (2)	0 (0)	0 (0)	9 (18)	2 (4)	0 (0)	0 (0)
articulus			<50>				<50>				<49>				<50>			
	arthritis		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

APPENDIX J 5

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
subcutis			< 9>				<12>				<10>				<18>			
	inflammation		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(11)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Respiratory system}																		
nasal cavit			< 9>				<12>				<10>				<18>			
	thrombus		0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0
			(0)	(0)	(11)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)
	mineralization		6	0	0	0	6	0	0	0	8	0	0	0	11	0	0	0
			(67)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(80)	(0)	(0)	(0)	(61)	(0)	(0)	(0)
	squamous cell hyperplasia		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	eosinophilic change:olfactory epithelium		4	3	1	0	1	8	2	0	1	7	2	0	6	10	1	0
			(44)	(33)	(11)	(0)	(8)	(67)	(17)	(0)	(10)	(70)	(20)	(0)	(33)	(56)	(6)	(0)
	eosinophilic change:respiratory epithelium		5	0	0	0	4	0	0	0	5	0	0	0	6	0	0	0
			(56)	(0)	(0)	(0)	(33)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(33)	(0)	(0)	(0)
	inflammation:respiratory epithelium		0	0	0	0	1	0	0	0	0	0	0	0	7	2	0	0 *
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(39)	(11)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<9>				<12>				<10>				<18>			
	inflammation:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	respiratory metaplasia:gland		8	0	0	0	10	0	0	0	9	0	0	0	18	0	0	0
			(89)	(0)	(0)	(0)	(83)	(0)	(0)	(0)	(90)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
	inflammation:transitional epithelium		0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(25)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	squamous cell metaplasia with atypia:respiratory epithel		0	0	0	0	0	0	0	0	1	0	0	0	5	10	0	0 **
	ium		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(28)	(56)	(0)	(0)
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(6)	(0)	(0)
	hyperplasia:nasal gland		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)	(6)	(0)	(0)	(0)
	hyperplasia with atypia:transitional epithelium		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			< 9>				<12>				<10>				<18>			
	hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	8	1	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(44)	(6)	(0)	(0)
	necrosis:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	necrosis:respiratory epithelium		0	0	0	0	0	0	0	0	2	0	0	0	3	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(17)	(6)	(0)	(0)
	thickening of bone:turbinate		0	0	0	0	0	0	0	0	2	0	0	0	6	7	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(33)	(39)	(0)	(0)
larynx			< 9>				<12>				<10>				<18>			
	inflammation		0	0	0	0	0	0	0	0	2	1	0	0	5	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(10)	(0)	(0)	(28)	(0)	(0)	(0)
lung			< 9>				<12>				<10>				<18>			
	congestion		0	4	0	0	0	7	0	0	0	2	0	0	0	0	0	0 *
			(0)	(44)	(0)	(0)	(0)	(58)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
lung			< 9>				<12>				<10>				<18>			
	hemorrhage		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	edema		0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0
			(0)	(11)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(6)	(0)
	interstitial pneumonia		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)	(6)	(0)	(0)	(0)
{Hematopoietic system}																		
bone marrow			< 9>				<12>				<10>				<18>			
	granulation		1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(11)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	proliferation:histiocyte		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)	(6)	(0)
	increased hematopoiesis		1	0	0	0	0	1	0	0	0	0	0	0	1	2	0	0
			(11)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(11)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
bone marrow			< 9>				<12>				<10>				<18>			
	myelofibrosis		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	erythropoiesis:increased		1	0	0	0	1	1	0	0	1	0	0	0	2	3	0	0
			(11)	(0)	(0)	(0)	(8)	(8)	(0)	(0)	(10)	(0)	(0)	(0)	(11)	(17)	(0)	(0)
	granulopoiesis:increased		0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(11)	(0)	(0)
spleen			< 9>				<12>				<10>				<18>			
	deposit of hemosiderin		5	0	0	0	8	0	0	0	6	1	0	0	7	0	0	0
			(56)	(0)	(0)	(0)	(67)	(0)	(0)	(0)	(60)	(10)	(0)	(0)	(39)	(0)	(0)	(0)
	extramedullary hematopoiesis		1	2	1	0	4	3	1	0	4	2	0	0	2	3	5	0
			(11)	(22)	(11)	(0)	(33)	(25)	(8)	(0)	(40)	(20)	(0)	(0)	(11)	(17)	(28)	(0)
{Circulatory system}																		
heart			< 9>				<12>				<10>				<18>			
	thrombus		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)	(6)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Circulatory system}																		
heart			<9>				<12>				<10>				<18>			
	inflammatory cell nest		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)	(6)	(0)	(0)	(0)
	myocardial fibrosis		4	0	0	0	6	0	0	0	3	1	0	0	9	2	0	0
			(44)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(30)	(10)	(0)	(0)	(50)	(11)	(0)	(0)
artery/aort			<9>				<12>				<10>				<18>			
	arteritis		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Digestive system}																		
stomach			<9>				<12>				<10>				<18>			
	mineralization		0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory infiltration		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	erosion:forestomach		0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(6)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Digestive system}																		
stomach			< 9>				<12>				<10>				<18>			
	ulcer:forestomach		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	hyperplasia:forestomach		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	1 (6)	1 (6)	0 (0)	0 (0)
	erosion:glandular stomach		0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	1 (8)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (6)	0 (0)	0 (0)	0 (0)
small intes			< 9>				<12>				<10>				<18>			
	erosion		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
liver			< 9>				<12>				<10>				<18>			
	herniation		1 (11)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	0 (0)	5 (50)	0 (0)	0 (0)	0 (0)	1 (6)	0 (0)	0 (0)	0 (0)
	peliosis-like lesion		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	necrosis:central		0 (0)	1 (11)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (17)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			< 9>				<12>				<10>				<18>			
	necrosis:focal		1	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0
			(11)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	fatty change		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	granulation		3	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0
			(33)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	extramedullary hematopoiesis		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	acidophilic cell focus		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	basophilic cell focus		2	0	0	0	5	0	0	0	4	0	0	0	8	1	0	0
			(22)	(0)	(0)	(0)	(42)	(0)	(0)	(0)	(40)	(0)	(0)	(0)	(44)	(6)	(0)	(0)
	bile duct hyperplasia		3	0	0	0	5	0	0	0	4	0	0	0	7	0	0	0
			(33)	(0)	(0)	(0)	(42)	(0)	(0)	(0)	(40)	(0)	(0)	(0)	(39)	(0)	(0)	(0)
pancreas			< 9>				<12>				<10>				<18>			
	atrophy		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)	(6)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Urinary system}																		
kidney			< 9>				<12>				<10>				<18>			
	hyaline droplet		8 (89)	0 (0)	0 (0)	0 (0)	11 (92)	0 (0)	0 (0)	0 (0)	7 (70)	0 (0)	0 (0)	0 (0)	16 (89)	0 (0)	0 (0)	0 (0)
	inflammatory infiltration		0 (0)	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 (6)	0 (0)	0 (0)
	chronic nephropathy		2 (22)	0 (0)	0 (0)	0 (0)	3 (25)	0 (0)	1 (8)	0 (0)	4 (40)	0 (0)	1 (10)	0 (0)	9 (50)	2 (11)	0 (0)	0 (0)
	hydronephrosis		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	1 (6)	0 (0)	0 (0)	0 (0)
	papillary 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)	1 (6)	0 (0)	0 (0)	0 (0)
	mineralization:cortico-medullary junction		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization:pelvis		2 (22)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization:cortex		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (6)	1 (6)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Urinary system}																		
kidney			<9>				<12>				<10>				<18>			
	atypical tubule hyperplasia		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)	(6)	(0)	(0)
urin bladd			<9>				<12>				<10>				<18>			
	simple hyperplasia:transitional epithelium		0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(11)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
{Endocrine system}																		
pituitary			<9>				<12>				<10>				<18>			
	angiectasis		0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(22)	(0)	(0)	(0)
	cyst		1	1	0	0	3	0	0	0	3	2	0	0	4	9	0	0 *
			(11)	(11)	(0)	(0)	(25)	(0)	(0)	(0)	(30)	(20)	(0)	(0)	(22)	(50)	(0)	(0)
	hyperplasia		0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0
			(0)	(11)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)
	Rathke pouch		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(11)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Endocrine system}																		
pituitary			< 9>				<12>				<10>				<18>			
	focal hypertrophy		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(11)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
thyroid			< 9>				<12>				<10>				<18>			
	ultimibranchial body remanet		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	C-cell hyperplasia		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)
	focal follicular cell hyperplasia		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)	(6)	(0)	(0)	(0)
adrenal			< 9>				<12>				<10>				<18>			
	hemorrhage		0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	peliosis-like lesion		2	1	1	0	4	3	0	0	1	1	0	0	6	1	0	0
			(22)	(11)	(11)	(0)	(33)	(25)	(0)	(0)	(10)	(10)	(0)	(0)	(33)	(6)	(0)	(0)
	hyperplasia:cortical cell		0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Endocrine system}																		
adrenal			<9>				<12>				<10>				<18>			
	hyperplasia:medulla		0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
	focal fatty change:cortex		0	0	0	0	0	0	0	0	2	3	0	0 *	2	5	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(30)	(0)	(0)	(11)	(28)	(6)	(0)
{Reproductive system}																		
ovary			<9>				<12>				<10>				<18>			
	cyst		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
uterus			<9>				<12>				<10>				<18>			
	hemorrhage		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)	(6)	(0)
	cystic endometrial hyperplasia		0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
mammary gl			<9>				<12>				<10>				<18>			
	galactocele		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Nervous system}																		
brain			< 9>				<12>				<10>				<18>			
	hemorrhage		0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (6)	0 (0)	0 (0)	0 (0)
	inflammatory infiltration		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 (6)	0 (0)	0 (0)	0 (0)
	gliosis		0 (0)	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 (6)	0 (0)	0 (0)
{Special sense organs/appendage}																		
eye			< 9>				<12>				<10>				<18>			
	retinal atrophy		3 (33)	0 (0)	0 (0)	0 (0)	4 (33)	0 (0)	0 (0)	0 (0)	7 (70)	0 (0)	0 (0)	0 (0)	14 (78)	0 (0)	0 (0)	0 (0)
Harder gl			< 9>				<12>				<10>				<18>			
	degeneration		1 (11)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	0 (0)	1 (10)	1 (10)	0 (0)	0 (0)	2 (11)	0 (0)	0 (0)	0 (0)
nasolacr d			< 9>				<12>				<10>				<18>			
	inflammation		3 (33)	2 (22)	0 (0)	0 (0)	4 (33)	2 (17)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	2 (11)	0 (0)	0 (0)	0 * (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	9				12				10				18			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Musculoskeletal system}																		
bone			< 9>				<12>				<10>				<18>			
	osteosclerosis		0	0	0	0	1	0	0	0	0	0	0	0	2	2	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(11)	(0)	(0)
articulus			< 9>				<12>				<10>				<18>			
	arthritis		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)	(10)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

APPENDIX J 6

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			<41>				<38>				<39>				<32>			
	hyperplasia:epidermis		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	scab		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)	(3)	(0)	(0)	(0)
{Respiratory system}																		
nasal cavit			<41>				<38>				<39>				<32>			
	thrombus		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)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization		37	0	0	0	7	0	0	0 **	13	0	0	0 **	27	0	0	0
			(90)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	(33)	(0)	(0)	(0)	(84)	(0)	(0)	(0)
	squamous cell hyperplasia		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)	(3)	(0)	(0)	(0)
	goblet cell hyperplasia		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	eosinophilic change:olfactory epithelium		6	26	9	0	0	10	28	0 **	1	20	18	0 *	3	27	2	0
			(15)	(63)	(22)	(0)	(0)	(26)	(74)	(0)	(3)	(51)	(46)	(0)	(9)	(84)	(6)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<41>				<38>				<39>				<32>			
	eosinophilic change:respiratory epithelium		31	6	0	0	32	2	0	0	32	1	0	0	21	2	0	0
			(76)	(15)	(0)	(0)	(84)	(5)	(0)	(0)	(82)	(3)	(0)	(0)	(66)	(6)	(0)	(0)
	inflammation:foreign body		4	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0
			(10)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	inflammation:respiratory epithelium		1	0	0	0	0	0	0	0	3	0	0	0	14	3	0	0 **
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(44)	(9)	(0)	(0)
	inflammation:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	respiratory metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	respiratory metaplasia:gland		41	0	0	0	37	0	0	0	39	0	0	0	31	0	0	0
			(100)	(0)	(0)	(0)	(97)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(97)	(0)	(0)	(0)
	inflammation:transitional epithelium		6	1	0	0	13	0	0	0	13	0	0	0	7	0	0	0
			(15)	(2)	(0)	(0)	(34)	(0)	(0)	(0)	(33)	(0)	(0)	(0)	(22)	(0)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(13)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<41>				<38>				<39>				<32>			
	squamous cell metaplasia with atypia:respiratory epithelium		0	0	0	0	0	0	0	0	1	0	0	0	5	16	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(16)	(50)	(0)	(0)
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(19)	(3)	(0)	(0)
	hyperplasia with atypia:nasal gland		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)	(3)	(0)	(0)	(0)
	hyperplasia with atypia:transitional epithelium		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	hyperplasia:transitional epithelium		0	0	0	0	2	0	0	0	7	0	0	0 *	12	2	0	0 **
			(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	(38)	(6)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
	thickening of bone:turbinate		0	0	0	0	0	0	0	0	15	0	0	0 **	14	15	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(38)	(0)	(0)	(0)	(44)	(47)	(0)	(0)
larynx			<41>				<38>				<39>				<32>			
	inflammation		13	0	0	0	11	0	0	0	13	1	0	0	8	0	0	0
			(32)	(0)	(0)	(0)	(29)	(0)	(0)	(0)	(33)	(3)	(0)	(0)	(25)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
lung			<41>				<38>				<39>				<32>			
	foreign body granuloma		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	accumulation of foamy cells		2	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0
			(5)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	bronchiolar-alveolar cell hyperplasia		0	0	0	0	0	0	0	0	2	1	0	0	1	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(3)	(0)	(0)	(3)	(6)	(0)	(0)
{Hematopoietic system}																		
bone marrow			<41>				<38>				<39>				<32>			
	granulation		7	2	0	0	5	2	0	0	4	3	0	0	5	0	0	0
			(17)	(5)	(0)	(0)	(13)	(5)	(0)	(0)	(10)	(8)	(0)	(0)	(16)	(0)	(0)	(0)
	increased hematopoiesis		3	1	0	0	2	0	0	0	2	0	0	0	5	0	0	0
			(7)	(2)	(0)	(0)	(5)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(16)	(0)	(0)	(0)
	erythropoiesis:increased		0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
thymus			<41>				<38>				<39>				<32>			
	cyst		2	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0
			(5)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
spleen			<41>				<38>				<39>				<32>			
	deposit of hemosiderin		35	0	0	0	33	0	0	0	35	0	0	0	21	0	0	0
			(85)	(0)	(0)	(0)	(87)	(0)	(0)	(0)	(90)	(0)	(0)	(0)	(66)	(0)	(0)	(0)
	fibrosis		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	extramedullary hematopoiesis		29	7	0	0	30	4	0	0	33	4	0	0	22	4	1	0
			(71)	(17)	(0)	(0)	(79)	(11)	(0)	(0)	(85)	(10)	(0)	(0)	(69)	(13)	(3)	(0)
{Circulatory system}																		
heart			<41>				<38>				<39>				<32>			
	thrombus		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)	(3)	(0)	(0)	(0)
	mineralization		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	myocardial fibrosis		16	3	0	0	20	1	0	0	25	0	0	0 *	17	0	0	0
			(39)	(7)	(0)	(0)	(53)	(3)	(0)	(0)	(64)	(0)	(0)	(0)	(53)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system)																		
tooth			<41>				<38>				<39>				<32>			
	inflammation		0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
tongue			<41>				<38>				<39>				<32>			
	arteritis		0	0	0	0	5	0	0	0	4	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
stomach			<41>				<38>				<39>				<32>			
	inflammatory infiltration		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	erosion:glandular stomach		1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	hyperplasia:glandular stomach		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)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
liver			<41>				<38>				<39>				<32>			
	herniation		14	0	0	0	3	0	0	0 *	9	0	0	0	3	0	0	0 *
			(34)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(23)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
	peliosis-like lesion		2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Digestive system}																		
liver			<41>				<38>				<39>				<32>			
	necrosis:focal		1 (2)	0 (0)	0 (0)	0 (0)	3 (8)	1 (3)	0 (0)	0 (0)	3 (8)	1 (3)	0 (0)	0 (0)	4 (13)	1 (3)	0 (0)	0 (0)
	fatty change		1 (2)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)
	inflammatory infiltration		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	lymphocytic infiltration		1 (2)	1 (2)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	granulation		25 (61)	2 (5)	0 (0)	0 (0)	21 (55)	6 (16)	1 (3)	0 (0)	22 (56)	4 (10)	0 (0)	0 (0)	11 (34)	4 (13)	0 (0)	0 (0)
	organization		0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	perivascular inflammation		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	fibrosis:focal		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
{Digestive system}																		
liver			<41>				<38>				<39>				<32>			
	extramedullary hematopoiesis		0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	clear cell focus		1	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(15)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
	acidophilic cell focus		2	2	0	0	2	1	0	0	4	1	0	0	5	1	0	0
			(5)	(5)	(0)	(0)	(5)	(3)	(0)	(0)	(10)	(3)	(0)	(0)	(16)	(3)	(0)	(0)
	basophilic cell focus		32	3	0	0	24	9	0	0	29	4	0	0	22	3	0	0
			(78)	(7)	(0)	(0)	(63)	(24)	(0)	(0)	(74)	(10)	(0)	(0)	(69)	(9)	(0)	(0)
	bile duct hyperplasia		30	0	0	0	26	1	0	0	32	1	0	0	22	0	0	0
			(73)	(0)	(0)	(0)	(68)	(3)	(0)	(0)	(82)	(3)	(0)	(0)	(69)	(0)	(0)	(0)
	cholangiofibrosis		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
pancreas			<41>				<38>				<39>				<32>			
	atrophy		1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(2)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	islet cell hyperplasia		0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(3)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name / No. of Animals on Study / Grade	0 ppm 41				3 ppm 38				10 ppm 39				30 ppm 32			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Urinary system}																		
kidney			<41>				<38>				<39>				<32>			
	infarct		0	0	0	0	2	0	0	0	1	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
	cyst		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyaline droplet		40	0	0	0	37	0	0	0	39	0	0	0	32	0	0	0
			(98)	(0)	(0)	(0)	(97)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
	chronic nephropathy		30	6	0	0	22	9	5	0 *	22	10	2	0	19	8	3	0
			(73)	(15)	(0)	(0)	(58)	(24)	(13)	(0)	(56)	(26)	(5)	(0)	(59)	(25)	(9)	(0)
	mineralization:cortico-medullary junction		1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization:papilla		2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization:pelvis		7	0	0	0	2	0	0	0	0	0	0	0 *	2	0	0	0
			(17)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
{Endocrine system}																		
pituitary			<41>				<38>				<39>				<32>			
	angiectasis		3	2	0	0	7	2	1	0	0	5	1	0	1	1	0	0
			(7)	(5)	(0)	(0)	(18)	(5)	(3)	(0)	(0)	(13)	(3)	(0)	(3)	(3)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary			<41>				<38>				<39>				<32>			
	cyst		12	7	2	0	16	7	2	0	15	7	0	0	16	4	2	0
			(29)	(17)	(5)	(0)	(42)	(18)	(5)	(0)	(38)	(18)	(0)	(0)	(50)	(13)	(6)	(0)
	hyperplasia		4	3	0	0	3	1	0	0	7	7	0	0	4	3	1	0
			(10)	(7)	(0)	(0)	(8)	(3)	(0)	(0)	(18)	(18)	(0)	(0)	(13)	(9)	(3)	(0)
	Rathke pouch		2	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0
			(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	focal hypertrophy		1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
thyroid			<41>				<38>				<39>				<32>			
	ultimibranchial body remanet		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	C-cell hyperplasia		12	1	0	0	8	2	0	0	13	0	0	0	6	0	0	0
			(29)	(2)	(0)	(0)	(21)	(5)	(0)	(0)	(33)	(0)	(0)	(0)	(19)	(0)	(0)	(0)
	focal follicular cell hyperplasia		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
adrenal			<41>				<38>				<39>				<32>			
	hemorrhage		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)	(3)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
adrenal			<41>				<38>				<39>				<32>			
	peliosis-like lesion		21	18	0	0	24	8	0	0	28	6	0	0 *	21	5	0	0 *
			(51)	(44)	(0)	(0)	(63)	(21)	(0)	(0)	(72)	(15)	(0)	(0)	(66)	(16)	(0)	(0)
	cyst		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	extramedullary hematopoiesis		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:cortical cell		1	0	0	0	0	0	0	0	0	2	0	0	1	3	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)	(3)	(9)	(0)	(0)
	hyperplasia:medulla		1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	focal fatty change:cortex		8	2	0	0	12	1	0	0	9	3	0	0	8	5	0	0
			(20)	(5)	(0)	(0)	(32)	(3)	(0)	(0)	(23)	(8)	(0)	(0)	(25)	(16)	(0)	(0)
{Reproductive system}																		
ovary			<41>				<38>				<39>				<32>			
	cyst		1	1	0	0	0	2	0	0	1	2	0	0	2	0	0	0
			(2)	(2)	(0)	(0)	(0)	(5)	(0)	(0)	(3)	(5)	(0)	(0)	(6)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Reproductive system}																		
uterus			<41>				<38>				<39>				<32>			
	dilatation		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	inflammation		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	hyperplasia:epithelium		1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	hyperplasia:gland		1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	cystic endometrial hyperplasia		6 (15)	2 (5)	0 (0)	0 (0)	3 (8)	1 (3)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	2 (6)	3 (9)	0 (0)	0 (0)
vagina			<41>				<38>				<39>				<32>			
	squamous cell hyperplasia		0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
mammary gl			<41>				<38>				<39>				<32>			
	hyperplasia		1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
mammary gl			<41>				<38>				<39>				<32>			
	galactocele		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)	(3)	(0)	(0)	(0)
{Nervous system}																		
brain			<41>				<38>				<39>				<32>			
	necrosis:focal		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)	(3)	(0)	(0)
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)
	gliosis		0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
{Special sense organs/appendage}																		
eye			<41>				<38>				<39>				<32>			
	cataract		0	3	0	0	0	1	1	0	0	2	0	0	0	0	0	0
			(0)	(7)	(0)	(0)	(0)	(3)	(3)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Special sense organs/appendage}																		
eye			<41>				<38>				<39>				<32>			
	retinal atrophy		39 (95)	1 (2)	1 (2)	0 (0)	36 (95)	0 (0)	2 (5)	0 (0)	37 (95)	0 (0)	2 (5)	0 (0)	32 (100)	0 (0)	0 (0)	0 (0)
	keratitis		3 (7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	iritis		0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Harder gl			<41>				<38>				<39>				<32>			
	degeneration		1 (2)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	2 (6)	1 (3)	0 (0)	0 (0)
	lymphocytic infiltration		3 (7)	0 (0)	0 (0)	0 (0)	3 (8)	0 (0)	0 (0)	0 (0)	4 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	granulation		3 (7)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	hyperplasia:mast cell		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 (3)	0 (0)	0 (0)	0 (0)
nasolacr d			<41>				<38>				<39>				<32>			
	inflammation		19 (46)	4 (10)	0 (0)	0 (0)	9 (24)	4 (11)	0 (0)	0 (0)	5 (13)	0 (0)	0 (0)	0 ** (0)	2 (6)	0 (0)	0 (0)	0 ** (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	0 ppm				3 ppm				10 ppm				30 ppm			
		No. of Animals on Study	41				38				39				32			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Musculoskeletal system}																		
bone			<41>				<38>				<39>				<32>			
	osteosclerosis		3 (7)	1 (2)	1 (2)	0 (0)	5 (13)	0 (0)	0 (0)	0 (0)	2 (5)	1 (3)	0 (0)	0 (0)	7 (22)	0 (0)	0 (0)	0 (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

APPENDIX K 1

NUMBER OF ANIMALS WITH TUMORS AND NUMBER OF TUMORS-TIME RELATED, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

NUMBER OF ANIMALS WITH TUMORS AND NUMBER OF TUMORS - TIME RELATED

Time-related Items / Weeks	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
0 - 52	NO. OF EXAMINED ANIMALS	0	0	0	0
	NO. OF ANIMALS WITH TUMORS	0	0	0	0
	NO. OF ANIMALS WITH SINGLE TUMORS	0	0	0	0
	NO. OF ANIMALS WITH MULTIPLE TUMORS	0	0	0	0
	NO. OF BENIGN TUMORS	0	0	0	0
	NO. OF MALIGNANT TUMORS	0	0	0	0
	NO. OF TOTAL TUMORS	0	0	0	0
53 - 78	NO. OF EXAMINED ANIMALS	1	4	0	4
	NO. OF ANIMALS WITH TUMORS	1	3	0	4
	NO. OF ANIMALS WITH SINGLE TUMORS	1	2	0	0
	NO. OF ANIMALS WITH MULTIPLE TUMORS	0	1	0	4
	NO. OF BENIGN TUMORS	0	1	0	6
	NO. OF MALIGNANT TUMORS	1	3	0	4
	NO. OF TOTAL TUMORS	1	4	0	10
79 - 104	NO. OF EXAMINED ANIMALS	9	4	12	23
	NO. OF ANIMALS WITH TUMORS	9	4	12	22
	NO. OF ANIMALS WITH SINGLE TUMORS	3	0	3	0
	NO. OF ANIMALS WITH MULTIPLE TUMORS	6	4	9	22
	NO. OF BENIGN TUMORS	12	7	18	46
	NO. OF MALIGNANT TUMORS	6	2	13	29
	NO. OF TOTAL TUMORS	18	9	31	75
105 - 105	NO. OF EXAMINED ANIMALS	40	42	38	23
	NO. OF ANIMALS WITH TUMORS	39	40	38	23
	NO. OF ANIMALS WITH SINGLE TUMORS	11	10	10	1
	NO. OF ANIMALS WITH MULTIPLE TUMORS	28	30	28	22
	NO. OF BENIGN TUMORS	82	80	80	63
	NO. OF MALIGNANT TUMORS	13	7	14	27
	NO. OF TOTAL TUMORS	95	87	94	90

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

NUMBER OF ANIMALS WITH TUMORS AND NUMBER OF TUMORS - TIME RELATED

Time-related Weeks	Items	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
0 - 105	NO. OF EXAMINED ANIMALS		50	50	50	50
	NO. OF ANIMALS WITH TUMORS		49	47	50	49
	NO. OF ANIMALS WITH SINGLE TUMORS		15	12	13	1
	NO. OF ANIMALS WITH MULTIPLE TUMORS		34	35	37	48
	NO. OF BENIGN TUMORS		94	88	98	115
	NO. OF MALIGNANT TUMORS		20	12	27	60
	NO. OF TOTAL TUMORS		114	100	125	175

APPENDIX K 2

NUMBER OF ANIMALS WITH TUMORS AND NUMBER OF TUMORS-TIME RELATED, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

NUMBER OF ANIMALS WITH TUMORS AND NUMBER OF TUMORS - TIME RELATED

Time-related Weeks	Items	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
0 - 52	NO. OF EXAMINED ANIMALS		0	0	0	0
	NO. OF ANIMALS WITH TUMORS		0	0	0	0
	NO. OF ANIMALS WITH SINGLE TUMORS		0	0	0	0
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	0
	NO. OF BENIGN TUMORS		0	0	0	0
	NO. OF MALIGNANT TUMORS		0	0	0	0
	NO. OF TOTAL TUMORS		0	0	0	0
53 - 78	NO. OF EXAMINED ANIMALS		3	1	2	3
	NO. OF ANIMALS WITH TUMORS		2	0	2	2
	NO. OF ANIMALS WITH SINGLE TUMORS		2	0	2	1
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	1
	NO. OF BENIGN TUMORS		2	0	0	1
	NO. OF MALIGNANT TUMORS		0	0	2	2
	NO. OF TOTAL TUMORS		2	0	2	3
79 - 104	NO. OF EXAMINED ANIMALS		6	11	8	15
	NO. OF ANIMALS WITH TUMORS		5	11	8	15
	NO. OF ANIMALS WITH SINGLE TUMORS		3	8	2	3
	NO. OF ANIMALS WITH MULTIPLE TUMORS		2	3	6	12
	NO. OF BENIGN TUMORS		3	8	10	19
	NO. OF MALIGNANT TUMORS		4	6	9	13
	NO. OF TOTAL TUMORS		7	14	19	32
105 - 105	NO. OF EXAMINED ANIMALS		41	38	39	32
	NO. OF ANIMALS WITH TUMORS		26	29	31	28
	NO. OF ANIMALS WITH SINGLE TUMORS		12	16	9	6
	NO. OF ANIMALS WITH MULTIPLE TUMORS		14	13	22	22
	NO. OF BENIGN TUMORS		41	36	57	52
	NO. OF MALIGNANT TUMORS		6	10	7	13
	NO. OF TOTAL TUMORS		47	46	64	65

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

NUMBER OF ANIMALS WITH TUMORS AND NUMBER OF TUMORS - TIME RELATED

Time-related Weeks	Items	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
0 - 105	NO. OF EXAMINED ANIMALS		50	50	49	50
	NO. OF ANIMALS WITH TUMORS		33	40	41	45
	NO. OF ANIMALS WITH SINGLE TUMORS		17	24	13	10
	NO. OF ANIMALS WITH MULTIPLE TUMORS		16	16	28	35
	NO. OF BENIGN TUMORS		46	44	67	72
	NO. OF MALIGNANT TUMORS		10	16	18	28
	NO. OF TOTAL TUMORS		56	60	85	100

APPENDIX L 1

HISTOLOGICAL FINDINGS : NEOPLASTIC LESIONS : SUMMARY

RAT : MALE

(2-YEAR STUDY)

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 50	30 ppm 50
{Integumentary system/appandage}						
skin/app			<50>	<50>	<50>	<50>
	squamous cell papilloma		0 (0%)	0 (0%)	1 (2%)	3 (6%)
	trichoepithelioma		0 (0%)	1 (2%)	1 (2%)	1 (2%)
	keratoacanthoma		3 (6%)	3 (6%)	0 (0%)	2 (4%)
	sebaceous adenoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
subcutis			<50>	<50>	<50>	<50>
	fibroma		10 (20%)	2 (4%)	10 (20%)	9 (18%)
	lipoma		0 (0%)	1 (2%)	1 (2%)	0 (0%)
	schwannoma		2 (4%)	1 (2%)	0 (0%)	0 (0%)
	fibrosarcoma		0 (0%)	0 (0%)	1 (2%)	1 (2%)
	schwannoma:malignant		0 (0%)	0 (0%)	0 (0%)	1 (2%)
{Respiratory system}						
nasal cavit			<50>	<50>	<50>	<50>
	adenoma		0 (0%)	0 (0%)	3 (6%)	5 (10%)
	squamous cell carcinoma		0 (0%)	0 (0%)	0 (0%)	14 (28%)
	adenocarcinoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 50	30 ppm 50
{Respiratory system}						
nasal cavit			<50>	<50>	<50>	<50>
	basal cell carcinoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
lung			<50>	<50>	<50>	<50>
	bronchiolar-alveolar adenoma		2 (4%)	4 (8%)	5 (10%)	3 (6%)
	bronchiolar-alveolar carcinoma		4 (8%)	3 (6%)	2 (4%)	0 (0%)
{Hematopoietic system}						
lymph node			<50>	<50>	<50>	<50>
	malignant lymphoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
spleen			<50>	<50>	<50>	<50>
	histiocytic sarcoma		1 (2%)	0 (0%)	0 (0%)	0 (0%)
	mononuclear cell leukemia		8 (16%)	1 (2%)	4 (8%)	5 (10%)
{Digestive system}						
oral cavity			<50>	<50>	<50>	<50>
	squamous cell carcinoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
salivary gl			<50>	<50>	<50>	<50>
	fibroma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	adenocarcinoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
stomach			<50>	<50>	<50>	<50>
	squamous cell papilloma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
small intes			<50>	<50>	<50>	<50>
	adenocarcinoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 50	30 ppm 50
{Digestive system}						
small intes			<50>	<50>	<50>	<50>
	malignant fibrous histiocytoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
liver			<50>	<50>	<50>	<50>
	hepatocellular adenoma		0 (0%)	2 (4%)	1 (2%)	0 (0%)
	hepatocellular carcinoma		1 (2%)	0 (0%)	0 (0%)	0 (0%)
pancreas			<50>	<49>	<50>	<50>
	islet cell adenoma		4 (8%)	0 (0%)	1 (2%)	2 (4%)
	islet cell adenocarcinoma		2 (4%)	0 (0%)	0 (0%)	0 (0%)
{Urinary system}						
kidney			<50>	<50>	<50>	<50>
	renal cell adenoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
urin bladd			<50>	<50>	<50>	<50>
	transitional cell papilloma		1 (2%)	0 (0%)	0 (0%)	1 (2%)
	transitional cell carcinoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
{Endocrine system}						
pituitary			<50>	<50>	<50>	<50>
	adenoma		11 (22%)	10 (20%)	9 (18%)	11 (22%)
	adenocarcinoma		0 (0%)	1 (2%)	0 (0%)	2 (4%)
thyroid			<50>	<50>	<50>	<50>
	C-cell adenoma		14 (28%)	17 (34%)	15 (30%)	14 (28%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 50	30 ppm 50
{Endocrine system}						
thyroid			<50>	<50>	<50>	<50>
	follicular adenoma		0 (0%)	1 (2%)	2 (4%)	0 (0%)
	C-cell carcinoma		0 (0%)	0 (0%)	1 (2%)	1 (2%)
	follicular adenocarcinoma		0 (0%)	1 (2%)	0 (0%)	4 (8%)
adrenal			<50>	<50>	<50>	<50>
	pheochromocytoma		5 (10%)	6 (12%)	4 (8%)	5 (10%)
	ganglioneuroma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
	pheochromocytoma:malignant		0 (0%)	0 (0%)	1 (2%)	1 (2%)
{Reproductive system}						
testis			<50>	<50>	<50>	<50>
	interstitial cell tumor		41 (82%)	37 (74%)	44 (88%)	47 (94%)
	rete testis adenoma		1 (2%)	0 (0%)	0 (0%)	1 (2%)
mammary gl			<50>	<50>	<50>	<50>
	adenoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	fibroadenoma		0 (0%)	0 (0%)	0 (0%)	6 (12%)
prep/cli gl			<50>	<50>	<50>	<50>
	adenoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
	adenocarcinoma		0 (0%)	1 (2%)	2 (4%)	0 (0%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 50	30 ppm 50
{Nervous system}						
brain			<50>	<50>	<50>	<50>
	malignant reticulosis		1 (2%)	0 (0%)	0 (0%)	0 (0%)
	glioma		0 (0%)	0 (0%)	0 (0%)	2 (4%)
{Special sense organs/appendage}						
Zymbal gl			<50>	<50>	<50>	<50>
	squamous cell papilloma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	carcinoma		0 (0%)	1 (2%)	1 (2%)	1 (2%)
{Musculoskeletal system}						
muscle			<50>	<50>	<50>	<50>
	sarcoma:NOS		0 (0%)	0 (0%)	1 (2%)	0 (0%)
bone			<50>	<50>	<50>	<50>
	chondroma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
{Body cavities}						
peritoneum			<50>	<50>	<50>	<50>
	mesothelioma		2 (4%)	3 (6%)	12 (24%)	22 (44%)
retroperit			<50>	<50>	<50>	<50>
	schwannoma:malignant		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	sarcoma:NOS		1 (2%)	0 (0%)	0 (0%)	0 (0%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

APPENDIX L 2

HISTOLOGICAL FINDINGS : NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE

(2-YEAR STUDY)

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 49	30 ppm 50
{Integumentary system/appandage}						
skin/app			<50>	<50>	<49>	<50>
	squamous cell papilloma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	keratoacanthoma		0 (0%)	0 (0%)	1 (2%)	1 (2%)
	trichoepithelioma:malignant		1 (2%)	0 (0%)	0 (0%)	0 (0%)
subcutis			<50>	<50>	<49>	<50>
	fibroma		0 (0%)	0 (0%)	0 (0%)	2 (4%)
	schwannoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
{Respiratory system}						
nasal cavit			<50>	<50>	<49>	<50>
	adenoma		0 (0%)	0 (0%)	4 (8%)	8 (16%)
	squamous cell carcinoma		0 (0%)	0 (0%)	0 (0%)	2 (4%)
	adenocarcinoma		0 (0%)	0 (0%)	0 (0%)	2 (4%)
lung			<50>	<50>	<49>	<50>
	bronchiolar-alveolar adenoma		1 (2%)	1 (2%)	1 (2%)	2 (4%)
	bronchiolar-alveolar carcinoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
{Hematopoietic system}						
lymph node			<50>	<50>	<49>	<50>
	malignant lymphoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 49	30 ppm 50
{Hematopoietic system}						
spleen			<50>	<50>	<49>	<50>
	osteosarcoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	mononuclear cell leukemia		3 (6%)	3 (6%)	1 (2%)	8 (16%)
{Digestive system}						
oral cavity			<50>	<50>	<49>	<50>
	squamous cell papilloma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
tongue			<50>	<50>	<49>	<50>
	squamous cell papilloma		0 (0%)	1 (2%)	1 (2%)	1 (2%)
stomach			<50>	<50>	<49>	<50>
	squamous cell papilloma		1 (2%)	0 (0%)	0 (0%)	2 (4%)
small intes			<50>	<50>	<49>	<50>
	adenocarcinoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	malignant fibrous histiocytoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
pancreas			<50>	<50>	<49>	<50>
	islet cell adenoma		1 (2%)	1 (2%)	0 (0%)	0 (0%)
	acinar cell adenocarcinoma		1 (2%)	0 (0%)	0 (0%)	1 (2%)
{Urinary system}						
kidney			<50>	<50>	<49>	<50>
	hemangiosarcoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
	nephroblastoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 49	30 ppm 50
{Urinary system}						
urin bladd			<50>	<50>	<49>	<50>
	transitional cell papilloma		1 (2%)	1 (2%)	0 (0%)	0 (0%)
{Endocrine system}						
pituitary			<50>	<50>	<49>	<50>
	adenoma		13 (26%)	12 (24%)	15 (31%)	10 (20%)
	adenocarcinoma		2 (4%)	4 (8%)	1 (2%)	1 (2%)
thyroid			<50>	<50>	<49>	<50>
	C-cell adenoma		9 (18%)	5 (10%)	8 (16%)	7 (14%)
	follicular adenoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
	C-cell carcinoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
adrenal			<50>	<50>	<49>	<50>
	pheochromocytoma		3 (6%)	3 (6%)	1 (2%)	0 (0%)
	cortical adenoma		0 (0%)	0 (0%)	2 (4%)	0 (0%)
	sarcoma:NOS		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	pheochromocytoma:malignant		0 (0%)	2 (4%)	0 (0%)	0 (0%)
{Reproductive system}						
ovary			<50>	<50>	<49>	<50>
	hemangioma		0 (0%)	0 (0%)	0 (0%)	1 (2%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 49	30 ppm 50
{Reproductive system}						
ovary			<50>	<50>	<49>	<50>
	sertoli cell tumor		1 (2%)	0 (0%)	0 (0%)	0 (0%)
	granulosa-theca cell tumor		0 (0%)	1 (2%)	0 (0%)	0 (0%)
uterus			<50>	<50>	<49>	<50>
	endometrial stromal polyp		6 (12%)	11 (22%)	11 (22%)	13 (26%)
	adenocarcinoma		0 (0%)	0 (0%)	3 (6%)	0 (0%)
	hemangiosarcoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	endometrial stromal sarcoma		1 (2%)	4 (8%)	4 (8%)	7 (14%)
vagina			<50>	<50>	<49>	<50>
	hemangioma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	hemangiosarcoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
mammary gl			<50>	<50>	<49>	<50>
	adenoma		2 (4%)	1 (2%)	3 (6%)	2 (4%)
	fibroadenoma		8 (16%)	6 (12%)	18 (37%)	17 (34%)
	adenocarcinoma		2 (4%)	1 (2%)	1 (2%)	2 (4%)
prep/cli gl			<50>	<50>	<49>	<50>
	adenoma		0 (0%)	0 (0%)	0 (0%)	2 (4%)
{Nervous system}						
brain			<50>	<50>	<49>	<50>
	glioma		0 (0%)	0 (0%)	0 (0%)	1 (2%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

Organ	Findings	Group Name / No. of animals on Study	0 ppm 50	3 ppm 50	10 ppm 49	30 ppm 50
{Nervous system}						
brain			<50>	<50>	<49>	<50>
	meningioma:malignant		0 (0%)	0 (0%)	1 (2%)	0 (0%)
{Special sense organs/appendage}						
Zymbal gl			<50>	<50>	<49>	<50>
	carcinoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
{Musculoskeletal system}						
bone			<50>	<50>	<49>	<50>
	osteoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
{Body cavities}						
peritoneum			<50>	<50>	<49>	<50>
	fibroma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	mesothelioma		0 (0%)	0 (0%)	1 (2%)	0 (0%)

< a > a : Number of animals examined at the site
b (c) b : Number of animals with neoplasm c : b / a * 100

APPENDIX M 1

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL

ANALYSIS, RAT : MALE

(2-YEAR STUDY)

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : skin/appendage TUMOR : squamous cell papilloma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	1/50(2.0)	3/50(6.0)
Adjusted rates(b)	0.0	0.0	2.63	8.70
Terminal rates(c)	0/40(0.0)	0/42(0.0)	1/38(2.6)	2/23(8.7)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0069**			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0138*			
Fisher Exact test(e)		P = N.C.	P = 0.5000	P = 0.1212
	SITE : skin/appendage TUMOR : keratoacanthoma			
Tumor rate				
Overall rates(a)	3/50(6.0)	3/50(6.0)	0/50(0.0)	2/50(4.0)
Adjusted rates(b)	7.50	4.76	0.0	8.70
Terminal rates(c)	3/40(7.5)	2/42(4.8)	0/38(0.0)	2/23(8.7)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.5196			
Prevalence method(d)	P = 0.3621			
Combined analysis(d)	P = 0.4613			
Cochran-Armitage test(e)	P = 0.5998			
Fisher Exact test(e)		P = 0.6611	P = 0.1212	P = 0.5000
	SITE : subcutis TUMOR : fibroma			
Tumor rate				
Overall rates(a)	10/50(20.0)	2/50(4.0)	10/50(20.0)	9/50(18.0)
Adjusted rates(b)	20.00	4.76	19.15	21.74
Terminal rates(c)	8/40(20.0)	2/42(4.8)	7/38(18.4)	5/23(21.7)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.8433			
Prevalence method(d)	P = 0.1043			
Combined analysis(d)	P = 0.1927			
Cochran-Armitage test(e)	P = 0.4750			
Fisher Exact test(e)		P = 0.0139*	P = 0.5984	P = 0.5000

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : subcutis TUMOR : fibroma, fibrosarcoma			
Tumor rate				
Overall rates(a)	10/50(20.0)	2/50(4.0)	10/50(20.0)	10/50(20.0)
Adjusted rates(b)	20.00	4.76	19.15	23.08
Terminal rates(c)	8/40(20.0)	2/42(4.8)	7/38(18.4)	5/23(21.7)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.8433			
Prevalence method(d)	P = 0.0578			
Combined analysis(d)	P = 0.1201			
Cochran-Armitage test(e)	P = 0.3064			
Fisher Exact test(e)		P = 0.0139*	P = 0.5984	P = 0.5984
	SITE : nasal cavity TUMOR : adenoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	3/50(6.0)	5/50(10.0)
Adjusted rates(b)	0.0	0.0	7.89	17.39
Terminal rates(c)	0/40(0.0)	0/42(0.0)	3/38(7.9)	4/23(17.4)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0006**			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0037**			
Fisher Exact test(e)		P = N.C.	P = 0.1212	P = 0.0281*
	SITE : nasal cavity TUMOR : squamous cell carcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	0/50(0.0)	14/50(28.0)
Adjusted rates(b)	0.0	0.0	0.0	34.78
Terminal rates(c)	0/40(0.0)	0/42(0.0)	0/38(0.0)	8/23(34.8)
Statistical analysis				
Peto test				
Standard method(d)	P < 0.0001**?			
Prevalence method(d)	P < 0.0001**?			
Combined analysis(d)	P < 0.0001**?			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = N.C.	P = N.C.	P < 0.0001**

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : nasal cavity TUMOR : adenoma, adenocarcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	3/50(6.0)	6/50(12.0)
Adjusted rates(b)	0.0	0.0	7.89	21.74
Terminal rates(c)	0/40(0.0)	0/42(0.0)	3/38(7.9)	5/23(21.7)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0001**			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0010**			
Fisher Exact test(e)		P = N.C.	P = 0.1212	P = 0.0133*
	SITE : lung TUMOR : bronchiolar-alveolar adenoma			
Tumor rate				
Overall rates(a)	2/50(4.0)	4/50(8.0)	5/50(10.0)	3/50(6.0)
Adjusted rates(b)	4.76	8.33	13.16	10.34
Terminal rates(c)	1/40(2.5)	3/42(7.1)	5/38(13.2)	2/23(8.7)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.3220			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.9716			
Fisher Exact test(e)		P = 0.3389	P = 0.2180	P = 0.5000
	SITE : lung TUMOR : bronchiolar-alveolar carcinoma			
Tumor rate				
Overall rates(a)	4/50(8.0)	3/50(6.0)	2/50(4.0)	0/50(0.0)
Adjusted rates(b)	10.00	4.76	2.63	0.0
Terminal rates(c)	4/40(10.0)	2/42(4.8)	1/38(2.6)	0/23(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.5903			
Prevalence method(d)	P = 0.9683			
Combined analysis(d)	P = 0.9624			
Cochran-Armitage test(e)	P = 0.0481*			
Fisher Exact test(e)		P = 0.5000	P = 0.3389	P = 0.0587

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : lung			
	TUMOR : bronchiolar-alveolar adenoma, bronchiolar-alveolar carcinoma			
Tumor rate				
Overall rates(a)	6/50(12.0)	7/50(14.0)	7/50(14.0)	3/50(6.0)
Adjusted rates(b)	14.29	12.77	15.79	10.34
Terminal rates(c)	5/40(12.5)	5/42(11.9)	6/38(15.8)	2/23(8.7)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.5903			
Prevalence method(d)	P = 0.7406			
Combined analysis(d)	P = 0.7756			
Cochran-Armitage test(e)	P = 0.2091			
Fisher Exact test(e)		P = 0.5000	P = 0.5000	P = 0.2435
	SITE : spleen			
	TUMOR : mononuclear cell leukemia			
Tumor rate				
Overall rates(a)	8/50(16.0)	1/50(2.0)	4/50(8.0)	5/50(10.0)
Adjusted rates(b)	7.50	0.0	5.13	13.04
Terminal rates(c)	3/40(7.5)	0/42(0.0)	1/38(2.6)	3/23(13.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.6506			
Prevalence method(d)	P = 0.0828			
Combined analysis(d)	P = 0.2751			
Cochran-Armitage test(e)	P = 0.9916			
Fisher Exact test(e)		P = 0.0154*	P = 0.1783	P = 0.2768
	SITE : pancreas			
	TUMOR : islet cell adenoma			
Tumor rate				
Overall rates(a)	4/50(8.0)	0/49(0.0)	1/50(2.0)	2/50(4.0)
Adjusted rates(b)	10.00	0.0	2.63	8.70
Terminal rates(c)	4/40(10.0)	0/41(0.0)	1/38(2.6)	2/23(8.7)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.3158			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.8560			
Fisher Exact test(e)		P = 0.0612	P = 0.1811	P = 0.3389

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : pancreas TUMOR : islet cell adenoma, islet cell adenocarcinoma			
Tumor rate				
Overall rates(a)	6/50(12.0)	0/49(0.0)	1/50(2.0)	2/50(4.0)
Adjusted rates(b)	15.00	0.0	2.63	8.70
Terminal rates(c)	6/40(15.0)	0/41(0.0)	1/38(2.6)	2/23(8.7)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.5440			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.4297			
Fisher Exact test(e)		P = 0.0142*	P = 0.0559	P = 0.1343
	SITE : pituitary gland TUMOR : adenoma			
Tumor rate				
Overall rates(a)	11/50(22.0)	10/50(20.0)	9/50(18.0)	11/50(22.0)
Adjusted rates(b)	22.50	23.81	21.95	26.92
Terminal rates(c)	9/40(22.5)	10/42(23.8)	7/38(18.4)	6/23(26.1)
Statistical analysis				
Peto test				
Standard method(d)	P = 1.0000 ?			
Prevalence method(d)	P = 0.2050			
Combined analysis(d)	P = 0.2562			
Cochran-Armitage test(e)	P = 0.8898			
Fisher Exact test(e)		P = 0.5000	P = 0.4016	P = 0.5952
	SITE : pituitary gland TUMOR : adenoma, adenocarcinoma			
Tumor rate				
Overall rates(a)	11/50(22.0)	11/50(22.0)	9/50(18.0)	13/50(26.0)
Adjusted rates(b)	22.50	26.19	21.95	30.77
Terminal rates(c)	9/40(22.5)	11/42(26.2)	7/38(18.4)	7/23(30.4)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.2496			
Prevalence method(d)	P = 0.1421			
Combined analysis(d)	P = 0.1161			
Cochran-Armitage test(e)	P = 0.5592			
Fisher Exact test(e)		P = 0.5952	P = 0.4016	P = 0.4076

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : thyroid TUMOR : C-cell adenoma			
Tumor rate				
Overall rates(a)	14/50(28.0)	17/50(34.0)	15/50(30.0)	14/50(28.0)
Adjusted rates(b)	34.15	38.64	33.33	35.90
Terminal rates(c)	13/40(32.5)	15/42(35.7)	12/38(31.6)	7/23(30.4)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.4036			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.7514			
Fisher Exact test(e)		P = 0.3329	P = 0.5000	P = 0.5880
	SITE : thyroid TUMOR : follicular adenocarcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	1/50(2.0)	0/50(0.0)	4/50(8.0)
Adjusted rates(b)	0.0	2.38	0.0	14.29
Terminal rates(c)	0/40(0.0)	1/42(2.4)	0/38(0.0)	3/23(13.0)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0014**			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0073**			
Fisher Exact test(e)		P = 0.5000	P = N.C.	P = 0.0587
	SITE : thyroid TUMOR : C-cell adenoma, C-cell carcinoma			
Tumor rate				
Overall rates(a)	14/50(28.0)	17/50(34.0)	16/50(32.0)	15/50(30.0)
Adjusted rates(b)	34.15	38.64	35.90	38.46
Terminal rates(c)	13/40(32.5)	15/42(35.7)	13/38(34.2)	8/23(34.8)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.3029			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.9427			
Fisher Exact test(e)		P = 0.3329	P = 0.4138	P = 0.5000

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : thyroid			
	TUMOR : follicular adenoma, follicular adenocarcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	2/50(4.0)	2/50(4.0)	4/50(8.0)
Adjusted rates(b)	0.0	4.76	5.26	14.29
Terminal rates(c)	0/40(0.0)	2/42(4.8)	2/38(5.3)	3/23(13.0)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0114*			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0640			
Fisher Exact test(e)		P = 0.2475	P = 0.2475	P = 0.0587
	SITE : adrenal gland			
	TUMOR : pheochromocytoma			
Tumor rate				
Overall rates(a)	5/50(10.0)	6/50(12.0)	4/50(8.0)	5/50(10.0)
Adjusted rates(b)	12.50	14.29	8.33	14.29
Terminal rates(c)	5/40(12.5)	6/42(14.3)	3/38(7.9)	3/23(13.0)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.3886			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.8878			
Fisher Exact test(e)		P = 0.5000	P = 0.5000	P = 0.6297
	SITE : adrenal gland			
	TUMOR : pheochromocytoma, pheochromocytoma:malignant			
Tumor rate				
Overall rates(a)	5/50(10.0)	6/50(12.0)	5/50(10.0)	6/50(12.0)
Adjusted rates(b)	12.50	14.29	8.51	17.86
Terminal rates(c)	5/40(12.5)	6/42(14.3)	3/38(7.9)	3/23(13.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.3394			
Prevalence method(d)	P = 0.2496			
Combined analysis(d)	P = 0.2543			
Cochran-Armitage test(e)	P = 0.8241			
Fisher Exact test(e)		P = 0.5000	P = 0.6297	P = 0.5000

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : testis			
	TUMOR : interstitial cell tumor			
Tumor rate				
Overall rates(a)	41/50(82.0)	37/50(74.0)	44/50(88.0)	47/50(94.0)
Adjusted rates(b)	90.91	80.95	97.44	97.30
Terminal rates(c)	36/40(90.0)	34/42(81.0)	37/38(97.4)	22/23(95.7)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0001**			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0159*			
Fisher Exact test(e)		P = 0.2348	P = 0.2883	P = 0.0606
	SITE : mammary gland			
	TUMOR : fibroadenoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	0/50(0.0)	6/50(12.0)
Adjusted rates(b)	0.0	0.0	0.0	16.67
Terminal rates(c)	0/40(0.0)	0/42(0.0)	0/38(0.0)	3/23(13.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.0805			
Prevalence method(d)	P < 0.0001**?			
Combined analysis(d)	P < 0.0001**?			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = N.C.	P = N.C.	P = 0.0133*
	SITE : mammary gland			
	TUMOR : adenoma, fibroadenoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	0/50(0.0)	7/50(14.0)
Adjusted rates(b)	0.0	0.0	0.0	20.00
Terminal rates(c)	0/40(0.0)	0/42(0.0)	0/38(0.0)	4/23(17.4)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.0805			
Prevalence method(d)	P < 0.0001**?			
Combined analysis(d)	P < 0.0001**?			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = N.C.	P = N.C.	P = 0.0062**

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : peritoneum TUMOR : mesothelioma			
Tumor rate				
Overall rates(a)	2/50(4.0)	3/50(6.0)	12/50(24.0)	22/50(44.0)
Adjusted rates(b)	5.00	4.76	25.00	32.00
Terminal rates(c)	2/40(5.0)	2/42(4.8)	9/38(23.7)	7/23(30.4)
Statistical analysis				
Peto test				
Standard method(d)	P < 0.0001**			
Prevalence method(d)	P = 0.0003**			
Combined analysis(d)	P < 0.0001**			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = 0.5000	P = 0.0038**	P < 0.0001**

(HPT360A)

BAIS3

(a): Number of tumor-bearing animals/number of animals examined at the site.
(b): Kaplan-Meire estimated tumor incidence at the end of the study after adjusting for intercurrent mortality.
(c): Observed tumor incidence at terminal kill.
(d): Beneath the control incidence are the P-values associated with the trend test.
Standard method : Death analysis
Prevalence method : Incidental tumor test
Combined analysis : Death analysis + Incidental tumor test
(e): The Cochran-Armitage and Fisher exact test compare directly the overall incidence rates.
? : The conditional probabilities of the largest and smallest possible out comes can not estimated or this P-value is beyond the estimated P-value.
——— : There is no data which should be statistical analysis.
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01
N.C. :Statistical value cannot be calculated and was not significant.

APPENDIX M 2

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL

ANALYSIS, RAT : FEMALE

(2-YEAR STUDY)

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : nasal cavity TUMOR : adenoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	4/49(8.2)	8/50(16.0)
Adjusted rates(b)	0.0	0.0	9.52	21.21
Terminal rates(c)	0/41(0.0)	0/38(0.0)	3/39(7.7)	6/32(18.8)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0001**			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0001**			
Fisher Exact test(e)		P = N.C.	P = 0.0563	P = 0.0029**
	SITE : nasal cavity TUMOR : adenoma, adenocarcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	4/49(8.2)	10/50(20.0)
Adjusted rates(b)	0.0	0.0	9.52	21.43
Terminal rates(c)	0/41(0.0)	0/38(0.0)	3/39(7.7)	6/32(18.8)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.1407			
Prevalence method(d)	P < 0.0001**			
Combined analysis(d)	P < 0.0001**			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = N.C.	P = 0.0563	P = 0.0006**
	SITE : spleen TUMOR : mononuclear cell leukemia			
Tumor rate				
Overall rates(a)	3/50(6.0)	3/50(6.0)	1/49(2.0)	8/50(16.0)
Adjusted rates(b)	4.88	2.63	0.0	12.50
Terminal rates(c)	2/41(4.9)	1/38(2.6)	0/39(0.0)	4/32(12.5)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.0599			
Prevalence method(d)	P = 0.0398*			
Combined analysis(d)	P = 0.0097**			
Cochran-Armitage test(e)	P = 0.0252*			
Fisher Exact test(e)		P = 0.6611	P = 0.3163	P = 0.0999

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : pituitary gland TUMOR : adenoma			
Tumor rate				
Overall rates(a)	13/50(26.0)	12/50(24.0)	15/49(30.6)	10/50(20.0)
Adjusted rates(b)	26.83	23.68	33.33	21.88
Terminal rates(c)	11/41(26.8)	9/38(23.7)	13/39(33.3)	7/32(21.9)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.7714			
Prevalence method(d)	P = 0.5165			
Combined analysis(d)	P = 0.6454			
Cochran-Armitage test(e)	P = 0.4711			
Fisher Exact test(e)		P = 0.5000	P = 0.3874	P = 0.3176
	SITE : pituitary gland TUMOR : adenocarcinoma			
Tumor rate				
Overall rates(a)	2/50(4.0)	4/50(8.0)	1/49(2.0)	1/50(2.0)
Adjusted rates(b)	2.44	7.89	2.56	3.13
Terminal rates(c)	1/41(2.4)	3/38(7.9)	1/39(2.6)	1/32(3.1)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.8699			
Prevalence method(d)	P = 0.6075			
Combined analysis(d)	P = 0.7980			
Cochran-Armitage test(e)	P = 0.2947			
Fisher Exact test(e)		P = 0.3389	P = 0.5077	P = 0.5000
	SITE : pituitary gland TUMOR : adenoma, adenocarcinoma			
Tumor rate				
Overall rates(a)	15/50(30.0)	16/50(32.0)	16/49(32.7)	11/50(22.0)
Adjusted rates(b)	29.27	31.58	35.90	25.00
Terminal rates(c)	12/41(29.3)	12/38(31.6)	14/39(35.9)	8/32(25.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.8905			
Prevalence method(d)	P = 0.5960			
Combined analysis(d)	P = 0.7811			
Cochran-Armitage test(e)	P = 0.2539			
Fisher Exact test(e)		P = 0.5000	P = 0.4729	P = 0.2472

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : thyroid TUMOR : C-cell adenoma			
Tumor rate				
Overall rates(a)	9/50(18.0)	5/50(10.0)	8/49(16.3)	7/50(14.0)
Adjusted rates(b)	21.95	11.36	20.00	16.67
Terminal rates(c)	9/41(22.0)	4/38(10.5)	7/39(17.9)	5/32(15.6)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.4560			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.9064			
Fisher Exact test(e)		P = 0.1940	P = 0.5184	P = 0.3929
	SITE : thyroid TUMOR : C-cell adenoma, C-cell carcinoma			
Tumor rate				
Overall rates(a)	9/50(18.0)	5/50(10.0)	8/49(16.3)	8/50(16.0)
Adjusted rates(b)	21.95	11.36	20.00	19.44
Terminal rates(c)	9/41(22.0)	4/38(10.5)	7/39(17.9)	6/32(18.8)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.3250			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.8342			
Fisher Exact test(e)		P = 0.1940	P = 0.5184	P = 0.5000
	SITE : adrenal gland TUMOR : pheochromocytoma			
Tumor rate				
Overall rates(a)	3/50(6.0)	3/50(6.0)	1/49(2.0)	0/50(0.0)
Adjusted rates(b)	7.32	7.89	2.56	0.0
Terminal rates(c)	3/41(7.3)	3/38(7.9)	1/39(2.6)	0/32(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.9717			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0647			
Fisher Exact test(e)		P = 0.6611	P = 0.3163	P = 0.1212

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : adrenal gland			
	TUMOR : pheochromocytoma, pheochromocytoma:malignant			
Tumor rate				
Overall rates(a)	3/50(6.0)	5/50(10.0)	1/49(2.0)	0/50(0.0)
Adjusted rates(b)	7.32	10.53	2.56	0.0
Terminal rates(c)	3/41(7.3)	4/38(10.5)	1/39(2.6)	0/32(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.5280			
Prevalence method(d)	P = 0.9796			
Combined analysis(d)	P = 0.9855			
Cochran-Armitage test(e)	P = 0.0367*			
Fisher Exact test(e)		P = 0.3575	P = 0.3163	P = 0.1212
	SITE : uterus			
	TUMOR : endometrial stromal polyp			
Tumor rate				
Overall rates(a)	6/50(12.0)	11/50(22.0)	11/49(22.4)	13/50(26.0)
Adjusted rates(b)	14.63	26.19	26.83	34.29
Terminal rates(c)	6/41(14.6)	9/38(23.7)	9/39(23.1)	10/32(31.3)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0471*			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.1685			
Fisher Exact test(e)		P = 0.1434	P = 0.1330	P = 0.0624
	SITE : uterus			
	TUMOR : adenocarcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	3/49(6.1)	0/50(0.0)
Adjusted rates(b)	0.0	0.0	5.13	0.0
Terminal rates(c)	0/41(0.0)	0/38(0.0)	2/39(5.1)	0/32(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.3409			
Prevalence method(d)	P = 0.4191			
Combined analysis(d)	P = 0.4388			
Cochran-Armitage test(e)	P = 0.9106			
Fisher Exact test(e)		P = N.C.	P = 0.1175	P = N.C.

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : uterus TUMOR : endometrial stromal sarcoma			
Tumor rate				
Overall rates(a)	1/50(2.0)	4/50(8.0)	4/49(8.2)	7/50(14.0)
Adjusted rates(b)	0.0	5.26	2.56	3.13
Terminal rates(c)	0/41(0.0)	2/38(5.3)	1/39(2.6)	1/32(3.1)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.0152*			
Prevalence method(d)	P = 0.3505			
Combined analysis(d)	P = 0.0201*			
Cochran-Armitage test(e)	P = 0.0454*			
Fisher Exact test(e)		P = 0.1811	P = 0.1748	P = 0.0297*
	SITE : mammary gland TUMOR : adenoma			
Tumor rate				
Overall rates(a)	2/50(4.0)	1/50(2.0)	3/49(6.1)	2/50(4.0)
Adjusted rates(b)	4.26	2.56	7.14	6.25
Terminal rates(c)	1/41(2.4)	0/38(0.0)	2/39(5.1)	2/32(6.3)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.3835			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.8301			
Fisher Exact test(e)		P = 0.5000	P = 0.4903	P = 0.6913
	SITE : mammary gland TUMOR : fibroadenoma			
Tumor rate				
Overall rates(a)	8/50(16.0)	6/50(12.0)	18/49(36.7)	17/50(34.0)
Adjusted rates(b)	19.51	15.79	38.46	43.75
Terminal rates(c)	8/41(19.5)	6/38(15.8)	15/39(38.5)	14/32(43.8)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0014**			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0110*			
Fisher Exact test(e)		P = 0.3871	P = 0.0167*	P = 0.0317*

Group Name	0 ppm	3 ppm	10 ppm	30 ppm
	SITE : mammary gland			
	TUMOR : adenoma, fibroadenoma			
Tumor rate				
Overall rates(a)	10/50(20.0)	7/50(14.0)	20/49(40.8)	17/50(34.0)
Adjusted rates(b)	21.95	17.95	42.55	43.75
Terminal rates(c)	9/41(22.0)	6/38(15.8)	16/39(41.0)	14/32(43.8)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0112*			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.0409*			
Fisher Exact test(e)		P = 0.2977	P = 0.0205*	P = 0.0880
	SITE : mammary gland			
	TUMOR : adenoma, fibroadenoma, adenocarcinoma			
Tumor rate				
Overall rates(a)	10/50(20.0)	8/50(16.0)	21/49(42.9)	19/50(38.0)
Adjusted rates(b)	21.95	20.51	44.68	46.88
Terminal rates(c)	9/41(22.0)	7/38(18.4)	17/39(43.6)	15/32(46.9)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.1346			
Prevalence method(d)	P = 0.0073**			
Combined analysis(d)	P = 0.0038**			
Cochran-Armitage test(e)	P = 0.0164*			
Fisher Exact test(e)		P = 0.3976	P = 0.0123*	P = 0.0385*

(HPT360A)

BAIS3

(a): Number of tumor-bearing animals/number of animals examined at the site.
(b): Kaplan-Meire estimated tumor incidence at the end of the study after adjusting for intercurrent mortality.
(c): Observed tumor incidence at terminal kill.
(d): Beneath the control incidence are the P-values associated with the trend test.
Standard method : Death analysis
Prevalence method : Incidental tumor test
Combined analysis : Death analysis + Incidental tumor test
(e): The Cochran-Armitage and Fisher exact test compare directly the overall incidence rates.
? : The conditional probabilities of the largest and smallest possible out comes can not estimated or this P-value is beyond the estimated P-value.
------ : There is no data which should be statistical analysis.
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01
N.C. :Statistical value cannot be calculated and was not significant.

APPENDIX N 1

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : MALE : ALL ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)
ALL ANIMALS (0-105W)

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	50	50	50	50
{Respiratory system}						
nasal cavit			<50>	<50>	<50>	<50>
	leukemic cell infiltration		1	0	0	0
lung			<50>	<50>	<50>	<50>
	leukemic cell infiltration		6	1	3	2
	metastasis:thyroid tumor		0	0	0	1
	metastasis:peritoneum tumor		0	0	0	1
{Hematopoietic system}						
bone marrow			<50>	<50>	<50>	<50>
	leukemic cell infiltration		5	0	2	0
lymph node			<50>	<50>	<50>	<50>
	leukemic cell infiltration		3	0	0	0
	metastasis:peritoneum tumor		0	0	0	1
{Circulatory system}						
heart			<50>	<50>	<50>	<50>
	leukemic cell infiltration		2	0	0	0
{Digestive system}						
tongue			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	0	1	0
salivary gl			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	0	1	0

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	50	50	50	50
{Digestive system}						
salivary gl			<50>	<50>	<50>	<50>
	metastasis:subcutis tumor		0	0	1	1
stomach			<50>	<50>	<50>	<50>
	leukemic cell infiltration		2	0	0	0
	metastasis:peritoneum tumor		0	0	0	1
small intes			<50>	<50>	<50>	<50>
	leukemic cell infiltration		1	0	0	0
large intes			<50>	<50>	<50>	<50>
	leukemic cell infiltration		1	0	0	0
	metastasis:peritoneum tumor		0	0	0	1
liver			<50>	<50>	<50>	<50>
	leukemic cell infiltration		7	1	3	4
pancreas			<50>	<49>	<50>	<50>
	leukemic cell infiltration		3	0	1	0
	metastasis:peritoneum tumor		0	0	0	1
{Urinary system}						
kidney			<50>	<50>	<50>	<50>
	leukemic cell infiltration		1	1	0	1
urin bladd			<50>	<50>	<50>	<50>
	leukemic cell infiltration		2	0	0	0
{Endocrine system}						
adrenal			<50>	<50>	<50>	<50>
	leukemic cell infiltration		1	0	0	0

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name / No. of Animals on Study	0 ppm	3 ppm	10 ppm	30 ppm
			50	50	50	50
{Reproductive system}						
prostate			<50>	<50>	<50>	<50>
	leukemic cell infiltration		2	0	0	0
{Nervous system}						
brain			<50>	<50>	<50>	<50>
	leukemic cell infiltration		3	1	2	1
	metastasis:pituitary tumor		0	1	0	2
spinal cord			<50>	<50>	<50>	<50>
	leukemic cell infiltration		2	1	1	0
{Body cavities}						
pleura			<50>	<50>	<50>	<50>
	metastasis:peritoneum tumor		0	0	0	2
	metastasis:retroperitoneum tumor		0	0	0	1

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

APPENDIX N 2

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : MALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name / No. of Animals on Study	0 ppm	3 ppm	10 ppm	30 ppm
			10	8	12	27
{Respiratory system}						
nasal cavit			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		1	0	0	0
lung			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		5	1	3	2
	metastasis:peritoneum tumor		0	0	0	1
{Hematopoietic system}						
bone marrow			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		5	0	2	0
lymph node			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		3	0	0	0
	metastasis:peritoneum tumor		0	0	0	1
{Circulatory system}						
heart			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		2	0	0	0
{Digestive system}						
tongue			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		0	0	1	0
salivary gl			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		0	0	1	0
	metastasis:subcutis tumor		0	0	0	1

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	10	8	12	27
{Digestive system}						
stomach			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		2	0	0	0
	metastasis:peritoneum tumor		0	0	0	1
small intes			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		1	0	0	0
large intes			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		1	0	0	0
	metastasis:peritoneum tumor		0	0	0	1
liver			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		5	1	3	2
pancreas			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		3	0	1	0
	metastasis:peritoneum tumor		0	0	0	1
{Urinary system}						
kidney			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		1	1	0	0
urin bladd			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		2	0	0	0
{Endocrine system}						
adrenal			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		1	0	0	0

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	10	8	12	27
{Reproductive system}						
prostate			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		2	0	0	0
{Nervous system}						
brain			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		3	1	2	1
	metastasis:pituitary tumor		0	0	0	1
spinal cord			<10>	< 8>	<12>	<27>
	leukemic cell infiltration		2	1	1	0
{Body cavities}						
pleura			<10>	< 8>	<12>	<27>
	metastasis:peritoneum tumor		0	0	0	2
	metastasis:retroperitoneum tumor		0	0	0	1

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

APPENDIX N 3

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : MALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0342
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	40	42	38	23
{Respiratory system}						
lung			<40>	<42>	<38>	<23>
	leukemic cell infiltration		1	0	0	0
	metastasis:thyroid tumor		0	0	0	1
{Digestive system}						
salivary gl			<40>	<42>	<38>	<23>
	metastasis:subcutis tumor		0	0	1	0
liver			<40>	<42>	<38>	<23>
	leukemic cell infiltration		2	0	0	2
{Urinary system}						
kidney			<40>	<42>	<38>	<23>
	leukemic cell infiltration		0	0	0	1
{Nervous system}						
brain			<40>	<42>	<38>	<23>
	metastasis:pituitary tumor		0	1	0	1

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

APPENDIX N 4

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : FEMALE: ALL ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	50	50	49	50
{Integumentary system/appandage}						
subcutis			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	0	1	0
	metastasis:uterus tumor		0	1	0	0
{Respiratory system}						
lung			<50>	<50>	<49>	<50>
	leukemic cell infiltration		2	3	1	6
	metastasis:uterus tumor		0	0	1	2
	metastasis:adrenal tumor		0	1	0	0
	metastasis:pancreas tumor		1	0	0	1
{Hematopoietic system}						
bone marrow			<50>	<50>	<49>	<50>
	leukemic cell infiltration		1	1	1	3
lymph node			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	0	0	2
	metastasis:uterus tumor		0	0	1	1
thymus			<50>	<50>	<49>	<50>
	metastasis:pancreas tumor		0	0	0	1
spleen			<50>	<50>	<49>	<50>
	metastasis:uterus tumor		0	0	0	2
	metastasis:pancreas tumor		0	0	0	1

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	50	50	49	50
{Circulatory system}						
heart			<50>	<50>	<49>	<50>
	metastasis:pancreas tumor		1	0	0	0
{Digestive system}						
stomach			<50>	<50>	<49>	<50>
	leukemic cell infiltration		1	0	1	0
	metastasis:pancreas tumor		1	0	0	0
small intes			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	0	0	1
	metastasis:pancreas tumor		1	0	0	0
large intes			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	0	0	1
	metastasis:uterus tumor		0	0	0	1
	metastasis:pancreas tumor		1	0	0	0
liver			<50>	<50>	<49>	<50>
	leukemic cell infiltration		3	3	1	5
	metastasis:uterus tumor		0	0	0	3
	metastasis:pancreas tumor		1	0	0	1
pancreas			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	0	1	0
	metastasis:spleen tumor		0	0	1	0
{Urinary system}						
kidney			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	0	0	1

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	50	50	49	50
{Urinary system}						
kidney			<50>	<50>	<49>	<50>
	metastasis:uterus tumor		0	0	1	1
	metastasis:adrenal tumor		0	0	1	0
urin bladd			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	0	1	0
{Endocrine system}						
adrenal			<50>	<50>	<49>	<50>
	leukemic cell infiltration		1	0	0	2
	metastasis:uterus tumor		0	0	0	1
	metastasis:pancreas tumor		1	0	0	0
{Reproductive system}						
ovary			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	1	0	0
uterus			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	1	1	0
{Nervous system}						
brain			<50>	<50>	<49>	<50>
	leukemic cell infiltration		1	0	1	1
	metastasis:pituitary tumor		2	4	0	1
{Special sense organs/appendage}						
eye			<50>	<50>	<49>	<50>
	leukemic cell infiltration		0	0	0	1

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	50	50	49	50
{Body cavities}						
mediastinum			<50>	<50>	<49>	<50>
	metastasis:pancreas tumor		1	0	0	0
peritoneum			<50>	<50>	<49>	<50>
	metastasis:spleen tumor		0	0	1	0

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

APPENDIX N 5

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : FEMALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	9	12	10	18
{Integumentary system/appandage}						
subcutis			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		0	0	1	0
	metastasis:uterus tumor		0	1	0	0
{Respiratory system}						
lung			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		1	2	1	3
	metastasis:uterus tumor		0	0	1	1
	metastasis:pancreas tumor		1	0	0	1
{Hematopoietic system}						
bone marrow			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		1	1	1	3
lymph node			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		0	0	0	1
	metastasis:uterus tumor		0	0	1	0
thymus			< 9>	<12>	<10>	<18>
	metastasis:pancreas tumor		0	0	0	1
spleen			< 9>	<12>	<10>	<18>
	metastasis:uterus tumor		0	0	0	2
	metastasis:pancreas tumor		0	0	0	1
{Circulatory system}						
heart			< 9>	<12>	<10>	<18>
	metastasis:pancreas tumor		1	0	0	0

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name / No. of Animals on Study	0 ppm 9	3 ppm 12	10 ppm 10	30 ppm 18
{Digestive system}						
stomach			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		1	0	1	0
	metastasis:pancreas tumor		1	0	0	0
small intes			< 9>	<12>	<10>	<18>
	metastasis:pancreas tumor		1	0	0	0
large intes			< 9>	<12>	<10>	<18>
	metastasis:pancreas tumor		1	0	0	0
liver			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		1	2	1	3
	metastasis:uterus tumor		0	0	0	2
	metastasis:pancreas tumor		1	0	0	1
pancreas			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		0	0	1	0
{Urinary system}						
kidney			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		0	0	0	1
	metastasis:uterus tumor		0	0	1	0
	metastasis:adrenal tumor		0	0	1	0
urin bladd			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		0	0	1	0
{Endocrine system}						
adrenal			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		0	0	0	2

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	9	12	10	18
{Endocrine system}						
adrenal			< 9>	<12>	<10>	<18>
	metastasis:uterus tumor		0	0	0	1
	metastasis:pancreas tumor		1	0	0	0
{Reproductive system}						
ovary			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		0	1	0	0
uterus			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		0	1	1	0
{Nervous system}						
brain			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		1	0	1	1
	metastasis:pituitary tumor		1	1	0	0
{Special sense organs/appendage}						
eye			< 9>	<12>	<10>	<18>
	leukemic cell infiltration		0	0	0	1
{Body cavities}						
mediastinum			< 9>	<12>	<10>	<18>
	metastasis:pancreas tumor		1	0	0	0

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

APPENDIX N 6

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : FEMALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	41	38	39	32
{Respiratory system}						
lung			<41>	<38>	<39>	<32>
	leukemic cell infiltration		1	1	0	3
	metastasis:uterus tumor		0	0	0	1
	metastasis:adrenal tumor		0	1	0	0
{Hematopoietic system}						
lymph node			<41>	<38>	<39>	<32>
	leukemic cell infiltration		0	0	0	1
	metastasis:uterus tumor		0	0	0	1
{Digestive system}						
small intes			<41>	<38>	<39>	<32>
	leukemic cell infiltration		0	0	0	1
large intes			<41>	<38>	<39>	<32>
	leukemic cell infiltration		0	0	0	1
	metastasis:uterus tumor		0	0	0	1
liver			<41>	<38>	<39>	<32>
	leukemic cell infiltration		2	1	0	2
	metastasis:uterus tumor		0	0	0	1
pancreas			<41>	<38>	<39>	<32>
	metastasis:spleen tumor		0	0	1	0
{Urinary system}						
kidney			<41>	<38>	<39>	<32>
	metastasis:uterus tumor		0	0	0	1

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

Organ	Findings	Group Name	0 ppm	3 ppm	10 ppm	30 ppm
		No. of Animals on Study	41	38	39	32
{Endocrine system}						
adrenal			<41>	<38>	<39>	<32>
	leukemic cell infiltration		1	0	0	0
{Nervous system}						
brain			<41>	<38>	<39>	<32>
	metastasis:pituitary tumor		1	3	0	1
{Body cavities}						
peritoneum			<41>	<38>	<39>	<32>
	metastasis:spleen tumor		0	0	1	0

< a > a : Number of animals examined at the site
b b : Number of animals with lesion

APPENDIX O 1

IDENTITY AND IMPURITY OF GLYCIDOL IN THE 2-YEAR INHALATION STUDY

IDENTITY AND IMPURITY OF GLYCIDOL IN THE 2-YEAR INHALATION STUDY

Test Substance : Glycidol (Wako Pure Chemical Industries, Ltd.)

A. Lot No. : WTK5337

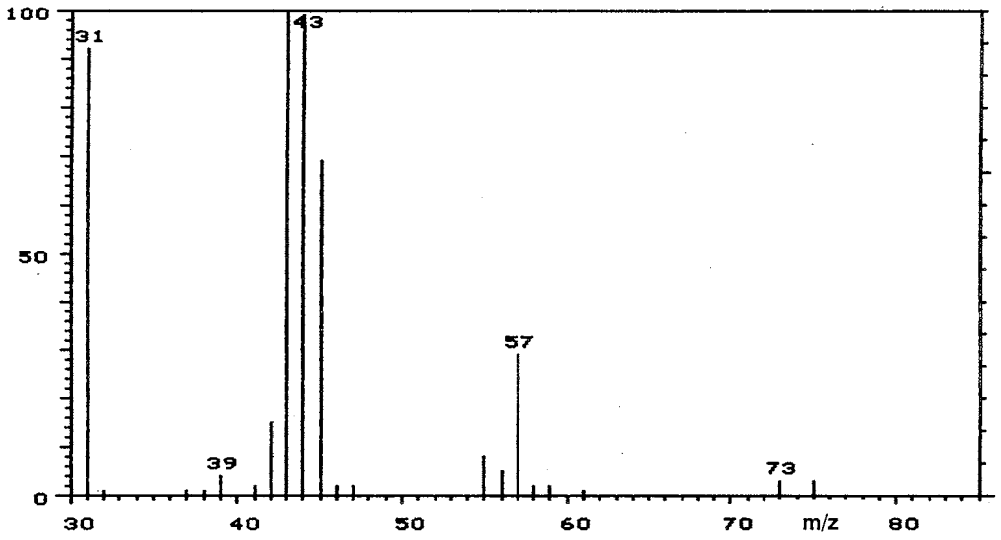
1. Spectral Data

Mass Spectrometry

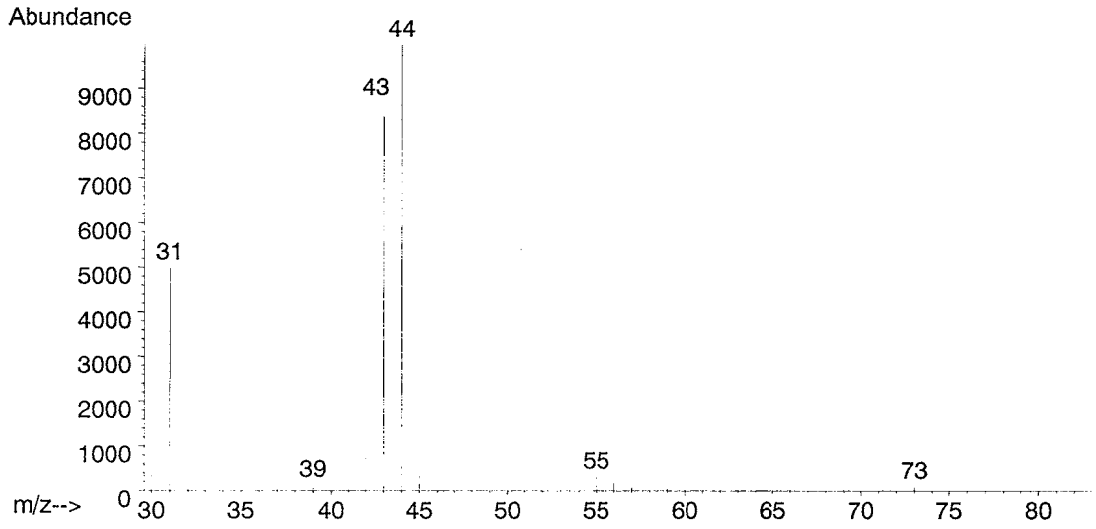
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Results: The mass spectrum was consistent with literature spectrum.

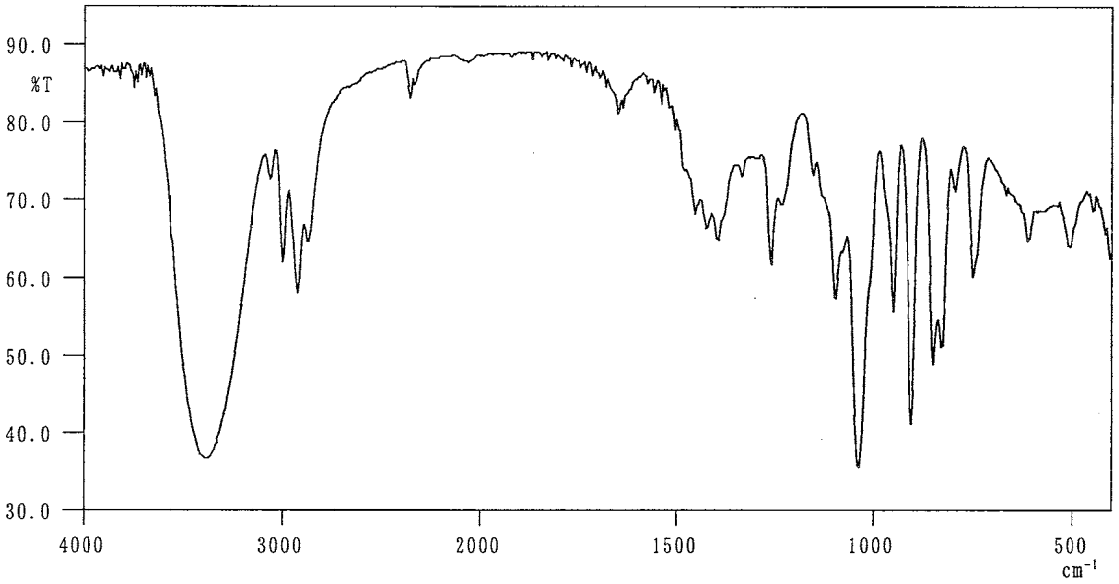
(*Fred W. McLafferty (1994) Wiley Registry of Mass Spectral Data, 6th edition. John Wiley and Sons, Inc. (U.S.), Entry Number 1733)

Infrared Spectrometry

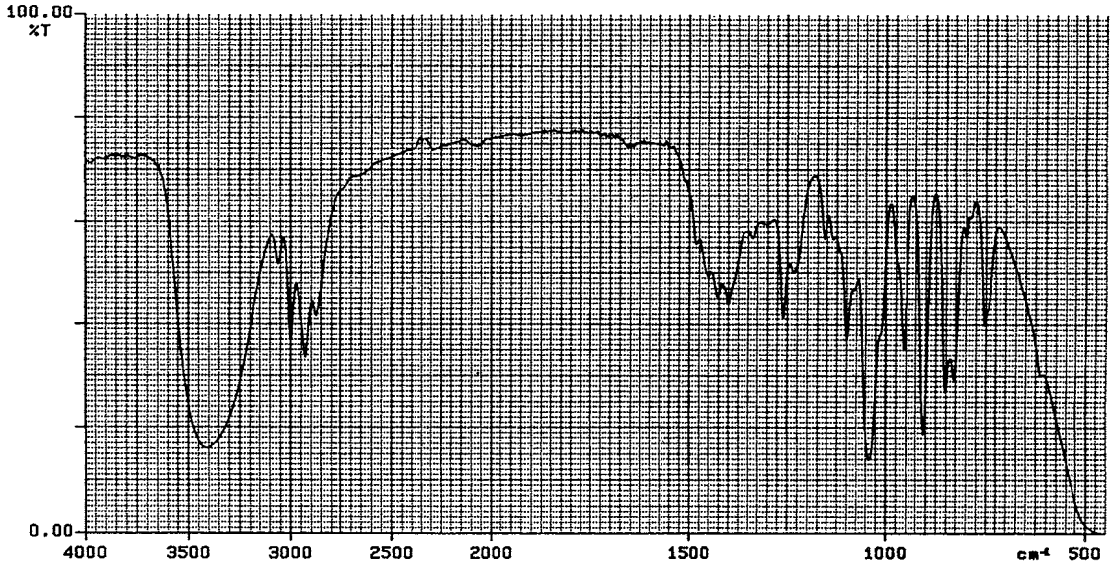
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1}



Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data*

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

2. Impurity

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 150 °C

Flow Rate : 10 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μL

Sample Name	Peak No.	Area (%)	Peak Name
Test Substance	1	0.207	Material which cannot be identified
	2	0.087	Material which cannot be identified
	3	99.706	glycidol

Results: Gas chromatography indicated one major peak (peak No.3) and two impurity peaks. These two impurity peaks(peaks No.1 and No.2) can not be identified. The amounts in the test substance were 0.207% and 0.087%.

3. Conclusion: The test substance was identified as glycidol by mass spectrum and infrared spectrum. Gas chromatography indicated one major peak(peak No.3) and two impurity peaks. These two impurity peaks(peaks No.1 and No.2) can not be identified. The amounts in the test substance were 0.207% and 0.087%.

B. Lot No. : PAL5331

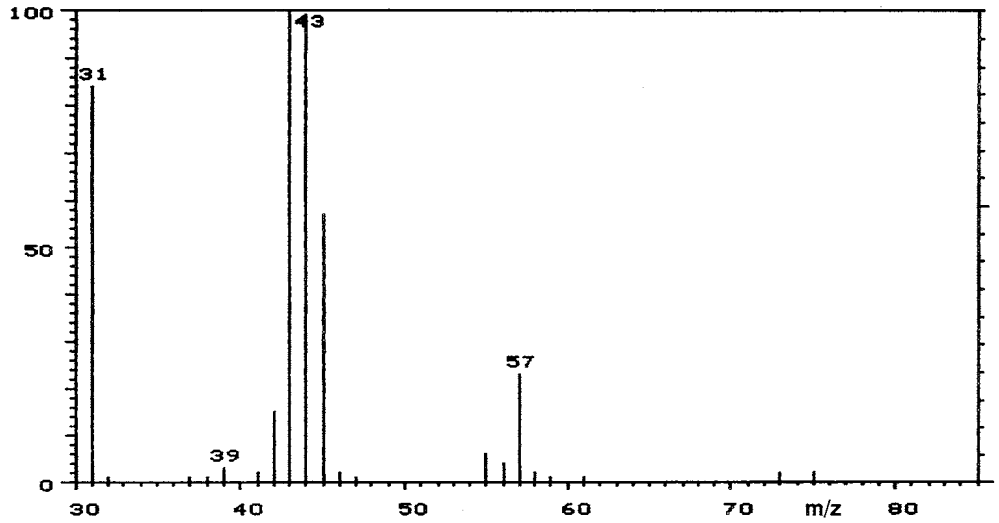
1. Spectral Data

Mass Spectrometry

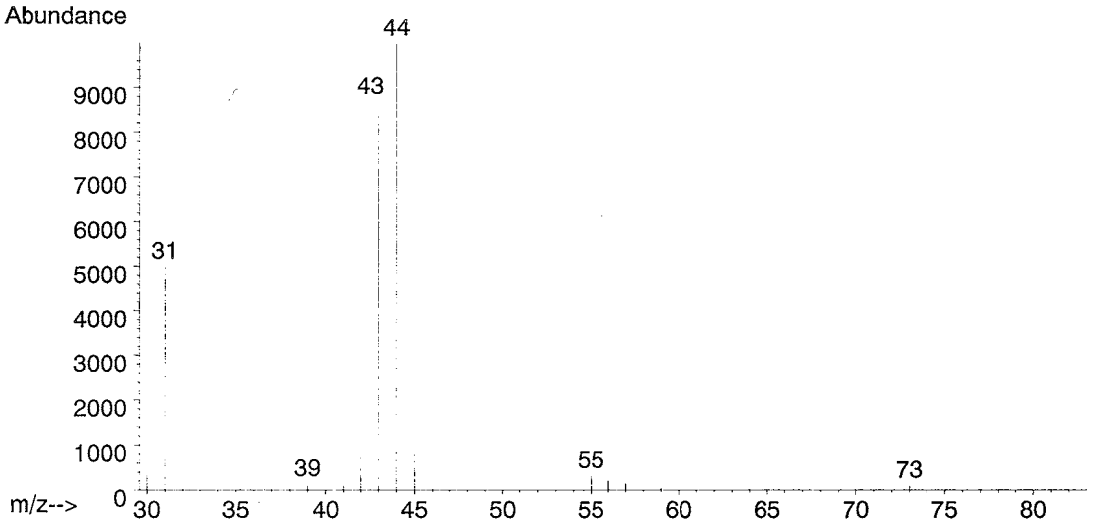
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Results: The mass spectrum was consistent with literature spectrum.

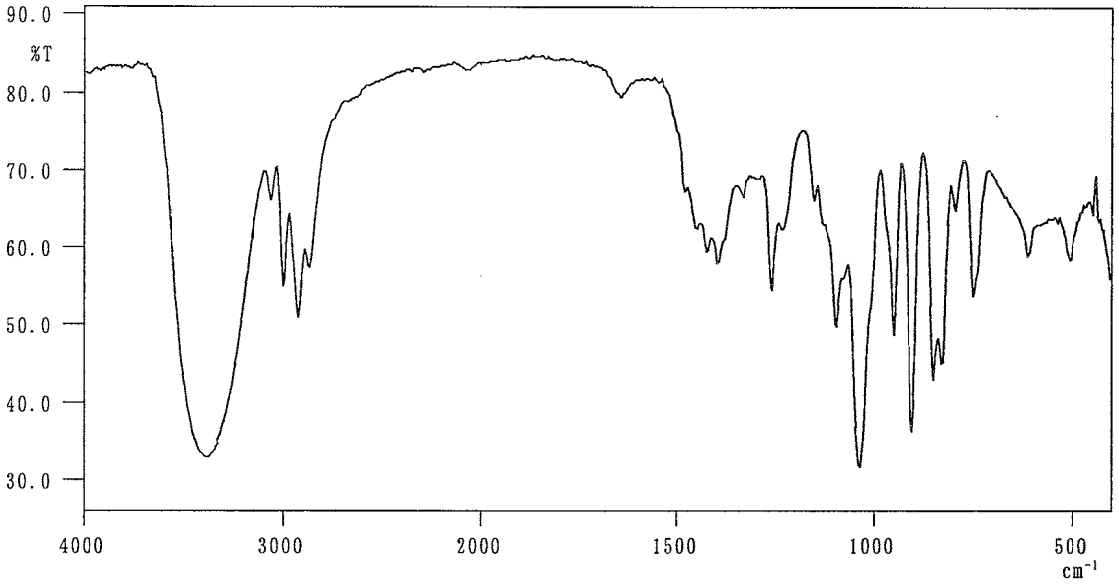
(*Fred W. McLafferty (1994) Wiley Registry of Mass Spectral Data, 6th edition. John Wiley and Sons, Inc. (U.S.), Entry Number 1733)

Infrared Spectrometry

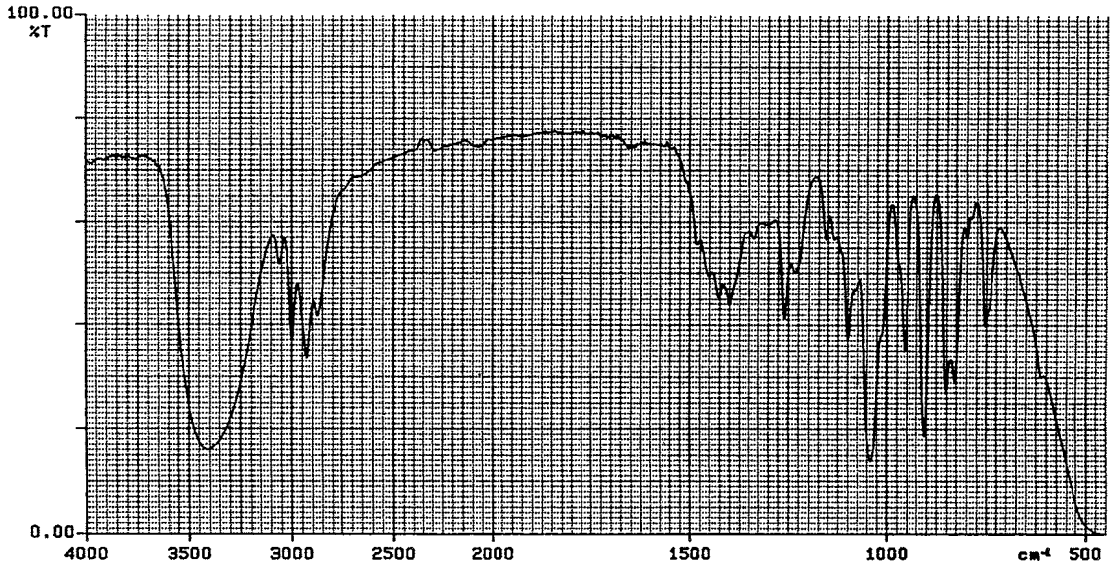
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1}



Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data*

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

2. Impurity

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 150 °C

Flow Rate : 10 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μL

Sample Name	Peak No.	Area (%)	Peak Name
Test Substance	1	0.215	Material which cannot be identified
	2	0.083	Material which cannot be identified
	3	99.702	glycidol

Results: Gas chromatography indicated one major peak (peak No.3) and two impurity peaks. These two impurity peaks(peaks No.1 and No.2) can not be identified. The amounts in the test substance were 0.215% and 0.083%.

3. Conclusion: The test substance was identified as glycidol by mass spectrum and infrared spectrum. Gas chromatography indicated one major peak(peak No.3) and two impurity peaks. These two impurity peaks(peaks No.1 and No.2) can not be identified. The amounts in the test substance were 0.215% and 0.083%.

C. Lot No. : CKP4929

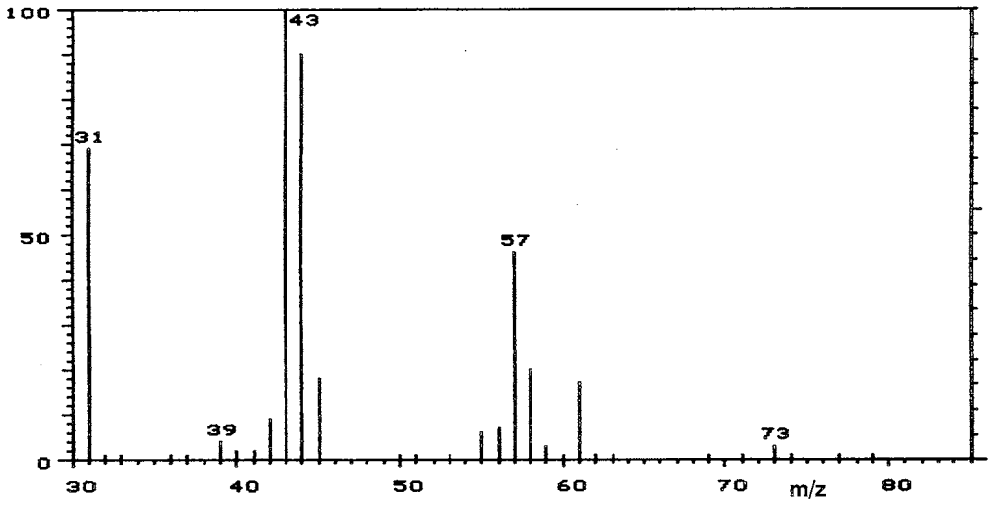
1. Spectral Data

Mass Spectrometry

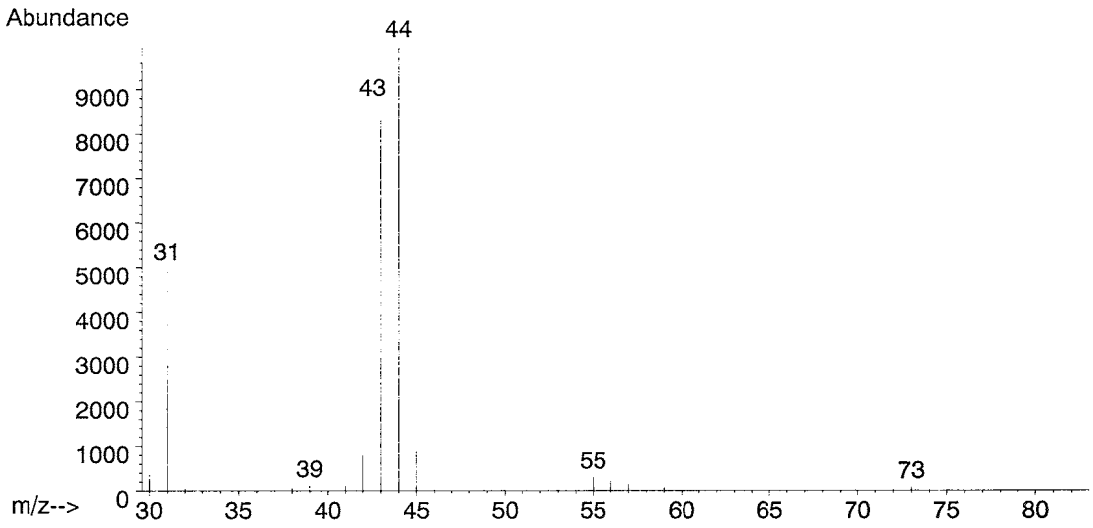
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Results: The mass spectrum was consistent with literature spectrum.

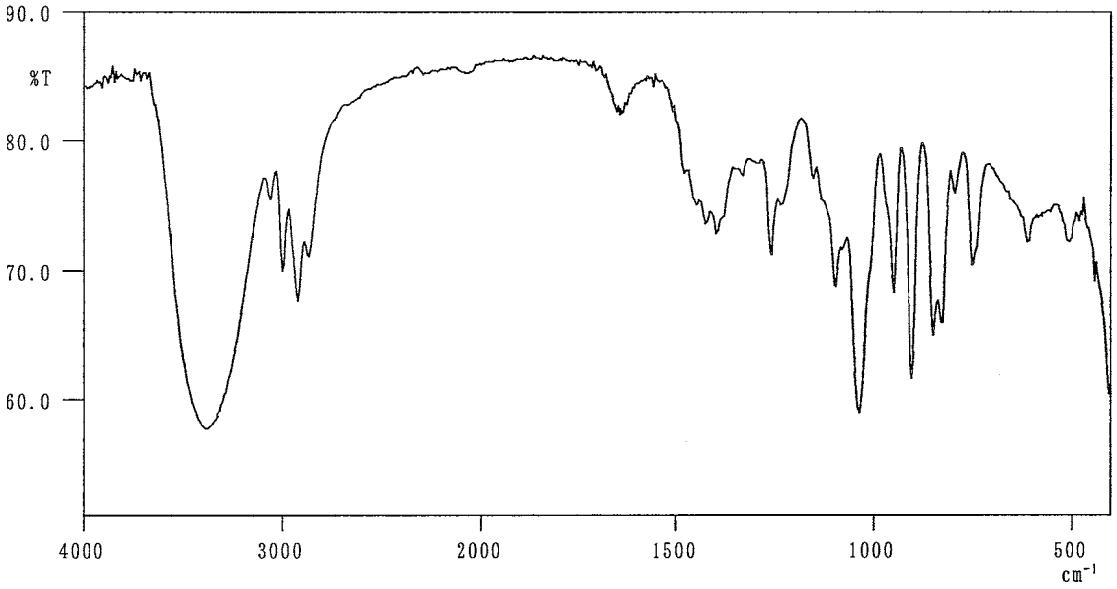
(*Fred W. McLafferty (1994) Wiley Registry of Mass Spectral Data, 6th edition. John Wiley and Sons, Inc. (U.S.), Entry Number 1733)

Infrared Spectrometry

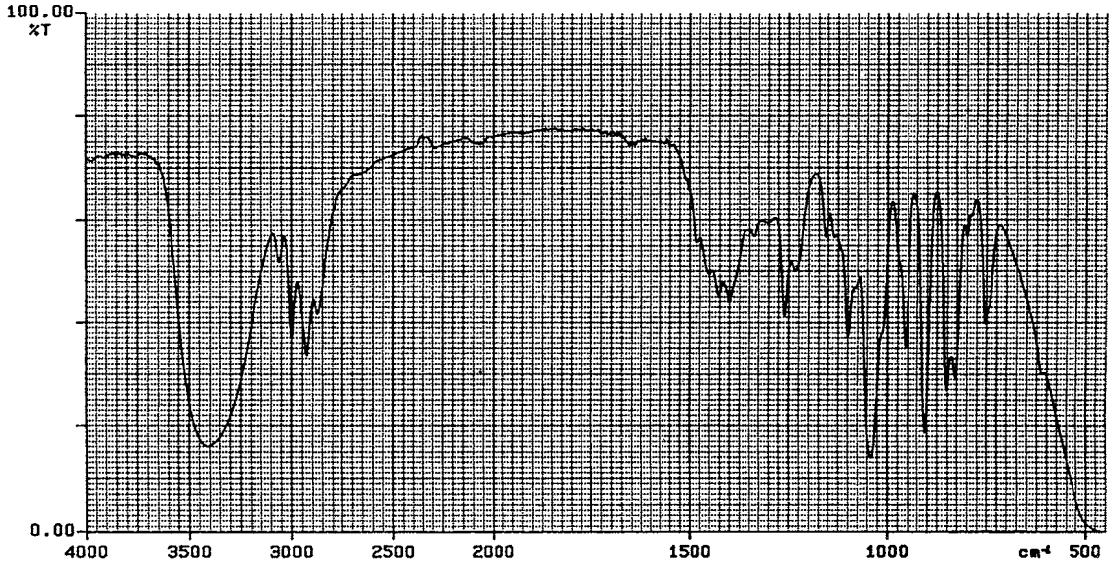
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1}



Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data*

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

2. Impurity

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 150 °C

Flow Rate : 10 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μL

Sample Name	Peak No.	Area (%)	Peak Name
Test Substance	1	0.220	Material which cannot be identified
	2	0.087	Material which cannot be identified
	3	99.693	glycidol

Results: Gas chromatography indicated one major peak (peak No.3) and two impurity peaks. These two impurity peaks(peaks No.1 and No.2) can not be identified. The amounts in the test substance were 0.220% and 0.087%.

3. Conclusion: The test substance was identified as glycidol by mass spectrum and infrared spectrum. Gas chromatography indicated one major peak(peak No.3) and two impurity peaks. These two impurity peaks(peaks No.1 and No.2) can not be identified. The amounts in the test substance were 0.220% and 0.087%.

APPENDIX O 2

STABILITY OF GLYCIDOL IN THE 2-YEAR INHALATION STUDY

STABILITY OF GLYCIDOL IN THE 2-YEAR INHALATION STUDY

Test Substance : Glycidol (Wako Pure Chemical Industries, Ltd.)

A. Lot No. : WTK5337

1. Sample : This lot was used from 1997.9.29 to 1998.8.5. Test substance was stored at a temperature below 20°C.

2. Gas Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 150° C

Flow Rate : 10 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
1997.09.26	1	1.914	0.207
	2	2.217	0.087
	3	2.560	99.706
1998.08.06	1	1.901	0.217
	2	2.205	0.088
	3	2.549	99.695

Results: Gas chromatography indicated one major peak (peak No.3) and two impurities (peaks No.1 and No.2 < 0.4% of total area) analyzed on 1997.9.26 and one major peak (peak No.3) and two impurities (peaks No.1 and No.2 < 0.4% of total area) analyzed on 1998.8.6. No new trace impurity peak in the test substance analyzed on 1998.8.6 was detected.

3. Conclusions: The test substance was stable for about 1 year at a temperature below 20°C.

B. Lot No. : PAL5331

1. Sample : This lot was used from 1998.8.6 to 1999.4.6. Test substance was stored at a temperature below 20°C.

2. Gas Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 150° C

Flow Rate : 10 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
1998.07.27	1	1.908	0.215
	2	2.210	0.083
	3	2.554	99.702
1999.04.07	1	1.902	0.218
	2	2.203	0.086
	3	2.545	99.696

Results: Gas chromatography indicated one major peak (peak No.3) and two impurities (peaks No.1 and No.2 < 0.4% of total area) analyzed on 1998.7.27 and one major peak (peak No.3) and two impurities (peaks No.1 and No.2 < 0.4% of total area) analyzed on 1999.4.7. No new trace impurity peak in the test substance analyzed on 1999.4.7 was detected.

3. Conclusions: The test substance was stable for about 8 months at a temperature below 20°C.

C. Lot No. : CKP4929

1. Sample : This lot was used from 1999.4.7 to 1999.9.24. Test substance was stored at a temperature below 20°C.

2. Gas Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 150° C

Flow Rate : 10 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
1999.04.06	1	1.900	0.220
	2	2.205	0.087
	3	2.547	99.693
1999.10.28	1	1.897	0.220
	2	2.203	0.081
	3	2.544	99.699

Results: Gas chromatography indicated one major peak (peak No.3) and two impurities (peaks No.1 and No.2 < 0.4% of total area) analyzed on 1999.4.6 and one major peak (peak No.3) and two impurities (peaks No.1 and No.2 < 0.4% of total area) analyzed on 1999.10.28. No new trace impurity peak in the test substance analyzed on 1999.10.28 was detected.

3. Conclusions: The test substance was stable for about 7 months at a temperature below 20°C.

APPENDIX P 1

CONCENTRATION OF GLYCIDL IN THE INHALATION CHAMBER OF THE 2-YEAR INHALATION STUDY

CONCENTRATION OF GLYCIDOL IN THE INHALATION CHAMBER OF THE 2-YEAR INHALATION STUDY

Group Name	Concentration (ppm) Mean ± S.D.
0ppm	0.0 ± 0.0
3ppm	3.0 ± 0.1
10ppm	10.0 ± 0.2
30ppm	29.9 ± 0.6

APPENDIX P 2

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2-YEAR INHALATION STUDY OF GLYCIDOL

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER
IN THE 2-YEAR INHALATION STUDY OF GLYCIDOL

Group Name	Temperature(℃)	Humidity(%)	Ventilation Rate (L/min)	Air Changes (time/h)
	Mean ± S.D.	Mean ± S.D.	Mean ± S.D.	Mean
0ppm	22.2 ± 0.2	54.8 ± 1.1	1521.2 ± 10.6	12.0
3ppm	22.5 ± 0.3	54.1 ± 1.2	1516.9 ± 14.3	12.0
10ppm	22.1 ± 0.2	54.5 ± 1.8	1521.5 ± 10.3	12.0
30ppm	22.1 ± 0.2	53.3 ± 2.4	1515.5 ± 10.5	12.0

APPENDIX Q

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-YEAR INHALATION STUDY OF GLYCIDOL

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-YEAR INHALATION STUDY OF GLYCIDOL

Item	Method	Unit	Decimal place
Hematology			
Red blood cell (RBC)	Light scattering method[1)]	$\times 10^6/\mu L$	2
Hemoglobin(Hgb)	Cyanmethemoglobin method[1)]	g/dL	1
Hematocrit(Hct)	Calculated as RBC×MCV/10[1)]	%	1
Mean corpuscular volume(MCV)	Light scattering method[1)]	fL	1
Mean corpuscular hemoglobin(MCH)	Calculated as Hgb/RBC×10[1)]	pg	1
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as Hgb/Hct×100[1)]	g/dL	1
Platelet	Light scattering method[1)]	$\times 10^3/\mu L$	0
White blood cell(WBC)	Light scattering method[1)]	$\times 10^3/\mu L$	2
Differential WBC	Pattern recognition method[2)] (Wright staining)	%	0
Biochemistry			
Total protein(TP)	Biuret method[3)]	g/dL	1
Albumin (Alb)	BCG method[3)]	g/dL	1
A/G ratio	Calculated as Alb/(TP−Alb)[3)]	−	1
T-bilirubin	Alkaline azobilirubin method[3)]	mg/dL	2
Glucose	GlcK・G-6-PDH method[3)]	mg/dL	0
T-cholesterol	CE・COD・POD method[3)]	mg/dL	0
Triglyceride	LPL・GK・GPO・POD method[3)]	mg/dL	0
Phospholipid	PLD・ChOD・POD method[3)]	mg/dL	0
Glutamic oxaloacetic transaminase (GOT)	JSCC method[3)]	IU/L	0
Glutamic pyruvic transaminase (GPT)	JSCC method[3)]	IU/L	0
Lactate dehydrogenase (LDH)	SFBC method[3)]	IU/L	0
Alkaline phosphatase (ALP)	GSCC method[3)]	IU/L	0
γ-Glutamyl transpeptidase (γ-GTP)	L-γ-Glutamyl-p-nitroanilide method[3)]	IU/L	0
Creatine phosphokinase (CPK)	JSCC method[3)]	IU/L	0
Urea nitrogen	Urease・GLDH method[3)]	mg/dL	1
Creatinine	Jaffe method[3)]	mg/dL	1
Sodium	Ion selective electrode method[3)]	mEq/L	0
Potassium	Ion selective electrode method[3)]	mEq/L	1
Chloride	Ion selective electrode method[3)]	mEq/L	0
Calcium	OCPC method[3)]	mg/dL	1
Inorganic phosphorus	PNP・XOD・POD method[3)]	mg/dL	1

1) Automatic blood cell analyzer (Technicon H・1 : Bayer Corporation)
2) Automatic blood cell differential analyzer (MICROX HEG-120NA : OMRON Corporation)
3) Automatic analyzer (Hitachi 7070 : Hitachi,Ltd.)