

p-ニトロアニソールのラットを用いた
経口投与によるがん原性試験(混餌試験)報告書

試験番号：0401

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APPENDIX A 1

CLINICAL OBSERVATION : SUMMARY, RAT : MALE
(2-YEAR STUDY)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

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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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	3	3	6	50	50	50	50	50	50	50
	4000 ppm	7	21	22	22	21	16	25	50	50	50	50	50	50	50
	8000 ppm	15	34	35	38	41	38	50	50	50	50	50	50	50	50
PILOBRECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

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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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	49
	8000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

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Clinical sign	Group Name	Administration Week-day			32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		29-7	30-7	31-7											
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	8000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

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Clinical sign	Group Name	Administration Week-day			46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		43-7	44-7	45-7											
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	1	1	1	1	1	1	1	1	2	2	2	2
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	49	49	49	49	49	49	49	49	49	49	49	49
	4000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	48
	8000 ppm	50	50	49	49	49	49	49	49	49	49	48	48	48	48
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
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CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

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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
DEATH	Control	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	4000 ppm	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	8000 ppm	48	48	48	48	48	48	48	48	48	48	48	48	47	47
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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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
DEATH	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8000 ppm	3	3	4	4	4	5	5	6	6	8	9	10	13	15
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	1	1	3	3	3	3	4	5	6	8	9
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	2
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	2	2	1	1	0	0	0	1	0	1	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	4000 ppm	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	8000 ppm	47	47	46	45	45	42	42	41	41	38	36	34	29	26
PILOERECTOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	1	1	0	0	0	0	0	0	0	1	0
TRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day			88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		85-7	86-7	87-7											
DEATH	Control	1	1	1	1	2	3	3	4	4	4	4	4	6	6
	2000 ppm	1	1	1	1	2	2	2	2	2	2	3	3	4	5
	4000 ppm	2	4	4	4	4	4	4	5	5	5	5	5	5	8
	8000 ppm	17	18	20	22	23	24	24	24	25	25	27	28	33	34
MORIBUND SACRIFICE	Control	0	0	1	1	1	1	1	1	1	2	2	2	2	2
	2000 ppm	2	2	2	2	2	3	3	3	4	5	6	6	6	6
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	3	4
	8000 ppm	9	9	10	10	10	10	10	10	10	11	12	12	12	12
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	2	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	4	2	1	0	0	0	0	0	3	0	0	1	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	47	47	47	47	46	45	45	45	44	43	41	41	40	39
	4000 ppm	47	45	45	45	45	45	45	44	44	44	44	44	42	38
	8000 ppm	24	23	20	18	17	16	16	16	15	14	11	10	5	4
PILOERECTON	Control	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	2	1	0	0	0	0	0	0	0	0	1	0	0
TRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
DEATH	Control	6	6	6	8	8	8
	2000 ppm	5	5	5	5	5	5
	4000 ppm	9	9	9	10	10	11
	8000 ppm	34	34	34	34	35	35
MORIBUND SACRIFICE	Control	3	3	4	4	5	5
	2000 ppm	6	6	6	6	6	6
	4000 ppm	4	4	5	5	6	7
	8000 ppm	12	12	12	12	12	13
HUNCHBACK POSITION	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0
	2000 ppm	39	39	39	39	39	39
	4000 ppm	37	37	36	35	34	32
	8000 ppm	4	4	4	4	3	2
PILOERECTON	Control	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
TRAUMA	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0

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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
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFECT OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day			18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		15-7	16-7	17-7											
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFECT OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	8000 ppm	0	0	0	0	0	1	1	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day				32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		29-7	30-7	31-7												
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFECT OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	1	2	2	2	1	2	2	2	2	2

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Clinical sign	Group Name	Administration Week-day				46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		43-7	44-7	45-7												
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CATARACT	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFECT OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1
	8000 ppm	2	2	2	1	0	0	0	0	0	2	2	1	3	2	2

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		57-7	58-7	59-7											
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	1	1	1	1	1	1	1	1	1	1	2	1	1	1
CATARACT	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	8000 ppm	1	1	1	1	1	1	1	1	1	1	2	1	1	1
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFECT OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	2	1	2	1	2	1	3	2	3	2	1	1	1
	8000 ppm	0	2	1	2	2	2	1	3	3	3	2	2	1	1

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		71-7	72-7	73-7											
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	1	1	1	1	1	1	1	2	2	2	2	2	2	3
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	1	1	1	1	1	0	0	0	0	0	0	2	0	2
CATARACT	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	1	1	1	1	1	1	1	2	2	2	2	2	2	2
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	1	1	1	1	1	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	2
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	1	2	2	2	1	2
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	2	0	0
DEFECT OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	1	1	1	2	1	2	1	3	3	3	3	3	3	3
	2000 ppm	0	1	1	1	0	0	0	0	0	0	1	1	1	0
	4000 ppm	2	2	2	4	4	4	4	3	3	4	4	5	6	7
	8000 ppm	2	4	4	5	5	4	2	2	2	1	1	1	0	0

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ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		85-7	86-7	87-7											
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	1	1	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	1	1	1	1	1	1	1	0	1	0	0	0	0	0
	2000 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	4000 ppm	1	1	1	1	1	1	1	1	1	1	2	2	1	1
	8000 ppm	1	1	0	0	1	0	0	0	0	0	0	0	0	0
CATARACT	Control	1	1	1	1	1	1	1	0	0	0	0	0	0	0
	2000 ppm	2	2	2	2	2	2	2	2	3	3	3	3	3	3
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	1	1	0	0	1	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	2000 ppm	2	2	2	1	1	1	1	1	1	1	1	1	1	2
	4000 ppm	1	1	1	1	1	1	1	1	1	1	2	2	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFECT OF TEETH	Control	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	2	2	5	5	6	5	6	5	5	6	7	7	7	7
	2000 ppm	0	0	0	0	1	1	2	2	1	1	1	1	1	3
	4000 ppm	7	6	7	7	9	7	8	8	9	9	9	9	9	9
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : MALE

Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0
	2000 ppm	0	0	1	1	1	1
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0
EYE OPACITY	Control	0	0	0	0	0	0
	2000 ppm	3	3	3	3	3	3
	4000 ppm	1	1	1	2	3	4
	8000 ppm	0	0	0	1	0	1
CATARACT	Control	0	0	0	0	0	0
	2000 ppm	3	3	3	3	3	3
	4000 ppm	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0
CORNEAL OPACITY	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	1	1	2	3	4
	8000 ppm	0	0	0	1	0	1
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1
	4000 ppm	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0
DEFECT OF TEETH	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
EXTERNAL MASS	Control	6	7	7	8	8	8
	2000 ppm	3	3	2	3	3	3
	4000 ppm	10	10	12	13	12	14
	8000 ppm	0	0	0	0	0	0

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 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : MALE

Clinical sign	Group Name	Administration Week-day				4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1-7	2-7	3-7												
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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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
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	8000 ppm	0	0	0	0	0	1	1	0	0	0	0	0	0	0
M. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		29-7	30-7	31-7											
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	1	1	1	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	1	1	2	1	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	1	1	0	1	1	1	1	1
M. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

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SEX : MALE

Clinical sign	Group Name	Administration Week-day			46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		43-7	44-7	45-7											
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
M. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	1	1	1	0	0	0	0	0	0	1
	8000 ppm	1	1	2	1	0	0	0	0	1	1	1	2	1	1
M. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : MALE

Clinical sign	Group Name	Administration Week-day				60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		57-7	58-7	59-7												
INTERNAL MASS	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
M. EYE	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
M. PERI-MOUTH	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	1	1	0	0
	4000 ppm	1	2	1		2	1	2	1	3	2	2	1	0	0	0
	8000 ppm	0	2	1		1	1	1	0	2	2	2	1	1	0	0
M. MANDIBULAR	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
M. EAR	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		1	1	1	1	1	1	1	1	1	1	1
M. NECK	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : MALE

Clinical sign	Group Name	Administration Week-day				74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		71-7	72-7	73-7												
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	1	1	1	1	0	0	0	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI-MOUTH	Control	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	1	1	0	0	0	0	0	0	1	1	1	1	0
	4000 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	8000 ppm	0	1	1	2	2	2	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
M. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

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SEX : MALE

Clinical sign	Group Name	Administration Week-day			88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		85-7	86-7	87-7											
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI-MOUTH	Control	0	0	2	1	1	0	0	0	0	0	1	1	1	2
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	4000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	1	1	1	1	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	2	1	2	2	2	2	2	2	1	2
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NECK	Control	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : MALE

Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
INTERNAL MASS	Control	1	1	2	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
M. EYE	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	0	0	0	0	1
	8000 ppm	0	0	0	0	0	0
M. PERI-MOUTH	Control	2	3	2	2	1	2
	2000 ppm	1	1	0	0	0	0
	4000 ppm	0	0	0	0	0	1
	8000 ppm	0	0	0	0	0	0
M. MANDIBULAR	Control	0	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
M. EAR	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	2	2	2	2	1	1
	8000 ppm	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0
M. NECK	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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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
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. SCROTUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		15-7	16-7	17-7											
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. SCROTUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		29-7	30-7	31-7											
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. SCROTUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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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
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	1	1	0	0	0	0
M. POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. SCROTUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	1	1	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		57-7	58-7	59-7											
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR DORSUM	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. SCROTUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day				74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		71-7	72-7	73-7												
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR DORSUM	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	8000 ppm	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0
M. POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
M. SCROTUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		85-7	86-7	87-7											
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	3	3
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ANTERIOR DORSUM	Control	1	1	1	1	2	2	3	2	2	2	2	2	2	2
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	2	2	3	2	2	2	3	3	3	3	3	2
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. POSTERIOR DORSUM	Control	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	2	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. SCROTUM	Control	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
M. FORELIMB	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0
M. BREAST	Control	0	0	0	1	1	1
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	1	1	2	2	2
	8000 ppm	0	0	0	0	0	0
M. ABDOMEN	Control	1	1	1	1	2	2
	2000 ppm	2	2	2	2	2	2
	4000 ppm	3	3	5	5	5	5
	8000 ppm	0	0	0	0	0	0
M. ANTERIOR. DORSUM	Control	2	2	2	2	2	2
	2000 ppm	0	0	0	1	1	1
	4000 ppm	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0
M. POSTERIOR DORSUM	Control	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	2	2	2	2	2
	8000 ppm	0	0	0	0	0	0
M. HINDLIMB	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0
M. SCROTUM	Control	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day			4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1-7	2-7	3-7											
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL TESTIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

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SEX : MALE

Clinical sign	Group Name	Administration Week-day			18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		15-7	16-7	17-7											
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL TESTIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		29-7	30-7	31-7											
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL TESTIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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 ANIMAL : RAT F344/DuCrj
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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
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL TESTIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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SEX : MALE

Clinical sign	Group Name	Administration Week-day			60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		57-7	58-7	59-7											
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL TESTIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : MALE

Clinical sign	Group Name	Administration Week-day				74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		71-7	72-7	73-7												
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	1	1	0	1	1	1	1	0	2	7	9	11	6	3
ABNORMAL TESTIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	1	1	0	1	0	0	0	0	3	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : MALE

Clinical sign	Group Name	Administration Week-day			88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		85-7	86-7	87-7											
ANEMIA	Control	0	0	0	0	0	0	0	0	1	1	1	1	1	2
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	4000 ppm	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	8000 ppm	1	3	2	1	0	0	1	2	4	4	2	1	0	0
ABNORMAL TESTIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	1	1	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	8000 ppm	0	2	0	1	0	0	1	1	0	0	0	0	0	0
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	1	1	1	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	8000 ppm	0	2	0	1	0	0	1	1	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	Control	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1 104

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SEX : MALE

Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
ANEMIA	Control	1	2	2	0	0	0
	2000 ppm	0	0	0	0	0	1
	4000 ppm	0	0	0	0	0	1
	8000 ppm	0	0	0	0	0	1
ABNORMAL TESTIS	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	1	0	0	0
	2000 ppm	0	0	0	0	1	1
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
NOISY	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	1	0	0	0
	2000 ppm	0	0	0	0	1	1
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 41

SEX : MALE

Clinical sign	Group Name	Administration Week-day			4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1-7	2-7	3-7											
SHALLOW BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	19	49	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	8000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NON REMARKABLE	Control	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	2000 ppm	31	1	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

PAGE : 42

SEX : MALE

Clinical sign	Group Name	Administration Week-day			18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		15-7	16-7	17-7											
SHALLOW BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	8000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	1	1	0	1	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NON REMARKABLE	Control	50	50	50	50	50	50	50	50	50	50	50	49	49	49
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 43

SEX : MALE

Clinical sign	Group Name	Administration Week-day			32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		29-7	30-7	31-7											
SHALLOW BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	8000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NON REMARKABLE	Control	49	49	49	49	49	49	49	49	49	49	48	48	48	49
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : AI 104

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

PAGE : 44

SEX : MALE

Clinical sign	Group Name	Administration Week-day			46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		43-7	44-7	45-7											
SHALLOW BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	49	49	49	49	49	49	49	49	49	49	49	49
	4000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	48
	8000 ppm	50	50	49	49	49	49	49	49	49	49	48	48	48	48
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NON REMARKABLE	Control	49	49	49	49	49	49	49	49	48	48	49	49	49	49
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
 ALL ANIMALS

PAGE : 45

SEX : MALE

Clinical sign	Group Name	Administration Week-day			60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		57-7	58-7	59-7											
SHALLOW BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	4000 ppm	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	8000 ppm	48	48	48	48	48	48	48	48	48	48	48	48	47	47
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NON REMARKABLE	Control	49	49	49	49	48	48	48	48	48	48	48	48	48	48
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 46

SEX : MALE

Clinical sign	Group Name	Administration Week-day			74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		71-7	72-7	73-7											
SHALLOW BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	1	1	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	2000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	4000 ppm	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	8000 ppm	47	47	46	45	45	42	42	41	41	38	36	34	29	26
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	1
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	0	0	0	0	0	0	0	0	0	0	2	0	0
NON REMARKABLE	Control	48	48	48	47	48	47	48	46	46	46	46	46	46	45
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 47

SEX : MALE

Clinical sign	Group Name	Administration Week-day			88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		85-7	86-7	87-7											
SHALLOW BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	1	1	0	0	0	0	1	0	1	1	1	1	1	2
	2000 ppm	47	47	47	47	45	45	45	45	44	43	41	41	40	39
	4000 ppm	47	45	45	45	45	45	45	44	44	44	44	44	42	38
	8000 ppm	24	23	20	18	17	16	16	16	15	14	11	10	5	4
SMALL STOOL	Control	1	0	0	0	0	0	0	0	1	0	0	0	0	2
	2000 ppm	0	1	1	1	1	0	0	1	0	0	0	0	1	1
	4000 ppm	0	0	0	0	0	0	1	0	0	0	2	1	0	0
	8000 ppm	1	0	2	0	0	0	0	0	0	0	1	0	0	0
OLIGO-STOOL	Control	1	0	0	0	0	0	1	1	1	0	0	0	0	1
	2000 ppm	1	1	1	0	1	0	0	1	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	1	0	1	0	1	0	1	0
	8000 ppm	0	0	1	0	0	0	0	0	0	0	1	0	0	0
NON REMARKABLE	Control	46	46	43	43	40	40	40	39	38	37	36	36	34	33
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

BAIS-4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 48

SEX : MALE

Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
SHALLOW BREATHING	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
YELLOW URINE	Control	1	1	1	0	0	0
	2000 ppm	39	39	39	39	39	39
	4000 ppm	37	37	36	35	34	32
	8000 ppm	4	4	4	4	3	2
SMALL STOOL	Control	1	2	1	0	1	1
	2000 ppm	1	1	1	0	1	3
	4000 ppm	0	1	1	0	1	0
	8000 ppm	0	0	0	0	0	0
OLIGO-STOOL	Control	0	1	0	0	1	1
	2000 ppm	0	0	0	0	0	2
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
NON REMARKABLE	Control	34	32	31	30	29	29
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0

(11A1190)

BAIS 4

APPENDIX A 2

CLINICAL OBSERVATION : SUMMARY, RAT : FEMALE
(2-YEAR STUDY)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 49

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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	42	44	45	47	48	49	49	49	50	47	48	48	50	50
	4000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	8000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day			18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		15-7	16-7	17-7											
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	8000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day			32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		29-7	30-7	31-7											
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATAxic GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	50	50	50	50	50	49	49	49	49	49	49	49	49	49
	8000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	1	1	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day				46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		43-7	44-7	45-7												
DEATH	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1		1	1	1	1	1	1	1	1	1	1	2
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
ATAxic GAIT	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50		50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	49	49	49		49	49	49	49	49	49	49	49	49	49	48
	8000 ppm	49	49	49		49	49	49	49	49	49	49	49	49	49	49
PILOERECTIOn	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
SOILED PERI-GENITALIA	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day			60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		57-7	58-7	59-7											
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	2
	4000 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	48
	4000 ppm	48	48	48	48	48	48	48	48	48	48	48	48	47	47
	8000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	2000 ppm	2	2	2	2	2	2	2	2	2	2	2	3	3	3
	4000 ppm	3	3	3	3	3	3	3	3	3	3	3	4	4	4
	8000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	48	48	48	48	48	48	48	48	48	48	48	47	46	46
	4000 ppm	47	47	47	47	47	47	47	47	47	47	47	46	46	46
	8000 ppm	48	48	48	48	48	48	48	48	48	48	48	48	48	48
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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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
DEATH	Control	1	1	1	2	2	2	2	2	2	3	3	3	3	3
	2000 ppm	3	4	4	4	4	4	4	4	5	7	7	7	7	7
	4000 ppm	5	5	5	6	7	7	7	7	8	8	8	8	8	9
	8000 ppm	1	1	1	3	4	4	4	5	5	5	6	6	8	9
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	1	2	2	2
	8000 ppm	0	0	1	1	1	1	1	1	1	1	1	2	2	2
ATAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	46	45	45	45	45	45	45	45	44	42	42	42	42	42
	4000 ppm	45	45	45	44	43	43	43	43	42	42	41	40	40	39
	8000 ppm	48	48	47	45	44	44	44	43	43	43	42	41	39	38
PILOERECTION	Control	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	1	0	0	0	0	1	0	0
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOTLED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
DEATH	Control	3	3	3	3	3	3
	2000 ppm	7	7	7	7	8	9
	4000 ppm	9	9	9	10	11	11
	8000 ppm	10	11	11	12	13	13
MORIBUND SACRIFICE	Control	1	1	1	1	2	2
	2000 ppm	1	1	3	3	3	3
	4000 ppm	2	2	2	3	4	4
	8000 ppm	3	5	5	5	5	5
ATAXIC GAIT	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	1	0	0
COLORED	Control	0	0	0	0	0	0
	2000 ppm	42	42	40	40	39	38
	4000 ppm	39	39	39	37	35	35
	8000 ppm	36	33	33	32	31	31
PILOERECTION	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
FROG BELLY	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	1	0	0	0	0	0

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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
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day				18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		15-7	16-7	17-7												
EXOPHTHALMOS	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	0		1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	Control	0	0	0		0	0	0	0	0	0	0	0	0	1	1
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	1	1		2	2	2	2	2	2	2	2	2	2	2
CATARACT	Control	0	0	0		0	0	0	0	0	0	0	0	0	1	1
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	1	1		2	2	2	2	2	2	2	2	2	2	2
CORNEAL OPACITY	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	0	0	0		0	0	0	0	0	0	1	0	0	0	0
INTERNAL MASS	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0

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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
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	Control	1	1	2	2	2	2	2	2	2	2	2	2	2	2
	2000 ppm	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3
CATARACT	Control	1	1	1	2	2	2	2	2	2	2	2	2	2	2
	2000 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	0	0	0	0	0	0	0	0	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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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
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	8000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	Control	2	2	2	2	4	4	4	5	5	5	5	5	5	5
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	3	3	3	3	3	3	3	4	3	3	3	3	3	3
CATARACT	Control	2	2	2	2	4	4	4	4	4	5	5	5	5	5
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	3	3	3	3	3	3	3	4	3	3	3	3	3	3
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	0	0	0	1	1	1	1	2	2	2	2
	4000 ppm	1	1	1	1	1	1	1	1	2	3	3	2	3	1
	8000 ppm	1	1	0	0	0	0	0	1	0	1	1	0	0	0
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Clinical sign	Group Name	Administration Week-day				60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		57-7	58-7	59-7												
EXOPHTHALMOS	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1		1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	1	1	1		1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	1	1	1		1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	Control	5	5	5		5	5	5	5	5	5	5	5	5	5	5
	2000 ppm	1	1	2		2	2	2	2	2	2	2	1	1	1	2
	4000 ppm	0	1	1		1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	3	3	3		3	3	3	3	3	3	3	3	3	3	3
CATARACT	Control	5	5	5		5	5	5	5	5	5	5	5	5	5	5
	2000 ppm	1	1	1		1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	1	1		1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	3	3	3		3	3	3	3	3	3	3	3	3	3	3
CORNEAL OPACITY	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0		0	1	1	1	1	1	1	1	1	1	1
	2000 ppm	0	0	1		1	1	1	1	1	1	1	0	0	0	1
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0		0	0	0	1	1	0	0	0	0	0	0
	2000 ppm	2	2	2		2	2	2	3	2	2	2	2	2	2	1
	4000 ppm	1	1	2		1	1	1	1	1	1	1	1	1	1	2
	8000 ppm	2	0	0		0	2	2	2	2	2	1	1	1	1	1
INTERNAL MASS	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	1	1	1	1	0
	4000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1		1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0		0	0	0	0	0	0	0	0	0	0	0

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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
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	2	2	2	2	2	2	2	1	1	2	2	2	1
	4000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	Control	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	2000 ppm	2	1	1	1	1	1	2	2	2	2	2	2	2	2
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
CATARACT	Control	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	2000 ppm	1	1	1	1	1	1	1	1	1	2	2	2	2	2
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	1	1	1	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	0	0	0	0	0	1	1	1	0	0	0	1	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	2000 ppm	2	2	2	2	2	2	2	2	3	2	2	1	1	1
	4000 ppm	2	2	1	1	2	2	3	3	2	2	2	2	2	2
	8000 ppm	1	1	1	1	1	1	1	1	1	0	0	0	0	0
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	1	1	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	1	1	1	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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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
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	Control	5	5	5	5	5	5	5	5	5	5	5	6	7	7
	2000 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	3	3	3	3	3	3	3	3	3	5	4	4	4	4
CATARACT	Control	5	5	5	5	5	5	5	5	5	5	5	6	7	7
	2000 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	3	3	3	3	3	3	3	3	3	5	4	4	4	4
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	1	1	1	1	1	0	0	0	0
EXTERNAL MASS	Control	1	0	0	2	3	3	2	2	2	4	3	3	3	3
	2000 ppm	4	2	3	3	3	3	3	3	3	3	3	3	4	4
	4000 ppm	3	3	3	4	4	4	3	3	4	4	4	4	4	4
	8000 ppm	0	0	1	3	1	1	1	2	1	1	1	1	0	1
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
EXOPHTHALMOS	Control	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0
	8000 ppm	1	1	1	1	1	1
EYE OPACITY	Control	7	7	8	7	7	7
	2000 ppm	3	3	3	3	2	2
	4000 ppm	1	1	1	1	1	1
	8000 ppm	5	3	3	3	4	4
CATARACT	Control	7	7	8	7	7	6
	2000 ppm	3	3	3	3	2	2
	4000 ppm	1	1	1	1	1	1
	8000 ppm	4	3	3	3	4	3
CORNEAL OPACITY	Control	0	0	0	0	0	1
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	1	0	0	0	0	1
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	1	1	1	0
EXTERNAL MASS	Control	3	3	3	3	3	3
	2000 ppm	4	4	3	3	3	3
	4000 ppm	4	4	6	4	3	1
	8000 ppm	3	2	2	2	2	2
INTERNAL MASS	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	2	1	0
	4000 ppm	0	0	0	0	0	2
	8000 ppm	0	0	0	0	0	0
M. NOSE	Control	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	1	1	1	0	0
	8000 ppm	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

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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
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day			18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		15-7	16-7	17-7											
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day				32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		29-7	30-7	31-7												
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

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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
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	1	1	0	1	0
	8000 ppm	1	1	0	0	0	0	0	1	0	1	1	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	0	0	0	1	1	1	1	2	2	2	2
	4000 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day			60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
		57-7	58-7	59-7											
M. PERI-MOUTH	Control	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	4000 ppm	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	2	0	0	0	1	1	1	1	1	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	1
	4000 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ANIMAL : RAT F344/DuCrj
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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day			74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		71-7	72-7	73-7											
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	0	0	1	0	1	1	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	1	1	1	1	1	1	1	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	4000 ppm	1	1	1	1	1	1	1	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day			88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		85-7	86-7	87-7											
M. PERI-MOUTH	Control	0	0	0	0	1	1	0	0	0	1	0	0	0	0
	2000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	1	2	0	0	0	1	0	0	0	1	0	1
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	1	1	1	1	1	1	0	0	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. FORELIMB	Control	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	2000 ppm	1	1	2	2	2	2	2	2	2	2	2	2	2	2
	4000 ppm	1	1	1	2	2	2	2	2	2	2	2	2	2	2
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	1	1	1	1	1	1	1	1	0	0	0
M. GENITALIA	Control	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	4000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	2	2	2	1	1	1	2	2	1
	8000 ppm	1	1	0	0	0	0	0	1	1	3	3	5	3	2

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ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
M. PERI-MOUTH	Control	0	0	0	0	0	0
	2000 ppm	0	0	1	1	0	0
	4000 ppm	0	0	2	1	2	0
	8000 ppm	2	1	1	1	1	1
M. PERI EAR	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	1	1	1	0	0	0
	8000 ppm	1	1	1	1	1	1
M. FORELIMB	Control	1	1	1	1	1	1
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
M. BREAST	Control	1	1	1	1	1	1
	2000 ppm	2	2	1	1	1	1
	4000 ppm	2	2	2	2	1	1
	8000 ppm	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
M. GENITALIA	Control	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1
	4000 ppm	1	1	1	1	0	0
	8000 ppm	0	0	0	0	0	0
M. TAIL	Control	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
ANEMIA	Control	1	0	0	0	0	0
	2000 ppm	1	1	0	0	0	0
	4000 ppm	1	1	1	1	0	0
	8000 ppm	1	0	1	0	1	1

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STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day				4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
		1-7	2-7	3-7												
HEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	8000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1 104

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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day				18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
		15-7	16-7	17-7												
HEMORRHIAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	8000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day			32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
		29-7	30-7	31-7											
HEMORRHIAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	50	50	50	50	50	49	49	49	49	49	49	49	49	49
	8000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	4000 ppm	0	0	1	1	1	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	1	1	1	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day			46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
		43-7	44-7	45-7											
HEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	4000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	8000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 77

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
HEMORRHIAGE	Control	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	48
	4000 ppm	48	48	48	48	48	48	48	48	48	48	48	48	47	47
	8000 ppm	49	49	49	49	49	49	49	49	49	49	49	49	49	49
SMALL STOOL	Control	0	0	0	0	0	0	1	1	1	0	0	0	0	0
	2000 ppm	0	1	0	0	0	2	2	2	3	2	2	1	2	2
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	2	3
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 78

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day				74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
		71-7	72-7	73-7												
HEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	8000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	8000 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	48	48	48	48	48	48	48	48	48	48	48	48	47	46	46
	4000 ppm	47	47	47	47	47	47	47	47	47	47	47	47	46	46	46
	8000 ppm	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	2	2	2	1	1	1	0	0	0	0	0	1	0	0	0
	4000 ppm	0	0	1	1	2	0	0	0	0	1	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
OLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0
	4000 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 79

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day			88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		85-7	86-7	87-7											
HEMORRHIAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	0	0	0	0	0	0	0	2	1	1	2	2
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	1	1	0	0	0	0	0	0	0	2	1	1	2	2
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	46	45	45	45	45	45	45	45	44	42	42	42	42	42
	4000 ppm	45	45	45	44	43	43	43	43	42	42	41	40	40	39
	8000 ppm	48	48	47	45	44	44	44	43	43	43	42	41	39	38
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000 ppm	1	0	0	0	0	0	0	1	0	0	0	0	1	2
	4000 ppm	0	0	1	1	1	1	0	3	1	1	1	2	1	0
	8000 ppm	2	2	1	0	0	0	0	0	0	0	1	2	3	1
OLIGO-STOOL	Control	0	0	0	0	0	0	1	0	1	0	0	0	0	1
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	4000 ppm	0	0	0	0	0	0	0	2	0	0	1	1	1	0
	8000 ppm	1	1	1	0	0	0	0	0	0	0	0	1	1	1

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 80

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
HEMORRHIAGE	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	1	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0
	2000 ppm	1	1	1	1	1	1
	4000 ppm	0	0	0	0	0	0
	8000 ppm	1	1	1	1	1	1
IRREGULAR BREATHING	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	1	0	0
	8000 ppm	1	0	0	0	1	1
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	1	0	0
	8000 ppm	1	0	0	0	1	1
TACHYPNEA	Control	0	0	0	0	0	0
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0
YELLOW URINE	Control	0	0	0	0	0	0
	2000 ppm	42	42	40	40	39	38
	4000 ppm	39	39	39	37	35	35
	8000 ppm	36	33	33	32	31	31
SMALL STOOL	Control	2	0	1	1	0	0
	2000 ppm	1	1	1	0	0	0
	4000 ppm	1	0	1	1	0	0
	8000 ppm	2	0	0	0	1	1
OLIGO-STOOL	Control	1	0	1	1	1	0
	2000 ppm	1	2	1	1	0	0
	4000 ppm	1	0	1	1	0	0
	8000 ppm	1	0	1	0	0	0

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 81

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
		1-7	2-7														
NON REMARKABLE	Control	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(JIAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 82

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
NON REMARKABLE	Control	50	50	50	50	50	50	50	50	50	50	50	50	49	49
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 83

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
NON REMARKABLE	Control	49	49	48	48	48	48	48	48	48	48	48	48	48	48
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 84

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
NON REMARKABLE	Control	48	48	48	48	46	46	46	45	45	45	45	45	45	45
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 85

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
NON REMARKABLE	Control	45	45	45	45	45	45	44	44	44	45	45	45	45	45
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 86

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
NON REMARKABLE	Control	45	45	45	45	45	45	45	45	43	44	44	44	44	44
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 87

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day			88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
		85-7	86-7	87-7											
NON REMARKABLE	Control	43	44	44	41	40	40	40	41	40	38	38	37	36	35
	2000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BAIS 4

(HAN190)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE : 88

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7
NON REMARKABLE	Control	34	36	34	35	35	35
	2000 ppm	0	0	0	0	0	0
	4000 ppm	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0

BAIS 4

(HAN190)

APPENDIX B 1

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 1

Group Name	Administration week		1		2		3		4		5		6	
	0													
Control	121 ± 6		147 ± 7		178 ± 9		203 ± 10		221 ± 12		237 ± 14		251 ± 14	
2000 ppm	121 ± 6		147 ± 7		180 ± 10		203 ± 12		221 ± 14		236 ± 16		250 ± 17	
4000 ppm	121 ± 6		141 ± 13*		175 ± 13		200 ± 12		219 ± 13		235 ± 14		249 ± 15	
8000 ppm	121 ± 6		129 ± 6**		157 ± 8**		181 ± 8**		199 ± 10**		213 ± 11**		224 ± 12**	

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 2

Group Name	Administration week											
	7		8		9		10		11		12	
Control	265 ± 15		276 ± 16		286 ± 17		296 ± 17		304 ± 18		310 ± 18	
2000 ppm	264 ± 18		276 ± 19		288 ± 20		298 ± 19		306 ± 19		312 ± 19	
4000 ppm	263 ± 16		274 ± 18		287 ± 18		297 ± 18		306 ± 19		311 ± 19	
8000 ppm	237 ± 13**		248 ± 14**		256 ± 14**		266 ± 14**		274 ± 14**		278 ± 14**	

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 3

Group Name	Administration week		18		22		26		30		34		38	
	14													
Control	324±	19	341±	20	357±	20	366±	21	373±	21	382±	21	391±	21
2000 ppm	328±	20	347±	20	366±	20	377±	21*	386±	23**	395±	24**	405±	25*
4000 ppm	327±	19	347±	20	365±	21	376±	27*	386±	19**	396±	19**	407±	19**
8000 ppm	294±	14**	313±	15**	329±	16**	339±	16**	346±	17**	354±	17**	361±	17**

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 4

Group Name	Administration week		46		50		54		58		62		66	
	42													
Control	400±	22	405±	22	407±	23	411±	23	414±	23	417±	24	420±	24
2000 ppm	414±	25**	419±	27**	423±	27*	427±	28*	431±	29*	433±	29*	435±	29
4000 ppm	414±	20**	420±	21**	422±	19**	426±	19*	425±	20	424±	20	421±	20
8000 ppm	367±	19**	372±	18**	373±	18**	372±	19**	365±	18**	357±	19**	349±	21**

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

Test of Dunnett

(HAN260)

BATS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 5

Group Name	Administration		week											
	70		74		78		82		86		90		94	
Control	422±	25	419±	24	419±	24	418±	24	416±	30	416±	25	410±	29
2000 ppm	435±	29	434±	29	434±	30*	430±	30	427±	38	426±	30	417±	31
4000 ppm	416±	19	411±	18	407±	20	401±	25*	392±	17**	385±	19**	375±	22**
8000 ppm	341±	21**	332±	26**	319±	28**	298±	42**	296±	41**	305±	23**	276±	39**

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 6

Group Name	Administration week					
	98		102		104	
Control	403±	32	395±	28	389±	33
2000 ppm	408±	36	395±	37	386±	40
4000 ppm	361±	29**	345±	29**	335±	31**
8000 ppm	292±	12**	250±	23**	232±	8 ?

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

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

(IAN260)

BAS 4

APPENDIX B 2

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 7

Group Name	Administration week		0		1		2		3		4		5		6	
Control	97±	4	111±	4	122±	5	132±	6	139±	7	145±	8	150±	9		
2000 ppm	97±	4	108±	5*	117±	6**	124±	6**	129±	8**	135±	7**	138±	9**		
4000 ppm	97±	4	103±	4**	112±	5**	119±	7**	125±	7**	130±	7**	134±	8**		
8000 ppm	97±	4	97±	5**	108±	7**	117±	8**	124±	10**	128±	9**	132±	10**		

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 8

Group Name	Administration week		7		8		9		10		11		12		13	
Control	155±	11	158±	11	161±	11	163±	11	167±	12	169±	13	169±	13		
2000 ppm	142±	9**	145±	9**	148±	10**	152±	10**	155±	10**	157±	10**	158±	9**		
4000 ppm	137±	9**	140±	9**	144±	10**	147±	10**	150±	11**	152±	11**	154±	11**		
8000 ppm	135±	10**	138±	10**	141±	10**	144±	11**	148±	11**	150±	11**	154±	11**		

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

Test of Dunnett

BAYS 4

(HAN260)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 9

Group Name	Administration week 14	18	22	26	30	34	38
Control	170 ± 13	176 ± 14	182 ± 15	188 ± 16	192 ± 18	197 ± 19	198 ± 20
2000 ppm	157 ± 10**	161 ± 10**	166 ± 11**	171 ± 12**	175 ± 13**	178 ± 14**	178 ± 14**
4000 ppm	156 ± 10**	157 ± 11**	162 ± 13**	166 ± 13**	168 ± 14**	171 ± 15**	172 ± 16**
8000 ppm	155 ± 11**	156 ± 11**	160 ± 13**	163 ± 13**	167 ± 13**	169 ± 14**	171 ± 15**

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : AI 104
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 10

Group Name	Administration		week		46		50		54		58		62		66	
	42															
Control	203 ±	21	207 ±	23	211 ±	24	217 ±	26	223 ±	27	226 ±	27	231 ±	29		
2000 ppm	182 ±	16**	185 ±	18**	188 ±	19**	191 ±	21**	195 ±	23**	198 ±	25**	201 ±	28**		
4000 ppm	174 ±	16**	176 ±	18**	179 ±	18**	181 ±	20**	185 ±	20**	188 ±	23**	190 ±	24**		
8000 ppm	172 ±	14**	175 ±	15**	177 ±	16**	180 ±	17**	180 ±	19**	182 ±	19**	183 ±	20**		

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 11

Group Name	Administration week	70	74	78	82	86	90	94
Control		237 ± 29	244 ± 29	246 ± 29	252 ± 29	256 ± 29	260 ± 29	264 ± 27
2000 ppm		204 ± 28**	210 ± 31**	214 ± 32**	218 ± 31**	220 ± 31**	224 ± 31**	226 ± 30**
4000 ppm		193 ± 25**	198 ± 28**	201 ± 28**	203 ± 27**	206 ± 28**	207 ± 29**	210 ± 29**
8000 ppm		184 ± 20**	186 ± 20**	185 ± 20**	186 ± 19**	185 ± 21**	187 ± 20**	184 ± 21**

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 12

Group Name	Administration week					
	98		102		104	
Control	265 ±	29	261 ±	28	259 ±	28
2000 ppm	228 ±	32**	228 ±	30**	226 ±	30**
4000 ppm	215 ±	31**	212 ±	35**	209 ±	24**
8000 ppm	183 ±	22**	183 ±	19**	180 ±	19**

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

Test of Dunnett

(HAN260)

BAIS 4

APPENDIX C 1

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 1

Group Name	Administration week-day(effective)						
	1-7(7)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
Control	11.9± 0.7	13.4± 0.9	13.6± 0.9	14.0± 1.0	14.2± 1.1	14.3± 1.1	14.5± 1.1
2000 ppm	11.8± 0.6	13.6± 0.8	14.0± 0.9	14.2± 1.0	14.3± 1.1	14.4± 1.2	14.7± 1.1
4000 ppm	10.9± 2.2**	13.1± 1.3	14.0± 1.1	14.4± 1.2	14.5± 1.2	14.6± 1.2	14.7± 1.1
8000 ppm	8.8± 1.6**	11.5± 0.6**	12.8± 0.8**	13.7± 1.1	13.6± 1.3*	13.8± 1.4	13.8± 1.0**

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

Test of Dunnett

(HAN260)

BAS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 2

Group Name	Administration 8-7(7)	week-day(effective) 9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)	14-7(7)
Control	14.4± 1.2	14.4± 1.2	14.8± 1.2	14.3± 1.1	14.1± 1.1	14.5± 1.3	14.3± 1.2
2000 ppm	14.7± 1.1	15.0± 1.1*	15.2± 1.1	15.0± 1.2**	14.5± 0.9	14.7± 1.0	14.6± 0.9
4000 ppm	14.7± 1.2	14.9± 1.2*	15.1± 1.1	15.1± 1.1**	14.4± 1.1	14.7± 1.1	14.6± 1.1
8000 ppm	14.1± 1.0	14.1± 1.0	14.4± 0.9	14.4± 0.8	13.8± 0.8	14.2± 0.8	14.2± 1.0

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 3

Group Name	Administration week-day(effective)						
	18-7(7)	22-7(7)	26-7(7)	30-7(7)	34-7(7)	38-7(7)	42-7(7)
Control	14.7± 1.4	15.8± 1.4	15.9± 1.3	15.4± 1.4	15.7± 1.5	15.9± 1.5	16.0± 1.3
2000 ppm	14.9± 1.3	16.1± 1.2	16.2± 1.3	16.2± 1.4*	16.2± 1.5	16.1± 1.4	16.1± 1.4
4000 ppm	14.9± 1.3	16.2± 1.6	16.5± 1.7	16.3± 1.7*	16.7± 1.6**	17.0± 1.6**	16.8± 1.8*
8000 ppm	14.3± 0.9	15.5± 1.0	15.4± 1.0	15.4± 1.0	16.0± 1.3	16.0± 1.3	15.9± 1.4

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 4

Group Name	Administration week-day(effective)						
	46-7(7)	50-7(7)	54-7(7)	58-7(7)	62-7(7)	66-7(7)	70-7(7)
Control	16.1± 1.3	16.0± 1.4	15.9± 1.4	15.8± 1.5	16.0± 1.6	16.0± 1.7	15.9± 1.6
2000 ppm	16.0± 1.1	16.1± 1.1	16.1± 1.3	15.9± 1.3	16.2± 1.5	16.2± 1.5	15.9± 1.4
4000 ppm	16.7± 1.6	16.6± 1.5	16.9± 1.7**	16.4± 1.7	16.6± 1.8	16.4± 1.6	16.3± 1.3
8000 ppm	15.9± 1.0	15.6± 1.0	15.7± 1.2	15.1± 1.2	15.1± 1.4**	14.9± 1.3**	15.2± 1.2*

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 5

Group Name	Administration week-day(effective)						
	74-7(7)	78-7(7)	82-7(7)	86-7(7)	90-7(7)	94-7(7)	98-7(7)
Control	16.1± 1.6	16.3± 1.7	15.9± 1.6	16.1± 1.8	15.9± 2.1	15.5± 2.0	15.3± 2.3
2000 ppm	16.3± 1.2	16.3± 1.4	16.2± 1.5	16.1± 2.3	16.0± 1.6	15.5± 1.7	15.6± 1.6
4000 ppm	16.5± 1.8	16.3± 1.7	16.4± 1.7	16.4± 1.8	16.4± 1.9	15.8± 1.4	15.6± 2.0
8000 ppm	15.1± 1.5**	14.7± 1.9**	14.9± 2.8	15.0± 3.2	16.7± 2.3	15.1± 3.2	17.7± 2.2

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 6

Group Name	Administration week-day(effective)	
	102-7(7)	104-7(7)
Control	15.3± 2.5	15.1± 2.9
2000 ppm	15.6± 1.8	15.3± 2.3
4000 ppm	16.2± 2.5	16.1± 2.6
8000 ppm	13.8± 3.7	12.2± 3.3 ?

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

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

APPENDIX C 2

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 7

Group Name	Administration week-day(effective)						
	1-7(7)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
Control	9.7± 0.6	10.0± 0.9	10.2± 0.8	10.2± 0.9	10.3± 1.0	10.3± 1.8	10.0± 1.3
2000 ppm	9.1± 0.6*	9.1± 0.8**	9.1± 0.8**	9.1± 0.9**	9.1± 0.8**	9.3± 0.8**	9.3± 0.9*
4000 ppm	8.4± 2.3**	8.4± 0.6**	8.2± 0.6**	8.5± 0.6**	8.5± 0.6**	8.6± 0.6**	8.5± 0.6**
8000 ppm	8.5± 3.1**	8.1± 1.3**	8.2± 0.9**	8.5± 1.0**	8.5± 0.9**	8.4± 0.8**	8.3± 1.0**

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 8

Group Name	Administration		week-day(effective)											
	8-7(7)		9-7(7)		10-7(7)		11-7(7)		12-7(7)		13-7(7)		14-7(7)	
Control	9.8±	1.1	9.9±	1.4	9.7±	1.0	9.8±	1.1	9.6±	1.1	9.7±	1.1	9.6±	1.0
2000 ppm	9.2±	0.9*	9.3±	0.9	9.3±	0.9	9.5±	0.9	9.2±	0.9	9.4±	0.9	9.0±	0.9**
4000 ppm	8.5±	0.8**	8.6±	0.7**	8.6±	0.7**	8.8±	0.8**	8.6±	0.7**	8.8±	0.7**	8.7±	0.7**
8000 ppm	8.5±	1.6**	8.4±	1.5**	8.3±	0.6**	8.6±	1.2**	8.5±	1.2**	8.8±	1.4**	8.4±	0.6**

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : A1 104
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 9

Group Name	Administration week-day(effective)						
	18-7(7)	22-7(7)	26-7(7)	30-7(7)	34-7(7)	38-7(7)	42-7(7)
Control	10.2± 1.3	10.8± 1.6	10.7± 1.7	10.9± 1.8	11.0± 1.7	11.1± 1.6	11.5± 1.8
2000 ppm	9.3± 0.9**	9.8± 1.5**	9.7± 1.1*	10.0± 1.3	10.0± 1.4*	10.1± 1.2*	10.3± 1.4**
4000 ppm	8.8± 1.3**	8.9± 0.9**	8.8± 0.9**	8.9± 1.1**	8.9± 1.0**	9.0± 1.0**	9.2± 0.9**
8000 ppm	8.6± 1.6**	8.9± 1.1**	8.6± 0.9**	9.1± 1.1**	9.0± 0.9**	9.4± 1.7**	9.4± 1.4**

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : AI 104
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 10

Group Name	Administration week-day(effective)						
	46-7(7)	50-7(7)	54-7(7)	58-7(7)	62-7(7)	66-7(7)	70-7(7)
Control	11.9± 2.0	11.5± 1.7	11.7± 1.7	12.1± 1.9	12.0± 1.8	12.3± 1.8	12.2± 1.6
2000 ppm	10.5± 1.6**	10.6± 1.6*	10.6± 1.9**	10.9± 1.9**	11.1± 2.0	11.3± 2.1*	11.0± 1.9**
4000 ppm	9.2± 1.2**	9.3± 1.1**	9.4± 1.4**	9.9± 1.3**	10.0± 1.6**	10.2± 1.6**	10.4± 1.5**
8000 ppm	9.4± 1.2**	9.5± 1.5**	9.6± 1.4**	9.7± 1.5**	9.9± 1.8**	10.2± 2.1**	10.5± 2.5**

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g
 REPORT TYPE : AI 104
 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 11

Group Name	Administration week-day(effective)		82-7(7)	86-7(7)	90-7(7)	94-7(7)	98-7(7)
	74-7(7)	78-7(7)					
Control	12.9± 1.9	12.8± 1.9	12.9± 1.7	13.3± 2.2	13.4± 1.8	13.0± 1.6	13.2± 2.0
2000 ppm	11.6± 2.2**	11.4± 2.0**	11.7± 2.0*	12.2± 2.2*	12.6± 2.1	12.2± 2.1	12.1± 2.5*
4000 ppm	10.6± 1.8**	10.5± 1.7**	10.9± 1.6**	10.9± 1.4**	11.0± 1.5**	11.0± 1.6**	11.5± 1.7**
8000 ppm	10.5± 2.0**	10.5± 1.9**	11.1± 2.3**	11.1± 2.3**	11.2± 2.3**	11.1± 2.2**	11.0± 2.3**

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

Test of Dunnett

(HAN260)

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g
REPORT TYPE : A1 104
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 12

Group Name	Administration week-day(effective)	
	102-7(7)	104-7(7)
Control	12.8± 2.3	12.4± 2.4
2000 ppm	12.5± 2.2	12.1± 1.8
4000 ppm	11.7± 2.0	11.7± 1.5
8000 ppm	11.3± 2.1**	11.3± 2.7**

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

Test of Dunnett

(HAN260)

BAIS 4

APPENDIX D 1

CHEMICAL INTAKE CHANGES : SUMMARY, RAT : MALE
(2-YEAR STUDY)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 1

Group Name	Administration (weeks)									
	1	2	3	4	5	6	7			
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000		
2000 ppm	0.160± 0.004	0.151± 0.005	0.138± 0.005	0.129± 0.005	0.121± 0.005	0.116± 0.005	0.111± 0.004			
4000 ppm	0.310± 0.063	0.301± 0.017	0.280± 0.013	0.263± 0.013	0.247± 0.014	0.235± 0.013	0.224± 0.011			
8000 ppm	0.547± 0.110	0.589± 0.024	0.566± 0.022	0.550± 0.037	0.510± 0.037	0.492± 0.043	0.465± 0.020			

(HAN300)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g/kg/day
 REPORT TYPE : A1 104
 SEX : MALE

CHEMICAL INTAKE CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 2

Group Name	Administration (weeks)		9	10	11	12	13	14
	8							
Control	0.000± 0.000		0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
2000 ppm	0.107± 0.004		0.104± 0.006	0.102± 0.005	0.098± 0.005	0.093± 0.004	0.092± 0.005	0.089± 0.004
4000 ppm	0.214± 0.012		0.208± 0.011	0.203± 0.011	0.198± 0.011	0.186± 0.011	0.184± 0.011	0.178± 0.011
8000 ppm	0.455± 0.018		0.441± 0.019	0.432± 0.017	0.422± 0.016	0.398± 0.017	0.396± 0.018	0.385± 0.019

(HAN300)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g/kg/day
 REPORT TYPE : AI 104
 SEX : MALE

CHEMICAL INTAKE CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 3

Group Name	Administration (weeks)									
	18	22	26	30	34	38	42			
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000		
2000 ppm	0.086± 0.007	0.088± 0.006	0.086± 0.007	0.084± 0.008	0.082± 0.008	0.080± 0.007	0.078± 0.008			
4000 ppm	0.171± 0.012	0.178± 0.013	0.176± 0.017	0.168± 0.014	0.169± 0.014	0.167± 0.015	0.162± 0.015			
8000 ppm	0.365± 0.019	0.377± 0.016	0.363± 0.019	0.356± 0.017	0.361± 0.025	0.355± 0.024	0.347± 0.026			

(HAN300)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g/kg/day
 REPORT TYPE : A1 104
 SEX : MALE

CHEMICAL INTAKE CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 4

Group Name	Administration (weeks)									
	46	50	54	58	62	66	70			
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000		
2000 ppm	0.076± 0.006	0.076± 0.006	0.076± 0.007	0.074± 0.007	0.075± 0.008	0.075± 0.009	0.073± 0.008			
4000 ppm	0.159± 0.014	0.158± 0.014	0.158± 0.015	0.154± 0.015	0.156± 0.016	0.156± 0.015	0.157± 0.014			
8000 ppm	0.343± 0.016	0.336± 0.019	0.338± 0.021	0.332± 0.025	0.338± 0.028	0.343± 0.028	0.359± 0.033			

(HAN300)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g/kg/day
 REPORT TYPE : A1 104
 SEX : MALE

CHEMICAL INTAKE CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 5

Group Name	Administration (weeks)									
	74	78	82	86	90	94	98			
Control	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000	0.000 ± 0.000		
2000 ppm	0.075 ± 0.007	0.076 ± 0.008	0.075 ± 0.009	0.075 ± 0.011	0.076 ± 0.009	0.075 ± 0.009	0.077 ± 0.010			
4000 ppm	0.161 ± 0.019	0.160 ± 0.017	0.164 ± 0.018	0.167 ± 0.019	0.170 ± 0.022	0.168 ± 0.017	0.173 ± 0.021			
8000 ppm	0.365 ± 0.039	0.368 ± 0.038	0.401 ± 0.058	0.403 ± 0.067	0.435 ± 0.059	0.440 ± 0.066	0.486 ± 0.068			

(HAN300)

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 6

Group Name	Administration (weeks)	
	102	104
Control	0.000± 0.000	0.000± 0.000
2000 ppm	0.080± 0.011	0.080± 0.014
4000 ppm	0.188± 0.032	0.193± 0.032
8000 ppm	0.437± 0.090	0.420± 0.098

(HAN300)

BAIS 4

APPENDIX D 2

CHEMICAL INTAKE CHANGES : SUMMARY, RAT : FEMALE
(2-YEAR STUDY)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g/kg/day
REPORT TYPE : AI 104
SEX : FEMALE

CHEMICAL INTAKE CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 7

Group Name	Administration (weeks)		2	3	4	5	6	7
	1							
Control	0.000± 0.000		0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
2000 ppm	0.168± 0.008		0.155± 0.009	0.146± 0.008	0.141± 0.007	0.135± 0.007	0.134± 0.005	0.130± 0.008
4000 ppm	0.325± 0.082		0.300± 0.013	0.277± 0.011	0.271± 0.012	0.261± 0.010	0.257± 0.011	0.248± 0.011
8000 ppm	0.700± 0.251		0.604± 0.081	0.559± 0.041	0.545± 0.041	0.530± 0.032	0.508± 0.028	0.494± 0.046

(HAN300)

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 8

Group Name	Administration (weeks)									
	8	9	10	11	12	13	14			
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000		
2000 ppm	0.126± 0.007	0.125± 0.007	0.122± 0.008	0.123± 0.007	0.117± 0.008	0.119± 0.008	0.115± 0.008			
4000 ppm	0.242± 0.014	0.240± 0.012	0.234± 0.011	0.235± 0.010	0.227± 0.009	0.228± 0.012	0.223± 0.016			
8000 ppm	0.494± 0.078	0.476± 0.070	0.461± 0.022	0.464± 0.048	0.455± 0.048	0.457± 0.059	0.435± 0.026			

(HAN300)

BAIS 4

CHEMICAL INTAKE CHANGES (SUMMARY)
ALL ANIMALS

BAIS 4

Group Name	Administration (weeks)													
	18		22		26		30		34		38		42	
Control	0.000±	0.000	0.000±	0.000	0.000±	0.000	0.000±	0.000	0.000±	0.000	0.000±	0.000	0.000±	0.000
2000 ppm	0.115±	0.008	0.118±	0.014	0.114±	0.008	0.114±	0.009	0.112±	0.009	0.113±	0.009	0.113±	0.009
4000 ppm	0.224±	0.031	0.219±	0.011	0.212±	0.013	0.212±	0.021	0.209±	0.012	0.210±	0.013	0.211±	0.011
8000 ppm	0.440±	0.064	0.442±	0.037	0.422±	0.032	0.435±	0.039	0.428±	0.028	0.440±	0.059	0.439±	0.052

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 UNIT : g/kg/day
 REPORT TYPE : A1 104
 SEX : FEMALE

CHEMICAL INTAKE CHANGES (SUMMARY)
 ALL ANIMALS

PAGE : 10

Group Name	Administration (weeks)		50	54	58	62	66	70
	46							
Control	0.000± 0.000		0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
2000 ppm	0.113± 0.011		0.112± 0.009	0.111± 0.011	0.111± 0.010	0.112± 0.010	0.112± 0.011	0.108± 0.010
4000 ppm	0.209± 0.014		0.208± 0.012	0.207± 0.016	0.214± 0.014	0.211± 0.017	0.215± 0.018	0.216± 0.016
8000 ppm	0.428± 0.036		0.429± 0.047	0.424± 0.045	0.430± 0.047	0.433± 0.059	0.442± 0.069	0.455± 0.078
(HAN300)								

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g/kg/day
REPORT TYPE : AI 104
SEX : FEMALE

CHEMICAL INTAKE CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 11

Group Name	Administration (weeks)		78	82	86	90	94	98
	74							
Control	0.000± 0.000		0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
2000 ppm	0.110± 0.010		0.107± 0.009	0.108± 0.012	0.111± 0.011	0.113± 0.013	0.108± 0.011	0.105± 0.017
4000 ppm	0.213± 0.017		0.209± 0.020	0.216± 0.020	0.213± 0.018	0.213± 0.018	0.212± 0.026	0.215± 0.023
8000 ppm	0.449± 0.059		0.451± 0.055	0.475± 0.074	0.480± 0.077	0.481± 0.077	0.483± 0.083	0.481± 0.078

(HAN300)

BAIS4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
UNIT : g/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHANGES (SUMMARY)
ALL ANIMALS

PAGE : 12

Group Name	Administration (weeks)	
	102	104
Control	0.000 ± 0.000	0.000 ± 0.000
2000 ppm	0.110 ± 0.015	0.108 ± 0.012
4000 ppm	0.222 ± 0.028	0.225 ± 0.027
8000 ppm	0.493 ± 0.071	0.504 ± 0.111

(HAN300)

BAIS 4

APPENDIX E 1

HEMATOLOGY : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0401

ANIMAL : RAT F344/DuCrj

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

HEMATOLOGY (SUMMARY)

ALL ANIMALS (105W)

PAGE : 1

Group Name	NO. of Animals	RED BLOOD CELL 10 ⁶ /μl		HEMOGLOBIN g/dl		HEMATOCRIT %		MCV fl		MCH pg		MCHC g/dl		PLATELET 10 ³ /μl	
Control	37	8.66±	0.82	14.7±	1.5	44.0±	3.7	50.8±	2.1	16.9±	1.0	33.3±	1.1	886±	250
2000 ppm	38	8.18±	1.59	13.4±	2.5*	40.9±	6.7*	50.7±	4.9	16.5±	1.3	32.6±	1.6*	921±	312
4000 ppm	31	6.51±	1.75**	10.4±	2.9**	32.9±	7.7**	51.3±	4.2	16.0±	1.1**	31.2±	2.4**	1197±	243**
8000 ppm	2	4.55±	1.43 ?	8.2±	3.1 ?	26.8±	7.8 ?	59.0±	1.3 ?	17.9±	1.2 ?	30.3±	2.8 ?	1691±	74 ?

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

Test of Dunnett

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

(HCL070)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 MEASURE. TIME : 1
 SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (105W)

PAGE : 2

Group Name	NO. of Animals	WBC 10 ³ /μl		Differential N-BAND		WBC (%) N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	37	7.76±	7.79	1±	1	37±	10	2±	2	0±	0	4±	2	53±	9	3±	5
2000 ppm	38	7.31±	2.88	1±	1	39±	9	2±	1	0±	0	4±	2	51±	10	3±	5
4000 ppm	31	7.96±	2.59	2±	2	45±	10**	1±	1**	0±	0	3±	2	44±	10**	5±	3**
8000 ppm	2	3.72±	0.44 ?	2±	1 ?	66±	11 ?	0±	0 ?	0±	0 ?	1±	0 ?	28±	5 ?	5±	5 ?

Significant difference : * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

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

(HCL070)

BAIS 4

APPENDIX E 2

HEMATOLOGY : SUMMARY, RAT : FEMALE (2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 MEASURE. TIME : 1
 SEX : FEMALE

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (105W)

REPORT TYPE : A1

PAGE : 3

Group Name	NO. of Animals	RED BLOOD CELL 10 ⁵ /μl		HEMOGLOBIN g/dl		HEMATOCRIT %		MCV fl		MCH pg		MCHC g/dl		PLATELET 10 ⁹ /μl	
Control	43	8.08±	1.04	14.9±	1.9	43.1±	4.8	53.7±	2.8	18.4±	0.7	34.4±	1.5	653±	122
2000 ppm	37	8.04±	0.74	14.5±	1.3	42.6±	3.6	53.1±	1.8	18.1±	0.7	34.0±	0.7*	643±	78
4000 ppm	33	7.30±	0.46**	13.2±	0.9**	39.7±	2.0**	54.4±	1.9**	18.1±	0.7	33.2±	0.7**	759±	120**
8000 ppm	29	6.73±	0.89**	11.8±	1.3**	36.5±	3.5**	54.6±	3.4*	17.6±	0.8**	32.2±	0.9**	1059±	210**

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 MEASURE. TIME : 1
 SEX : FEMALE

HEMATOLOGY (SUMMARY)
 ALL ANIMALS (105W)

PAGE : 4

Group Name	NO. of Animals	WBC 10 ³ /μl		Differential N-BAND		WBC (%) N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	43	3.22±	2.56	1±	1	33±	8	2±	1	0±	0	4±	2	58±	9	3±	3
2000 ppm	37	6.03±	9.44	1±	1	38±	13	1±	1	0±	0	3±	2	54±	12	3±	8
4000 ppm	33	4.51±	2.13**	2±	1**	39±	10*	1±	2	0±	0	3±	1**	52±	10	3±	3
8000 ppm	29	6.12±	3.79**	2±	1	49±	18**	1±	1**	0±	0	3±	2	42±	17**	4±	3

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

(HCL070)

BAIS 4

APPENDIX F 1

BIOCHEMISTRY : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 MEASURE TIME : 1
 SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (105W)

PAGE : 1

Group Name	NO. of Animals	TOTAL PROTEIN g/dl		ALBUMIN g/dl		A/G RATIO		T-BILIRUBIN mg/dl		GLUCOSE mg/dl		T-CHOLESTEROL mg/dl		TRIGLYCERIDE mg/dl	
Control	37	6.6±	0.3	3.4±	0.2	1.1±	0.1	0.16±	0.03	173±	31	148±	40	57±	40
2000 ppm	38	6.5±	0.5	3.3±	0.3*	1.0±	0.1*	0.21±	0.29	172±	28	172±	55	79±	77
4000 ppm	31	6.5±	0.6	3.0±	0.3**	0.9±	0.1**	0.16±	0.04	156±	29*	262±	66**	111±	60**
8000 ppm	2	5.3±	0.3 ?	2.3±	0.2 ?	0.8±	0.1 ?	0.15±	0.04 ?	151±	6 ?	281±	65 ?	29±	6 ?

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

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

(HCL074)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 MEASURE. TIME : 1
 SEX : MALE

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (105W)

REPORT TYPE : A1

PAGE : 2

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	
Control	37	213±	54	83±	26	38±	8	219±	58	205±	128	7±	3	92±	17
2000 ppm	38	249±	100	102±	177	39±	38*	210±	139	208±	76	14±	6**	96±	43
4000 ppm	31	372±	88**	105±	103	69±	84	206±	66	194±	144	49±	45**	106±	73
8000 ppm	2	387±	29 ?	132±	61 ?	123±	74 ?	232±	91 ?	176±	58 ?	85±	2 ?	200±	129 ?

Significant difference ; * : $P \leq 0.05$

** : $P \leq 0.01$

Test of Dunnett

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 MEASURE. TIME : 1
 SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
 ALL ANIMALS (105#)

PAGE : 3

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	
Control	37	18.6±	3.4	0.6±	0.1	142±	2	3.4±	0.3	106±	2	10.4±	0.5	4.0±	0.5
2000 ppm	38	22.9±	9.8*	0.6±	0.1	142±	2	3.5±	0.4	107±	2	10.4±	0.4	4.1±	0.8
4000 ppm	31	56.7±	40.5**	1.1±	0.7**	141±	2	3.8±	0.5**	104±	3**	11.2±	1.1**	7.1±	4.1**
8000 ppm	2	189.9±	58.5 ?	2.0±	0.4 ?	141±	1 ?	4.9±	1.1 ?	102±	4 ?	12.0±	1.2 ?	19.0±	5.9 ?

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

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

(HCL074)

BAIS 4

APPENDIX F 2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0401

ANIMAL : RAT F344/DuCrj

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)

ALL ANIMALS (105W)

PAGE : 4

Group Name	NO. of Animals	TOTAL PROTEIN g/dl		ALBUMIN g/dl		A/G RATIO		T-BILIRUBIN mg/dl		GLUCOSE mg/dl		T-CHOLESTEROL mg/dl		TRIGLYCERIDE mg/dl	
Control	43	6.9±	0.5	3.9±	0.4	1.3±	0.2	0.15±	0.04	163±	24	127±	37	47±	59
2000 ppm	37	6.8±	0.5	3.8±	0.3	1.3±	0.1	0.16±	0.06	163±	21	122±	27	29±	19
4000 ppm	34	7.4±	0.4**	3.9±	0.3	1.2±	0.1**	0.15±	0.02	164±	22	214±	104**	46±	65
8000 ppm	30	6.8±	0.9	3.3±	0.6**	1.0±	0.2**	0.15±	0.02	155±	31	330±	101**	57±	40

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

Test of Dunnett

(HCL074)

BAIS 4

STUDY NO. : 0401

ANIMAL : RAT F344/DuCrj

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)

ALL ANIMALS (105W)

PAGE : 5

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	
Control	43	224±	59	115±	33	50±	14	272±	83	120±	73	3±	2	93±	33
2000 ppm	37	212±	43	155±	192	74±	97	279±	165	186±	290	4±	3	100±	37
4000 ppm	34	332±	146**	74±	42**	37±	17**	197±	60**	93±	32*	4±	3	91±	20
8000 ppm	30	467±	142**	117±	113**	61±	58	240±	143*	127±	84	20±	24**	140±	146

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

Test of Dunnett

(HCL074)

BAIS 4

STUDY NO. : 0401

ANIMAL : RAT F344/DuCrj

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)

ALL ANIMALS (105W)

PAGE : 6

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	
Control	43	17.0±	3.0	0.5±	0.1	141±	1	3.4±	0.3	105±	3	10.3±	0.5	3.5±	0.7
2000 ppm	37	20.4±	4.8**	0.6±	0.1	141±	2	3.4±	0.3	105±	3	10.2±	0.5	3.9±	0.6
4000 ppm	34	21.7±	3.5**	0.6±	0.1	140±	2	3.4±	0.3	104±	3*	10.7±	0.6**	4.0±	0.8*
8000 ppm	30	53.8±	63.5**	0.7±	0.3**	139±	2**	4.0±	0.7**	102±	5**	11.1±	0.9**	7.1±	6.6**

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

Test of Dunnett

(HCL074)

BAIS 4

APPENDIX G 1

URINALYSIS : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0401

ANIMAL : RAT F344/DuCrj

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

URINALYSIS

PAGE : 1

Group Name	NO. of Animals	pH_____								CHI	Protein_____						CHI	Glucose_____						CHI	Ketone body_____						CHI	Bilirubin_____				CHI
		5.0	6.0	6.5	7.0	7.5	8.0	8.5	-		±	+	2+	3+	4+	-		±	+	2+	3+	4+	-		±	+	2+	3+	4+	-		+	2+	3+		
Control	37	0	1	4	7	14	11	0		0	0	0	5	22	10		37	0	0	0	0	0		36	1	0	0	0	0		37	0	0	0		
2000 ppm	39	0	1	2	3	20	10	3		0	0	0	4	24	11		39	0	0	0	0	0		36	3	0	0	0	0		39	0	0	0		
4000 ppm	34	0	1	8	6	16	3	0		0	0	0	0	24	10		31	1	2	0	0	0		34	0	0	0	0	0		34	0	0	0		
8000 ppm	! 3	0	2	1	0	0	0	0		0	0	0	0	1	2		2	1	0	0	0	0		3	0	0	0	0	0		3	0	0	0		

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

Test of CHI SQUARE

! : Significant test is not applied to this group.

(HCL101)

BAIS 4

STUDY NO. : 0401

URINALYSIS

ANIMAL : RAT F344/DuCrj

MEASURE. TIME : 1

SEX : MALE

REPORT TYPE : A1

PAGE : 2

Group Name	NO. of Animals	Occult blood					Urobilinogen						
		-	±	+	2+	3+	CHI	±	+	2+	3+	4+	CHI
Control	37	35	0	0	0	2		37	0	0	0	0	
2000 ppm	39	39	0	0	0	0		39	0	0	0	0	
4000 ppm	34	33	0	0	0	1		34	0	0	0	0	
8000 ppm	! 3	2	0	0	0	1		3	0	0	0	0	

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

Test of CHI SQUARE

! : Significant test is not applied to this group.

(HCL101)

BAIS 4

APPENDIX G 2

URINALYSIS : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0401

ANIMAL : RAT F344/DuCrj

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

URINALYSIS

PAGE : 3

Group Name	NO. of Animals	pH							CHI	Protein					CHI	Glucose					CHI	Ketone body					CHI	Bilirubin				CHI		
		5.0	6.0	6.5	7.0	7.5	8.0	8.5		-	±	+	2+	3+		4+	-	±	+	2+		3+	4+	-	±	+		2+	3+	4+	-		+	2+
Control	45	0	1	8	12	16	7	1		0	3	16	15	10	1		45	0	0	0	0	0		41	4	0	0	0	0		45	0	0	0
2000 ppm	39	0	1	4	10	10	10	4		0	1	18	12	8	0		39	0	0	0	0	0		34	4	1	0	0	0		39	0	0	0
4000 ppm	35	0	0	11	9	8	5	2		0	0	0	15	19	1	**	35	0	0	0	0	0		35	0	0	0	0	0		35	0	0	0
8000 ppm	31	0	3	12	8	6	2	0		0	0	0	3	26	2	**	31	0	0	0	0	0		31	0	0	0	0	0		31	0	0	0

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

Test of CHI SQUARE

(HCL101)

BATS 4

STUDY NO. : 0401

URINALYSIS

ANIMAL : RAT F344/DuCrj

MEASURE. TIME : 1

SEX : FEMALE

REPORT TYPE : A1

PAGE : 4

Group Name	NO. of Animals	Occult blood					Urobilinogen						
		--	±	+	2+	3+	CHI	±	+	2+	3+	4+	CHI
Control	45	43	0	1	0	1		45	0	0	0	0	
2000 ppm	39	29	1	1	3	5		39	0	0	0	0	
4000 ppm	35	28	1	2	0	4		35	0	0	0	0	
8000 ppm	31	23	5	0	0	3	*	30	1	0	0	0	

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

Test of CHI SQUARE

(HCL101)

BATS 4

APPENDIX H 1

GROSS FINDINGS : SUMMARY, RAT : MALE ALL ANIMALS
(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

GROSS FINDINGS (SUMMARY)
 ALL ANIMALS (0-105W)

PAGE : 1

Organ	Findings	Group Name NO. of Animals	Control 50 (%)	2000 ppm 50 (%)	4000 ppm 50 (%)	8000 ppm 50 (%)
skin/app	hemorrhage		0 (0)	0 (0)	0 (0)	1 (2)
	nodule		4 (8)	2 (4)	7 (14)	3 (6)
	ulcer		0 (0)	0 (0)	0 (0)	1 (2)
subcutis	edema		0 (0)	0 (0)	0 (0)	1 (2)
	jaundice		2 (4)	0 (0)	0 (0)	0 (0)
	mass		6 (12)	6 (12)	11 (22)	0 (0)
lung	rod		0 (0)	0 (0)	0 (0)	2 (4)
	white zone		0 (0)	0 (0)	0 (0)	1 (2)
	red zone		1 (2)	2 (4)	1 (2)	3 (6)
	edema		1 (2)	0 (0)	0 (0)	2 (4)
	nodule		0 (0)	1 (2)	1 (2)	0 (0)
	voluminus		0 (0)	0 (0)	0 (0)	1 (2)
lymph node	enlarged		1 (2)	1 (2)	1 (2)	1 (2)
spleen	enlarged		8 (16)	5 (10)	2 (4)	1 (2)
	white zone		1 (2)	0 (0)	0 (0)	1 (2)
	nodule		1 (2)	0 (0)	2 (4)	0 (0)
heart	enlarged		0 (0)	2 (4)	0 (0)	2 (4)
	white zone		0 (0)	0 (0)	2 (4)	1 (2)
artery/aort	induration		0 (0)	0 (0)	6 (12)	21 (42)
capillary	thick		0 (0)	0 (0)	0 (0)	1 (2)
tongue	swollen		0 (0)	0 (0)	0 (0)	2 (4)
	nodule		0 (0)	0 (0)	0 (0)	1 (2)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

GROSS FINDINGS (SUMMARY)
 ALL ANIMALS (0-105W)

PAGE : 2

Organ	Findings	Group Name NO. of Animals	Control 50 (%)	2000 ppm 50 (%)	4000 ppm 50 (%)	8000 ppm 50 (%)
forestomach	nodule		0 (0)	1 (2)	1 (2)	0 (0)
	ulcer		3 (6)	2 (4)	1 (2)	0 (0)
gl stomach	nodule		0 (0)	1 (2)	0 (0)	0 (0)
	granular		0 (0)	0 (0)	0 (0)	1 (2)
	ulcer		1 (2)	1 (2)	0 (0)	0 (0)
	thick		0 (0)	0 (0)	3 (6)	0 (0)
stomach	nodule		1 (2)	0 (0)	0 (0)	0 (0)
small intes	red zone		0 (0)	1 (2)	0 (0)	0 (0)
	gas		1 (2)	0 (0)	0 (0)	1 (2)
cecum	red zone		1 (2)	0 (0)	0 (0)	0 (0)
	gas		1 (2)	0 (0)	0 (0)	0 (0)
liver	enlarged		0 (0)	1 (2)	0 (0)	1 (2)
	green		0 (0)	0 (0)	0 (0)	3 (6)
	brown		0 (0)	0 (0)	0 (0)	4 (8)
	white patch		0 (0)	0 (0)	0 (0)	1 (2)
	white zone		1 (2)	2 (4)	9 (18)	24 (48)
	red zone		1 (2)	0 (0)	0 (0)	2 (4)
	brown zone		0 (0)	0 (0)	4 (8)	4 (8)
	black zone		0 (0)	0 (0)	1 (2)	5 (10)
	nodule		1 (2)	2 (4)	14 (28)	14 (28)
	rough		1 (2)	1 (2)	0 (0)	0 (0)
	herniation		8 (16)	3 (6)	6 (12)	8 (16)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

GROSS FINDINGS (SUMMARY)
 ALL ANIMALS (0-105W)

PAGE : 3

Organ	Findings	Group Name NO. of Animals	Control 50 (%)	2000 ppm 50 (%)	4000 ppm 50 (%)	8000 ppm 50 (%)
kidney	enlarged		0 (0)	0 (0)	0 (0)	1 (2)
	white zone		1 (2)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	1 (2)	0 (0)	0 (0)
	cyst		0 (0)	1 (2)	2 (4)	2 (4)
	deformed		0 (0)	0 (0)	1 (2)	0 (0)
	granular		6 (12)	18 (36)	43 (86)	48 (96)
urin bladd	urine:marked retention		0 (0)	1 (2)	2 (4)	0 (0)
	urine:red		0 (0)	1 (2)	1 (2)	0 (0)
pituitary	enlarged		6 (12)	1 (2)	5 (10)	1 (2)
	red zone		2 (4)	1 (2)	0 (0)	1 (2)
	nodule		2 (4)	3 (6)	0 (0)	3 (6)
thyroid	enlarged		5 (10)	6 (12)	5 (10)	1 (2)
adrenal	enlarged		0 (0)	2 (4)	2 (4)	0 (0)
testis	enlarged		0 (0)	1 (2)	0 (0)	0 (0)
	atrophic		2 (4)	1 (2)	1 (2)	5 (10)
	nodule		32 (64)	43 (86)	47 (94)	46 (92)
brain	red zone		1 (2)	1 (2)	2 (4)	0 (0)
	red patch		0 (0)	1 (2)	0 (0)	0 (0)
	hemorrhage		0 (0)	0 (0)	1 (2)	0 (0)
	nodule		0 (0)	1 (2)	0 (0)	0 (0)
spinal cord	red zone		2 (4)	1 (2)	0 (0)	0 (0)
	nodule		0 (0)	1 (2)	0 (0)	0 (0)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

GROSS FINDINGS (SUMMARY)
 ALL ANIMALS (0-105W)

PAGE : 4

Organ	Findings	Group Name NO. of Animals	Control 50 (%)	2000 ppm 50 (%)	4000 ppm 50 (%)	8000 ppm 50 (%)
eye	turbid		0 (0)	0 (0)	5 (10)	6 (12)
	white		1 (2)	3 (6)	2 (4)	1 (2)
	red		0 (0)	0 (0)	0 (0)	6 (12)
	brown		1 (2)	0 (0)	0 (0)	0 (0)
Zymbal gl	nodule		0 (0)	1 (2)	0 (0)	1 (2)
bone	nodule		0 (0)	1 (2)	0 (0)	0 (0)
vertebra	nodule		0 (0)	0 (0)	1 (2)	0 (0)
pleura	nodule		0 (0)	1 (2)	1 (2)	0 (0)
mediastinum	mass		0 (0)	1 (2)	0 (0)	0 (0)
peritoneum	nodule		0 (0)	1 (2)	2 (4)	0 (0)
	thick		1 (2)	0 (0)	0 (0)	0 (0)
abdominal c	hemorrhage		1 (2)	0 (0)	1 (2)	0 (0)
	mass		2 (4)	0 (0)	0 (0)	0 (0)
	ascites		2 (4)	1 (2)	2 (4)	3 (6)
thoracic ca	hemorrhage		0 (0)	0 (0)	1 (2)	0 (0)
	pleural fluid		1 (2)	1 (2)	0 (0)	16 (32)
other	ear:nodule		0 (0)	0 (0)	1 (2)	0 (0)
	hindlimb:nodule		0 (0)	0 (0)	0 (0)	1 (2)
	tail:scab		0 (0)	0 (0)	0 (0)	1 (2)

APPENDIX H 2

GROSS FINDINGS : SUMMARY, RAT : FEMALE ALL ANIMALS
(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

GROSS FINDINGS (SUMMARY)
 ALL ANIMALS (0-105#)

PAGE : 5

Organ	Findings	Group Name NO. of Animals	Control 50 (%)	2000 ppm 50 (%)	4000 ppm 50 (%)	8000 ppm 49 (%)
skin/app	nodule		0 (0)	2 (4)	1 (2)	1 (2)
subcutis	jaundice		1 (2)	1 (2)	2 (4)	0 (0)
	mass		6 (12)	6 (12)	5 (10)	1 (2)
lung	dark		0 (0)	0 (0)	0 (0)	1 (2)
	white zone		0 (0)	2 (4)	0 (0)	13 (27)
	red zone		0 (0)	1 (2)	2 (4)	1 (2)
	edema		0 (0)	0 (0)	0 (0)	1 (2)
	nodule		1 (2)	1 (2)	1 (2)	2 (4)
lymph node	enlarged		0 (0)	0 (0)	3 (6)	0 (0)
spleen	enlarged		5 (10)	6 (12)	0 (0)	0 (0)
	black zone		0 (0)	0 (0)	1 (2)	0 (0)
heart	white zone		1 (2)	0 (0)	0 (0)	0 (0)
	red zone		0 (0)	0 (0)	1 (2)	0 (0)
artery/aort	induration		0 (0)	0 (0)	0 (0)	1 (2)
tongue	nodule		1 (2)	0 (0)	0 (0)	2 (4)
	cyst		0 (0)	0 (0)	0 (0)	1 (2)
esophagus	dilated		0 (0)	1 (2)	0 (0)	0 (0)
forestomach	nodule		0 (0)	0 (0)	0 (0)	1 (2)
	ulcer		1 (2)	1 (2)	0 (0)	1 (2)
gl stomach	nodule		0 (0)	0 (0)	1 (2)	1 (2)
	ulcer		1 (2)	0 (0)	0 (0)	1 (2)
stomach	nodule		0 (0)	1 (2)	0 (0)	0 (0)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

GROSS FINDINGS (SUMMARY)
 ALL ANIMALS (0-105W)

PAGE : 6

Organ	Findings	Group Name NO. of Animals	Control 50 (%)	2000 ppm 50 (%)	4000 ppm 50 (%)	8000 ppm 49 (%)
large intes	nodule		0 (0)	1 (2)	0 (0)	0 (0)
liver	white zone		1 (2)	5 (10)	5 (10)	7 (14)
	red zone		2 (4)	0 (0)	0 (0)	1 (2)
	brown zone		1 (2)	0 (0)	0 (0)	4 (8)
	black zone		0 (0)	0 (0)	0 (0)	2 (4)
	nodule		1 (2)	2 (4)	0 (0)	6 (12)
	deformed		0 (0)	0 (0)	1 (2)	0 (0)
	rough		2 (4)	2 (4)	0 (0)	0 (0)
	adhesion		0 (0)	1 (2)	1 (2)	0 (0)
	herniation		9 (18)	6 (12)	11 (22)	3 (6)
	accentuation of lobular structure		0 (0)	0 (0)	0 (0)	1 (2)
pancreas	nodule		0 (0)	0 (0)	2 (4)	0 (0)
kidney	white zone		1 (2)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (2)	1 (2)
	deformed		0 (0)	0 (0)	1 (2)	1 (2)
	granular		1 (2)	0 (0)	6 (12)	32 (65)
	hydronephrosis		0 (0)	2 (4)	2 (4)	1 (2)
pituitary	enlarged		8 (16)	5 (10)	6 (12)	2 (4)
	red zone		5 (10)	6 (12)	1 (2)	1 (2)
	black zone		1 (2)	0 (0)	0 (0)	0 (0)
	nodule		4 (8)	1 (2)	5 (10)	0 (0)
	cyst		1 (2)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

GROSS FINDINGS (SUMMARY)
 ALL ANIMALS (0-105W)

PAGE : 7

Organ	Findings	Group Name NO. of Animals	Control 50 (%)	2000 ppm 50 (%)	4000 ppm 50 (%)	8000 ppm 49 (%)
thyroid	enlarged		1 (2)	0 (0)	1 (2)	2 (4)
ovary	enlarged		1 (2)	0 (0)	2 (4)	0 (0)
	nodule		0 (0)	0 (0)	2 (4)	0 (0)
	cyst		2 (4)	5 (10)	4 (8)	2 (4)
uterus	enlarged		0 (0)	1 (2)	1 (2)	0 (0)
	nodule		4 (8)	13 (26)	12 (24)	7 (14)
	cyst		0 (0)	1 (2)	0 (0)	0 (0)
	adhesion		0 (0)	0 (0)	1 (2)	0 (0)
	dilated		1 (2)	0 (0)	0 (0)	1 (2)
	dilated lumen		0 (0)	1 (2)	0 (0)	1 (2)
vagina	nodule		0 (0)	1 (2)	0 (0)	0 (0)
brain	red zone		0 (0)	1 (2)	1 (2)	0 (0)
	soft		0 (0)	0 (0)	1 (2)	0 (0)
spinal cord	red zone		0 (0)	2 (4)	0 (0)	0 (0)
eye	turbid		1 (2)	0 (0)	0 (0)	0 (0)
	white		6 (12)	3 (6)	1 (2)	5 (10)
	red		0 (0)	1 (2)	0 (0)	1 (2)
Zymbal gl	nodule		0 (0)	0 (0)	1 (2)	1 (2)
muscle	nodule		0 (0)	0 (0)	1 (2)	0 (0)
peritoneum	nodule		0 (0)	0 (0)	4 (8)	2 (4)
	adhesion		0 (0)	0 (0)	0 (0)	1 (2)
	thick		0 (0)	0 (0)	0 (0)	1 (2)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0-105W)

PAGE : 8

Organ	Findings	Group Name NO. of Animals	Control	2000 ppm	4000 ppm	8000 ppm
			50 (%)	50 (%)	50 (%)	49 (%)
retroperit	mass		0 (0)	1 (2)	1 (2)	1 (2)
abdominal c	ascites		0 (0)	1 (2)	4 (8)	1 (2)
thoracic ca	pleural fluid		0 (0)	2 (4)	1 (2)	8 (16)
other	tail:nodule		0 (0)	1 (2)	0 (0)	0 (0)
	upper jaw:nodule		0 (0)	0 (0)	0 (0)	1 (2)
	nose:nodule		1 (2)	0 (0)	1 (2)	0 (0)

(HPT080)

BATS 4

APPENDIX H 3

GROSS FINDINGS : SUMMARY, RAT : MALE : SACRIFICED ANIMALS
(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

GROSS FINDINGS (SUMMARY)
 SACRIFICED ANIMALS (105W)

PAGE : 1

Organ	Findings	Group Name NO. of Animals	Control 37 (%)	2000 ppm 39 (%)	4000 ppm 32 (%)	8000 ppm 2 (%)
skin/app	nodule		3 (8)	2 (5)	7 (22)	0 (0)
subcutis	mass		6 (16)	6 (15)	9 (28)	0 (0)
lung	red zone		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (3)	0 (0)
lymph node	enlarged		1 (3)	0 (0)	0 (0)	0 (0)
spleen	enlarged		1 (3)	1 (3)	0 (0)	0 (0)
	white zone		1 (3)	0 (0)	0 (0)	0 (0)
	nodule		1 (3)	0 (0)	0 (0)	0 (0)
heart	enlarged		0 (0)	1 (3)	0 (0)	0 (0)
	white zone		0 (0)	0 (0)	1 (3)	0 (0)
artery/aort	induration		0 (0)	0 (0)	2 (6)	0 (0)
forestomach	nodule		0 (0)	1 (3)	1 (3)	0 (0)
	ulcer		2 (5)	1 (3)	0 (0)	0 (0)
gl stomach	nodule		0 (0)	1 (3)	0 (0)	0 (0)
	ulcer		0 (0)	1 (3)	0 (0)	0 (0)
	thick		0 (0)	0 (0)	1 (3)	0 (0)
stomach	nodule		1 (3)	0 (0)	0 (0)	0 (0)
liver	white zone		1 (3)	2 (5)	8 (25)	2 (100)
	brown zone		0 (0)	0 (0)	4 (13)	0 (0)
	black zone		0 (0)	0 (0)	1 (3)	1 (50)
	nodule		0 (0)	1 (3)	13 (41)	1 (50)
	rough		0 (0)	1 (3)	0 (0)	0 (0)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

GROSS FINDINGS (SUMMARY)
 SACRIFICED ANIMALS (105W)

PAGE : 2

Organ	Findings	Group Name NO. of Animals	Control 37 (%)	2000 ppm 39 (%)	4000 ppm 32 (%)	8000 ppm 2 (%)
liver	herniation		6 (16)	3 (8)	3 (9)	0 (0)
kidney	cyst		0 (0)	1 (3)	1 (3)	0 (0)
	deformed		0 (0)	0 (0)	1 (3)	0 (0)
	granular		5 (14)	17 (44)	32 (100)	2 (100)
pituitary	enlarged		4 (11)	0 (0)	2 (6)	0 (0)
	red zone		1 (3)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	2 (5)	0 (0)	0 (0)
thyroid	enlarged		4 (11)	6 (15)	4 (13)	0 (0)
adrenal	enlarged		0 (0)	2 (5)	1 (3)	0 (0)
testis	enlarged		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		29 (78)	37 (95)	31 (97)	2 (100)
eye	turbid		0 (0)	0 (0)	2 (6)	0 (0)
	white		0 (0)	3 (8)	2 (6)	0 (0)
	red		0 (0)	0 (0)	0 (0)	1 (50)
pleura	nodule		0 (0)	0 (0)	1 (3)	0 (0)
peritoneum	nodule		0 (0)	1 (3)	1 (3)	0 (0)
abdominal c	ascites		0 (0)	1 (3)	1 (3)	0 (0)
thoracic ca	hemorrhage		0 (0)	0 (0)	1 (3)	0 (0)
other	ear nodule		0 (0)	0 (0)	1 (3)	0 (0)

APPENDIX H 4

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

GROSS FINDINGS (SUMMARY)
 SACRIFICED ANIMALS (105#)

PAGE : 3

Organ	Findings	Group Name NO. of Animals	Control 45 (%)	2000 ppm 38 (%)	4000 ppm 35 (%)	8000 ppm 31 (%)
skin/app	nodule		0 (0)	1 (3)	0 (0)	0 (0)
subcutis	mass		5 (11)	4 (11)	3 (9)	0 (0)
lung	white zone		0 (0)	1 (3)	0 (0)	9 (29)
	nodule		1 (2)	1 (3)	1 (3)	1 (3)
spleen	enlarged		3 (7)	0 (0)	0 (0)	0 (0)
tongue	nodule		1 (2)	0 (0)	0 (0)	1 (3)
forestomach	nodule		0 (0)	0 (0)	0 (0)	1 (3)
gl stomach	nodule		0 (0)	0 (0)	1 (3)	1 (3)
large intes	nodule		0 (0)	1 (3)	0 (0)	0 (0)
liver	white zone		1 (2)	4 (11)	2 (6)	7 (23)
	red zone		2 (4)	0 (0)	0 (0)	1 (3)
	brown zone		1 (2)	0 (0)	0 (0)	3 (10)
	black zone		0 (0)	0 (0)	0 (0)	2 (6)
	nodule		1 (2)	2 (5)	0 (0)	3 (10)
	deformed		0 (0)	0 (0)	1 (3)	0 (0)
	rough		1 (2)	1 (3)	0 (0)	0 (0)
	adhesion		0 (0)	1 (3)	0 (0)	0 (0)
	herniation		8 (18)	5 (13)	9 (26)	2 (6)
kidney	nodule		0 (0)	0 (0)	1 (3)	1 (3)
	deformed		0 (0)	0 (0)	1 (3)	1 (3)
	granular		1 (2)	0 (0)	6 (17)	20 (65)
pituitary	enlarged		6 (13)	4 (11)	3 (9)	0 (0)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

GROSS FINDINGS (SUMMARY)
 SACRIFICED ANIMALS (105W)

PAGE : 4

Organ	Findings	Group Name NO. of Animals	Control 45 (%)	2000 ppm 38 (%)	4000 ppm 35 (%)	8000 ppm 31 (%)
pituitary	red zone		5 (11)	4 (11)	1 (3)	1 (3)
	nodule		3 (7)	1 (3)	4 (11)	0 (0)
	cyst		1 (2)	0 (0)	0 (0)	0 (0)
thyroid	enlarged		1 (2)	0 (0)	1 (3)	1 (3)
ovary	enlarged		1 (2)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (3)	0 (0)
	cyst		2 (4)	5 (13)	4 (11)	1 (3)
uterus	nodule		2 (4)	7 (18)	6 (17)	3 (10)
	dilated		1 (2)	0 (0)	0 (0)	1 (3)
	dilated lumen		0 (0)	1 (3)	0 (0)	0 (0)
eye	turbid		1 (2)	0 (0)	0 (0)	0 (0)
	white		6 (13)	2 (5)	1 (3)	4 (13)
	red		0 (0)	1 (3)	0 (0)	0 (0)
Zymbal gl	nodule		0 (0)	0 (0)	0 (0)	1 (3)
peritoneum	nodule		0 (0)	0 (0)	0 (0)	1 (3)
retroperit	mass		0 (0)	0 (0)	0 (0)	1 (3)
other	tail:nodule		0 (0)	1 (3)	0 (0)	0 (0)
	upper jaw:nodule		0 (0)	0 (0)	0 (0)	1 (3)
	nose:nodule		1 (2)	0 (0)	0 (0)	0 (0)

BAIS 4

APPENDIX H 5

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name NO. of Animals	Control 13 (%)	2000 ppm 11 (%)	4000 ppm 18 (%)	8000 ppm 48 (%)
skin/app	hemorrhage		0 (0)	0 (0)	0 (0)	1 (2)
	nodule		1 (8)	0 (0)	0 (0)	3 (6)
	ulcer		0 (0)	0 (0)	0 (0)	1 (2)
subcutis	edema		0 (0)	0 (0)	0 (0)	1 (2)
	jaundice		2 (15)	0 (0)	0 (0)	0 (0)
	mass		0 (0)	0 (0)	2 (11)	0 (0)
lung	red		0 (0)	0 (0)	0 (0)	2 (4)
	white zone		0 (0)	0 (0)	0 (0)	1 (2)
	red zone		1 (8)	1 (9)	1 (6)	3 (6)
	edema		1 (8)	0 (0)	0 (0)	2 (4)
	nodule		0 (0)	1 (9)	0 (0)	0 (0)
	voluminous		0 (0)	0 (0)	0 (0)	1 (2)
lymph node	enlarged		0 (0)	1 (9)	1 (6)	1 (2)
spleen	enlarged		7 (54)	4 (36)	2 (11)	1 (2)
	white zone		0 (0)	0 (0)	0 (0)	1 (2)
	nodule		0 (0)	0 (0)	2 (11)	0 (0)
heart	enlarged		0 (0)	1 (9)	0 (0)	2 (4)
	white zone		0 (0)	0 (0)	1 (6)	1 (2)
artery/aort	induration		0 (0)	0 (0)	4 (22)	21 (44)
capillary	thick		0 (0)	0 (0)	0 (0)	1 (2)
tongue	swollen		0 (0)	0 (0)	0 (0)	2 (4)
	nodule		0 (0)	0 (0)	0 (0)	1 (2)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 2

Organ	Findings	Group Name NO. of Animals	Control 13 (%)	2000 ppm 11 (%)	4000 ppm 18 (%)	8000 ppm 48 (%)
forestomach	ulcer		1 (8)	1 (9)	1 (6)	0 (0)
gl stomach	granular		0 (0)	0 (0)	0 (0)	1 (2)
	ulcer		1 (8)	0 (0)	0 (0)	0 (0)
	thick		0 (0)	0 (0)	2 (11)	0 (0)
small intes	red zone		0 (0)	1 (9)	0 (0)	0 (0)
	gas		1 (8)	0 (0)	0 (0)	1 (2)
cecum	red zone		1 (8)	0 (0)	0 (0)	0 (0)
	gas		1 (8)	0 (0)	0 (0)	0 (0)
liver	enlarged		0 (0)	1 (9)	0 (0)	1 (2)
	green		0 (0)	0 (0)	0 (0)	3 (6)
	brown		0 (0)	0 (0)	0 (0)	4 (8)
	white patch		0 (0)	0 (0)	0 (0)	1 (2)
	white zone		0 (0)	0 (0)	1 (6)	22 (46)
	red zone		1 (8)	0 (0)	0 (0)	2 (4)
	brown zone		0 (0)	0 (0)	0 (0)	4 (8)
	black zone		0 (0)	0 (0)	0 (0)	4 (8)
	nodule		1 (8)	1 (9)	1 (6)	13 (27)
	rough		1 (8)	0 (0)	0 (0)	0 (0)
	herniation		2 (15)	0 (0)	3 (17)	8 (17)
kidney	enlarged		0 (0)	0 (0)	0 (0)	1 (2)
	white zone		1 (8)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	1 (9)	0 (0)	0 (0)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 3

Organ	Findings	Group Name NO. of Animals	Control 13 (%)	2000 ppm 11 (%)	4000 ppm 18 (%)	8000 ppm 48 (%)
kidney	cyst		0 (0)	0 (0)	1 (6)	2 (4)
	granular		1 (8)	1 (9)	11 (61)	46 (96)
urin bladd	urine:marked retention		0 (0)	1 (9)	2 (11)	0 (0)
	urine:red		0 (0)	1 (9)	1 (6)	0 (0)
pituitary	enlarged		2 (15)	1 (9)	3 (17)	1 (2)
	red zone		1 (8)	1 (9)	0 (0)	1 (2)
	nodule		2 (15)	1 (9)	0 (0)	3 (6)
thyroid	enlarged		1 (8)	0 (0)	1 (6)	1 (2)
adrenal	enlarged		0 (0)	0 (0)	1 (6)	0 (0)
testis	atrophic		2 (15)	1 (9)	1 (6)	5 (10)
	nodule		3 (23)	6 (55)	16 (89)	44 (92)
brain	red zone		1 (8)	1 (9)	2 (11)	0 (0)
	red patch		0 (0)	1 (9)	0 (0)	0 (0)
	hemorrhage		0 (0)	0 (0)	1 (6)	0 (0)
	nodule		0 (0)	1 (9)	0 (0)	0 (0)
spinal cord	red zone		2 (15)	1 (9)	0 (0)	0 (0)
	nodule		0 (0)	1 (9)	0 (0)	0 (0)
eye	turbid		0 (0)	0 (0)	3 (17)	6 (13)
	white		1 (8)	0 (0)	0 (0)	1 (2)
	red		0 (0)	0 (0)	0 (0)	5 (10)
	brown		1 (8)	0 (0)	0 (0)	0 (0)
Zymbal gl	nodule		0 (0)	1 (9)	0 (0)	1 (2)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 4

Organ	Findings	Group Name NO. of Animals	Control 13 (%)	2000 ppm 11 (%)	4000 ppm 18 (%)	8000 ppm 48 (%)
bone	nodule		0 (0)	1 (9)	0 (0)	0 (0)
vertebra	nodule		0 (0)	0 (0)	1 (6)	0 (0)
pleura	nodule		0 (0)	1 (9)	0 (0)	0 (0)
mediastinum	mass		0 (0)	1 (9)	0 (0)	0 (0)
peritoneum	nodule		0 (0)	0 (0)	1 (6)	0 (0)
	thick		1 (8)	0 (0)	0 (0)	0 (0)
abdominal c	hemorrhage		1 (8)	0 (0)	1 (6)	0 (0)
	mass		2 (15)	0 (0)	0 (0)	0 (0)
	ascites		2 (15)	0 (0)	1 (6)	3 (6)
thoracic ca	pleural fluid		1 (8)	1 (9)	0 (0)	16 (33)
other	hindlimb:nodule		0 (0)	0 (0)	0 (0)	1 (2)
	tail:scab		0 (0)	0 (0)	0 (0)	1 (2)

BAIS 4

(HPT080)

APPENDIX H 6

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 5

Organ	Findings	Group Name NO. of Animals	Control 5 (%)	2000 ppm 12 (%)	4000 ppm 15 (%)	8000 ppm 18 (%)
skin/app	nodule		0 (0)	1 (8)	1 (7)	1 (6)
subcutis	jaundice		1 (20)	1 (8)	2 (13)	0 (0)
	mass		1 (20)	2 (17)	2 (13)	1 (6)
lung	dark		0 (0)	0 (0)	0 (0)	1 (6)
	white zone		0 (0)	1 (8)	0 (0)	4 (22)
	red zone		0 (0)	1 (8)	2 (13)	1 (6)
	edema		0 (0)	0 (0)	0 (0)	1 (6)
	nodule		0 (0)	0 (0)	0 (0)	1 (6)
lymph node	enlarged		0 (0)	0 (0)	3 (20)	0 (0)
spleen	enlarged		2 (40)	6 (50)	0 (0)	0 (0)
	black zone		0 (0)	0 (0)	1 (7)	0 (0)
heart	white zone		1 (20)	0 (0)	0 (0)	0 (0)
	red zone		0 (0)	0 (0)	1 (7)	0 (0)
artery/aort	induration		0 (0)	0 (0)	0 (0)	1 (6)
tongue	nodule		0 (0)	0 (0)	0 (0)	1 (6)
	cyst		0 (0)	0 (0)	0 (0)	1 (6)
esophagus	dilated		0 (0)	1 (8)	0 (0)	0 (0)
forestomach	ulcer		1 (20)	1 (8)	0 (0)	1 (6)
gl stomach	ulcer		1 (20)	0 (0)	0 (0)	1 (6)
stomach	nodule		0 (0)	1 (8)	0 (0)	0 (0)
liver	white zone		0 (0)	1 (8)	3 (20)	0 (0)
	brown zone		0 (0)	0 (0)	0 (0)	1 (6)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 6

Organ	Findings	Group Name NO. of Animals	Control 5 (%)	2000 ppm 12 (%)	4000 ppm 15 (%)	8000 ppm 18 (%)
liver	nodule		0 (0)	0 (0)	0 (0)	3 (17)
	rough		1 (20)	1 (8)	0 (0)	0 (0)
	adhesion		0 (0)	0 (0)	1 (7)	0 (0)
	herniation		1 (20)	1 (8)	2 (13)	1 (6)
	accentuation of lobular structure		0 (0)	0 (0)	0 (0)	1 (6)
pancreas	nodule		0 (0)	0 (0)	2 (13)	0 (0)
kidney	white zone		1 (20)	0 (0)	0 (0)	0 (0)
	granular		0 (0)	0 (0)	0 (0)	12 (67)
	hydronephrosis		0 (0)	2 (17)	2 (13)	1 (6)
pituitary	enlarged		2 (40)	1 (8)	3 (20)	2 (11)
	red zone		0 (0)	2 (17)	0 (0)	0 (0)
	black zone		1 (20)	0 (0)	0 (0)	0 (0)
	nodule		1 (20)	0 (0)	1 (7)	0 (0)
thyroid	enlarged		0 (0)	0 (0)	0 (0)	1 (6)
ovary	enlarged		0 (0)	0 (0)	2 (13)	0 (0)
	nodule		0 (0)	0 (0)	1 (7)	0 (0)
	cyst		0 (0)	0 (0)	0 (0)	1 (6)
uterus	enlarged		0 (0)	1 (8)	1 (7)	0 (0)
	nodule		2 (40)	6 (50)	6 (40)	4 (22)
	cyst		0 (0)	1 (8)	0 (0)	0 (0)
	adhesion		0 (0)	0 (0)	1 (7)	0 (0)
	dilated lumen		0 (0)	0 (0)	0 (0)	1 (6)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 7

Organ	Findings	Group Name NO. of Animals	Control 5 (%)	2000 ppm 12 (%)	4000 ppm 15 (%)	8000 ppm 18 (%)
vagina	nodule		0 (0)	1 (8)	0 (0)	0 (0)
brain	red zone		0 (0)	1 (8)	1 (7)	0 (0)
	soft		0 (0)	0 (0)	1 (7)	0 (0)
spinal cord	red zone		0 (0)	2 (17)	0 (0)	0 (0)
eye	white		0 (0)	1 (8)	0 (0)	1 (6)
	red		0 (0)	0 (0)	0 (0)	1 (6)
Zymbal gl	nodule		0 (0)	0 (0)	1 (7)	0 (0)
muscle	nodule		0 (0)	0 (0)	1 (7)	0 (0)
peritoneum	nodule		0 (0)	0 (0)	4 (27)	1 (6)
	adhesion		0 (0)	0 (0)	0 (0)	1 (6)
	thick		0 (0)	0 (0)	0 (0)	1 (6)
retroperit	mass		0 (0)	1 (8)	1 (7)	0 (0)
abdominal c	ascites		0 (0)	1 (8)	4 (27)	1 (6)
thoracic ca	pleural fluid		0 (0)	2 (17)	1 (7)	8 (44)
other	nose:nodule		0 (0)	0 (0)	1 (7)	0 (0)

APPENDIX I 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE
 UNIT: g

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

PAGE : 1

Group Name	NO. of Animals	Body Weight	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	37	371± 34	0.072± 0.014	3.484± 1.254	1.198± 0.091	1.362± 0.087	2.577± 0.287
2000 ppm	39	366± 39	0.139± 0.368	4.411± 3.496	1.270± 0.182	1.562± 0.394**	2.839± 0.419**
4000 ppm	32	313± 34**	0.089± 0.066	4.515± 2.197	1.236± 0.169	1.560± 0.284**	3.358± 0.541**
8000 ppm	2	216± 6 ?	0.077± 0.030 ?	1.735± 0.738 ?	1.270± 0.301 ?	1.247± 0.021 ?	3.559± 0.054 ?

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

Test of Dunnett

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

(HCL040)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE
 UNIT: g

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

PAGE : 2

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
Control	37	0.962±	0.448	9.809±	1.142	2.069±	0.092
2000 ppm	39	1.452±	2.882	11.564±	2.085**	2.084±	0.061
4000 ppm	32	1.098±	0.262**	14.804±	1.525**	2.118±	0.054**
8000 ppm	2	0.531±	0.081 ?	16.305±	4.564 ?	2.042±	0.131 ?

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

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

(HCL040)

BAIS 4

APPENDIX I 2

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

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

PAGE : 3

Group Name	NO. of Animals	Body Weight	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	45	244± 29	0.072± 0.010	0.169± 0.226	0.877± 0.069	1.025± 0.095	1.699± 0.152
2000 ppm	38	211± 31**	0.067± 0.011*	0.155± 0.168	0.827± 0.092*	1.026± 0.075	1.649± 0.178
4000 ppm	35	194± 25**	0.065± 0.010**	0.265± 0.763	0.819± 0.070**	1.006± 0.073	1.870± 0.283*
8000 ppm	31	165± 20**	0.064± 0.010**	0.124± 0.089	0.842± 0.088	1.013± 0.096	2.318± 0.501**

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

Test of Dunnett

(HCL040)

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

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

PAGE : 4

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
Control	45	0.691±	0.594	6.287±	0.966	1.895±	0.047
2000 ppm	38	0.524±	0.201	5.997±	1.233	1.922±	0.042*
4000 ppm	35	0.618±	0.150*	7.447±	1.405**	1.933±	0.046**
8000 ppm	31	0.689±	0.230*	10.078±	2.085**	1.932±	0.056**

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

Test of Dunnett

(ICL040)

BAIS 4

APPENDIX J 1

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE
 UNIT: %

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

PAGE : 1

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	37	371± 34	0.020± 0.006	0.939± 0.338	0.325± 0.034	0.369± 0.031	0.703± 0.128
2000 ppm	39	366± 39	0.038± 0.096	1.182± 0.861	0.351± 0.065	0.437± 0.156**	0.791± 0.200*
4000 ppm	32	313± 34**	0.030± 0.025**	1.442± 0.668**	0.403± 0.090**	0.506± 0.126**	1.094± 0.264**
8000 ppm	2	216± 6 ?	0.036± 0.013 ?	0.799± 0.321 ?	0.587± 0.124 ?	0.578± 0.025 ?	1.649± 0.069 ?

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

Test of Dunnett

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

(HCL042)

BAIS 4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: %

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

PAGE : 2

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	37	0.259 ± 0.112	2.655 ± 0.299	0.562 ± 0.050
2000 ppm	39	0.417 ± 0.915	3.194 ± 0.715**	0.576 ± 0.067
4000 ppm	32	0.349 ± 0.072**	4.768 ± 0.551**	0.685 ± 0.079**
8000 ppm	2	0.246 ± 0.030 ?	7.523 ± 1.916 ?	0.945 ± 0.036 ?

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

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

(HCL042)

BAIS 4

APPENDIX J 2

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT: %

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

PAGE : 3

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	45	244± 29	0.030± 0.005	0.069± 0.092	0.363± 0.041	0.427± 0.074	0.703± 0.077
2000 ppm	38	211± 31**	0.032± 0.007	0.079± 0.109**	0.396± 0.050*	0.497± 0.087**	0.793± 0.111*
4000 ppm	35	194± 25**	0.034± 0.007*	0.140± 0.410**	0.425± 0.042**	0.524± 0.064**	0.975± 0.179**
8000 ppm	31	165± 20**	0.039± 0.008**	0.075± 0.052**	0.518± 0.082**	0.624± 0.108**	1.423± 0.344**

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

Test of Dunnett

(ICL042)

BAIS 4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE
 UNIT: %

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

PAGE : 4

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	45	0.286 ± 0.247	2.590 ± 0.331	0.789 ± 0.104
2000 ppm	38	0.249 ± 0.084	2.854 ± 0.456	0.931 ± 0.148**
4000 ppm	35	0.318 ± 0.063**	3.841 ± 0.596**	1.010 ± 0.125**
8000 ppm	31	0.411 ± 0.110**	6.098 ± 0.944**	1.188 ± 0.131**

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

(HCL042)

BAIS 4

APPENDIX K 1

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : ALL ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			<50>				<50>				<50>				<50>			
	inflammation		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)
	fibrosis		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)
subcutis	scar		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)
	scar:dermis		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)
	epidermal 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)
abscess			<50>				<50>				<50>				<50>			
			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)
{Respiratory system}																		
nasal cavit			<50>				<50>				<50>				<50>			
	thrombus		3	0	0	0	2	0	0	0	2	0	0	0	5	0	0	0
			(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(10)	(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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 2

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit	mineralization		<50>				<50>				<50>				<50>			
			20	0	0	0	20	0	0	0	18	0	0	0	13	0	0	0
			(40)	(0)	(0)	(0)	(40)	(0)	(0)	(0)	(36)	(0)	(0)	(0)	(26)	(0)	(0)	(0)
	eosinophilic change:olfactory epithelium		12	14	7	0	13	9	7	0	13	14	12	0	8	2	0	0 **
			(24)	(28)	(14)	(0)	(25)	(18)	(14)	(0)	(26)	(28)	(24)	(0)	(16)	(4)	(0)	(0)
	inflammation:foreign body		18	0	0	0	11	1	1	0	10	1	1	0	10	1	0	0
			(36)	(0)	(0)	(0)	(22)	(2)	(2)	(0)	(20)	(2)	(2)	(0)	(20)	(2)	(0)	(0)
nasopharynx	inflammation:foreign body		<50>				<50>				<50>				<50>			
			1	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0
			(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
larynx	inflammation		<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)
lung	congestion		<50>				<50>				<50>				<50>			
			2	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0
			(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	hemorrhage		0	0	0	0	3	0	0	0	0	1	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(2)	(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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 3

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50				
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
{Respiratory system}																			
lung			<50>				<50>				<50>				<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)	
	osseous metaplasia		1	0	0	0	5	0	0	0	0	0	0	0	3	0	0	0	
			(2)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	
	fibrosis		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)	
	accumulation of foamy cells		6	0	0	0	8	0	0	0	10	0	0	0	9	0	0	0	
			(12)	(0)	(0)	(0)	(16)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	
	bronchiolar-alveolar cell hyperplasia		8	1	0	0	0	1	0	0	0 *	0	0	0	0 **	0	0	0	0 **
			(16)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	uremic pneumonitis		0	0	0	0	0	0	0	0	5	0	1	0 *	18	3	0	0 **	
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(2)	(0)	(36)	(6)	(0)	(0)	
{Hematopoietic system}																			
bone marrow			<50>				<50>				<50>				<50>				
	granulation		0	0	0	0	1	0	0	0	2	1	0	0	0	0	0	0	
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 4

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Hematopoietic system)																		
bone marrow	increased hematopoiesis		<50>				<50>				<50>				<50>			
			7	0	0	0	6	0	0	0	9	0	0	0	9	0	0	0
			(14)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	(18)	(0)	(0)	(0)
lymph node	hemorrhage		<50>				<50>				<50>				<50>			
			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)
	lymphadenitis		1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
spleen	deposit of hemosiderin		<50>				<50>				<50>				<50>			
			35	5	0	0	24	15	1	0 *	18	22	6	0 **	34	12	0	0
			(70)	(10)	(0)	(0)	(48)	(30)	(2)	(0)	(36)	(44)	(12)	(0)	(68)	(24)	(0)	(0)
	fibrosis:focal		0	0	0	0	3	0	0	0	2	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	extramedullary hematopoiesis		5	2	1	0	6	1	1	0	6	1	3	0	7	3	0	0
			(10)	(4)	(2)	(0)	(12)	(2)	(2)	(0)	(12)	(2)	(6)	(0)	(14)	(6)	(0)	(0)
	capsule hyperplasia		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																	

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 5

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Circulatory system)																		
heart	dilatation		<50>				<50>				<50>				<50>			
			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)
	thrombus		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)
	mineralization		0	0	0	0	0	0	0	0	1	1	0	0	18	0	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(2)	(0)	(0)	(36)	(0)	(0)	(0)
	myocardial fibrosis		23	2	0	0	28	1	0	0	22	3	0	0	28	0	0	0
			(46)	(4)	(0)	(0)	(56)	(2)	(0)	(0)	(44)	(6)	(0)	(0)	(56)	(0)	(0)	(0)
	endomyocardial fibrosis		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)	(0)	(0)	(0)	(0)
artery/aort	mineralization		<50>				<50>				<50>				<50>			
			0	0	0	0	0	0	0	0	3	0	0	0	16	0	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(32)	(0)	(0)	(0)
(Digestive system)																		
tongue	edema		<50>				<50>				<50>				<50>			
			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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 6

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
tongue	mineralization		<50>				<50>				<50>				<50>			
		0	0	0	0	0	0	0	0	5	0	0	0	19	0	0	0 **	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(38)	(0)	(0)	(0)
	arteritis		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)	
stomach	mineralization		<50>				<50>				<50>				<50>			
		0	0	0	0	1	0	0	0	4	5	0	0 **	16	15	4	0 **	
		(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(8)	(10)	(0)	(0)	(32)	(30)	(8)	(0)	
	intestinal metaplasia		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)	
	basal cell hyperplasia		0	0	0	0	2	0	0	0	2	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	
	erosion:forestomach		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)	(0)	(0)	(0)	(0)	
	ulcer:forestomach		0	1	3	0	0	2	1	0	0	0	1	0	0	0	0	0
		(0)	(2)	(6)	(0)	(0)	(4)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	
	erosion:glandular stomach		2	1	0	0	2	0	0	0	2	0	0	0	0	0	0	0
		(4)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(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																		

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 7

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Digestive system)																		
stomach	squamous cell hyperplasia:forestomach		<50>				<50>				<50>				<50>			
			5	0	0	0	8	0	0	0	7	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(16)	(0)	(0)	(0)	(14)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver	herniation		<50>				<50>				<50>				<50>			
			8	0	0	0	4	0	0	0	6	0	0	0	8	0	0	0
			(16)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(16)	(0)	(0)	(0)
	necrosis:zonal		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:central		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)
	ground glass appearance		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)
	granulation		11	1	0	0	8	2	2	0	11	8	1	0	2	0	0	0 *
			(22)	(2)	(0)	(0)	(16)	(4)	(4)	(0)	(22)	(16)	(2)	(0)	(4)	(0)	(0)	(0)
	clear cell focus		4	0	0	0	1	0	0	0	5	1	0	0	3	2	0	0
			(8)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(10)	(2)	(0)	(0)	(6)	(4)	(0)	(0)
	acidophilic cell focus		1	0	0	0	2	1	0	0	2	2	0	0	3	0	0	0
			(2)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(4)	(4)	(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																		

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 ALL ANIMALS (0-105%)

PAGE : 8

Organ_____	Findings_____	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Digestive system}																		
liver			<50>				<50>				<50>				<50>			
	basophilic cell focus		4 (8)	0 (0)	0 (0)	0 (0)	7 (14)	1 (2)	0 (0)	0 (0)	23 (46)	4 (8)	0 (0)	0 ** (0)	19 (38)	2 (4)	0 (0)	0 ** (0)
	spongiosis hepatitis		0 (0)	0 (0)	0 (0)	0 (0)	5 (10)	0 (0)	0 (0)	0 (0)	8 (16)	1 (2)	1 (2)	0 * (0)	11 (22)	1 (2)	0 (0)	0 ** (0)
	bile duct hyperplasia		45 (90)	3 (6)	0 (0)	0 (0)	49 (98)	1 (2)	0 (0)	0 (0)	49 (98)	0 (0)	0 (0)	0 (0)	47 (94)	1 (2)	0 (0)	0 (0)
	vacuolic change:central		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)
pancreas			<50>				<50>				<50>				<50>			
	atrophy		6 (12)	0 (0)	0 (0)	0 (0)	7 (14)	0 (0)	0 (0)	0 (0)	3 (6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 * (0)
	arteritis		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)
	islet cell hyperplasia		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)
{Urinary system}																		
kidney			<50>				<50>				<50>				<50>			
	atypical tubular dilatation:proximal tubule		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)

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 9

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50						
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)			
{Urinary system}																					
kidney			<50>				<50>				<50>				<50>						
	cyst		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	8 (16)	0 (0)	0 (0)	0 (0)	**		
	inflammation		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)	0 (0)	0 (0)	0		
	chronic nephropathy		22 (44)	15 (30)	8 (16)	1 (2)	10 (20)	14 (28)	24 (48)	1 (2)	**	0 (0)	1 (2)	25 (50)	23 (46)	**	1 (2)	0 (0)	1 (2)	48 (96)	**
	mineralization:cortico-medullary junction		3 (6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0	
	mineralization:papilla		8 (16)	0 (0)	0 (0)	0 (0)	7 (14)	0 (0)	0 (0)	0 (0)	8 (16)	26 (52)	14 (28)	0 (0)	**	37 (74)	9 (18)	0 (0)	0 (0)	0 (0)	**
urin bladd	urothelial hyperplasia:pelvis		12 (24)	0 (0)	0 (0)	0 (0)	6 (12)	0 (0)	0 (0)	0 (0)	34 (68)	1 (2)	0 (0)	0 (0)	**	35 (70)	0 (0)	0 (0)	0 (0)	**	
	hemorrhage		<50>				<50>				<50>				<50>						
{Endocrine system}																					
pituitary			<50>				<50>				<50>				<50>						
	cyst		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)	0 (0)	0 (0)	

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 10

Organ	Findings	Group Name	Control				2000 ppm				4000 ppm				8000 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>			
	hyperplasia		10	1	0	0	11	0	0	0	6	0	0	0	3	0	0	0
			(20)	(2)	(0)	(0)	(22)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	osseous metaplasia		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)
	Rathke pouch		1	0	0	0	6	0	0	0	1	0	0	0	5	0	0	0
			(2)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	aberrant craniopharyngeal tissue		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)
thyroid			<50>				<50>				<50>				<50>			
	C-cell hyperplasia		2	1	0	0	3	0	0	0	6	0	0	0	3	0	0	0
			(4)	(2)	(0)	(0)	(6)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	focal follicular cell hyperplasia		0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	vacuolar change;follicular cell		1	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)	
parathyroid			<50>				<50>				<50>				<50>			
	hyperplasia		0	0	0	0	0	0	0	0	6	0	0	0 *	23	0	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(46)	(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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 11

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
adrenal	hemorrhage		<50>				<50>				<50>				<50>			
			0	0	0	0	0	0	0	0	2	0	0	0	13	0	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(26)	(0)	(0)	(0)
	hyperplasia:cortical 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)
	hyperplasia:medulla		3	0	0	0	6	0	0	0	4	0	0	0	3	0	0	0
			(6)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	focal fatty change:cortex		3	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0
			(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(2)	(0)	(0)	(0)
	necrosis:cortex		0	0	0	0	0	0	0	0	2	0	0	0	10	0	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
{Reproductive system}																		
testis	atrophy		<50>				<50>				<50>				<50>			
			36	14	0	0	38	10	0	0	43	5	0	0 *	37	11	0	0
			(72)	(28)	(0)	(0)	(76)	(20)	(0)	(0)	(86)	(10)	(0)	(0)	(74)	(22)	(0)	(0)
	interstitial cell hyperplasia		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)

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 12

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
epididymis	inflammation		<50>				<50>				<50>				<50>			
			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)
prostate	inflammation		<50>				<50>				<50>				<50>			
			15	2	0	0	3	1	0	0 **	7	2	0	0	10	0	0	0
			(30)	(4)	(0)	(0)	(6)	(2)	(0)	(0)	(14)	(4)	(0)	(0)	(20)	(0)	(0)	(0)
	hyperplasia		<50>				<50>				<50>				<50>			
			8	0	0	0	9	0	0	0	6	1	0	0	0	0	0	0 **
			(16)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	(12)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
mammary gl	hyperplasia		<50>				<50>				<50>				<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)
	galactoceles		<50>				<50>				<50>				<50>			
			7	0	0	0	3	0	0	0	2	0	0	0	2	0	0	0
			(14)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye	cataract		<50>				<50>				<50>				<50>			
			0	0	0	0	3	0	0	0	1	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 13

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 50			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Special sense organs/appendage}																		
eye	retinal atrophy		<50>				<50>				<50>				<50>			
			0	0	0	0	3	0	0	0	1	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
Harder gl	lymphocytic infiltration		<50>				<50>				<50>				<50>			
			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)	(0)
	granulation		<50>				<50>				<50>				<50>			
			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)
{Musculoskeletal system}																		
muscle	mineralization		<50>				<50>				<50>				<50>			
			0	0	0	0	0	0	0	0	4	0	0	0	7	0	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(14)	(0)	(0)	(0)
{Body cavities}																		
mesenterium	arteritis		<50>				<50>				<50>				<50>			
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)

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 2

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : ALL ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 14

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			<50>				<50>				<50>				<49>			
	scar		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)	(0)	(0)	(0)	(0)
	hyperplasia: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)
	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			<50>				<50>				<50>				<49>			
	thrombus		2	0	0	0	2	0	0	0	4	0	0	0	3	0	0	0
			(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	mineralization		25	0	0	0	13	0	0	0 *	16	0	0	0	8	0	0	0 **
			(50)	(0)	(0)	(0)	(26)	(0)	(0)	(0)	(32)	(0)	(0)	(0)	(16)	(0)	(0)	(0)
	eosinophilic change:olfactory epithelium		3	15	31	0	4	15	25	0	11	15	22	0	7	23	12	0 **
			(6)	(30)	(62)	(0)	(8)	(30)	(50)	(0)	(22)	(30)	(44)	(0)	(14)	(47)	(24)	(0)
	inflammation:foreign body		3	0	1	0	1	0	0	0	0	1	0	0	3	0	0	0
			(6)	(0)	(2)	(0)	(2)	(0)	(0)	(0)	(0)	(2)	(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 ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 15

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
lung			<50>				<50>				<50>				<49>			
	congestion		2	0	0	0	1	0	0	0	3	0	0	0	2	0	0	0
			(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	hemorrhage		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)
	foreign body granuloma		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)
	osseous metaplasia		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)
	fibrosis		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)
	accumulation of foamy cells		7	0	0	0	8	1	0	0	9	1	0	0	8	1	0	0
			(14)	(0)	(0)	(0)	(16)	(2)	(0)	(0)	(18)	(2)	(0)	(0)	(16)	(2)	(0)	(0)
	bronchiolar-alveolar cell hyperplasia		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)	(0)
	uremic pneumonitis		0	0	0	0	0	0	0	0	0	0	0	0	5	3	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(6)	(0)	(0)

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 16

Organ	Findings	Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	50				50				50				49			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Hematopoietic system)																		
bone marrow	granulation		<50>				<50>				<50>				<49>			
		9 (18)	2 (4)	0 (0)	0 (0)	10 (20)	2 (4)	1 (2)	0 (0)	9 (18)	4 (8)	0 (0)	0 (0)	13 (27)	2 (4)	1 (2)	0 (0)	
	increased hematopoiesis		5 (10)	0 (0)	0 (0)	0 (0)	7 (14)	0 (0)	0 (0)	0 (0)	8 (16)	0 (0)	0 (0)	0 (0)	7 (14)	0 (0)	0 (0)	0 (0)
lymph node	deposit of hemosiderin		<50>				<50>				<50>				<49>			
		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)	0 (0)
	lymphadenitis		2 (4)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)
spleen	deposit of hemosiderin		<50>				<50>				<50>				<49>			
		7 (14)	30 (60)	7 (14)	0 (0)	6 (12)	25 (50)	12 (24)	0 (0)	5 (10)	17 (34)	25 (50)	0 ** (0)	12 (24)	18 (37)	14 (29)	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)	2 (4)	0 (0)	0 (0)	0 (0)	
	extramedullary hematopoiesis		8 (16)	0 (0)	1 (2)	0 (0)	5 (10)	1 (2)	4 (8)	0 (0)	4 (8)	1 (2)	5 (10)	0 (0)	5 (10)	2 (4)	3 (6)	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																		

BAIS4

(HPT150)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 17

		Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	50				50				50				49			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Organ	Findings		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<hr/>																		
(Circulatory system)																		
heart			<50>				<50>				<50>				<49>			
	thrombus		0	0	0	0	1	0	0	0	0	0	1	0	4	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(8)	(0)	(0)	(0)
	mineralization		0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	inflammatory cell nest		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)	
	myocardial fibrosis		16	0	0	0	21	0	0	0	24	0	0	0	27	0	0	0 *
			(32)	(0)	(0)	(0)	(42)	(0)	(0)	(0)	(48)	(0)	(0)	(0)	(55)	(0)	(0)	(0)
	endomyocardial fibrosis		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)
artery/aort			<50>				<50>				<50>				<49>			
	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)
<hr/>																		
(Digestive system)																		
tongue			<50>				<50>				<50>				<49>			
	edema		0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	0 *
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(12)	(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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 18

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
tongue	mineralization		<50>				<50>				<50>				<49>			
			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)
	hyperplasia: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)
stomach	mineralization		<50>				<50>				<50>				<49>			
			0	0	0	0	0	0	0	0	0	0	0	0	10	1	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(2)	(0)	(0)
	basal cell hyperplasia		0	0	0	0	3	0	0	0	1	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	erosion:forestomach		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)	(0)	(0)	(0)	(0)
	ulcer:forestomach		0	0	1	0	2	2	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(2)	(0)	(4)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	erosion:glandular stomach		1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(2)	(0)	(0)
	squamous cell hyperplasia:forestomach		4	0	0	0	6	0	0	0	3	0	0	0	5	1	1	0
			(8)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(10)	(2)	(2)	(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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 19

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
large intes	ulcer		<50>				<50>				<50>				<49>			
			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)
	xanthogranuloma		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)
liver	herniation		<50>				<50>				<50>				<49>			
			9	0	0	0	7	0	0	0	10	0	0	0	4	0	0	0
			(18)	(0)	(0)	(0)	(14)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
	peliosis-like lesion		1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	necrosis:central		0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(2)	(0)	(0)
	degeneration:central		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)
	granulation		26	2	5	0	21	5	4	0	26	1	5	0	11	5	3	0 **
			(52)	(4)	(10)	(0)	(42)	(10)	(8)	(0)	(52)	(2)	(10)	(0)	(22)	(10)	(6)	(0)
	clear cell focus		2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference : * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 20

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<50>				<50>				<50>				<49>			
	basophilic cell focus		13 (26)	1 (2)	0 (0)	0 (0)	12 (24)	0 (0)	0 (0)	0 (0)	12 (24)	0 (0)	0 (0)	0 (0)	13 (27)	1 (2)	0 (0)	0 (0)
	spongiosis hepatitis		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 (4)	0 (0)	0 (0)	0 (0)
	bile duct hyperplasia		7 (14)	0 (0)	0 (0)	0 (0)	5 (10)	0 (0)	0 (0)	0 (0)	5 (10)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)
	cholangiofibrosis		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)
pancreas	biliary 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 (2)	0 (0)	0 (0)	0 (0)
	atrophy		1 (2)	1 (2)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (6)	0 (0)	0 (0)	0 (0)
	arteritis		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)
	islet cell hyperplasia		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)

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 21

Organ	Findings	Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	50				50				50				49			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Urinary system)																		
kidney			<50>				<50>				<50>				<49>			
	infarct		0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(6)	(0)	(0)	(0)
	cyst		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)
	chronic nephropathy		12	2	3	0	8	2	1	0	9	16	9	1 **	4	5	22	17 **
			(24)	(4)	(6)	(0)	(16)	(4)	(2)	(0)	(18)	(32)	(18)	(2)	(8)	(10)	(45)	(35)
	hydronephrosis		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)	(4)	(0)	(0)	(0)	
	papillary necrosis		0	0	0	0	1	0	0	0	1	1	0	0	0	0	2	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(4)	(0)
	mineralization:cortico-medullary junction		6	0	0	0	5	0	0	0	2	0	0	0	0	0	0	0 *
			(12)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization:papilla		5	0	0	0	14	0	0	0 *	19	15	7	0 **	17	15	11	0 **
			(10)	(0)	(0)	(0)	(28)	(0)	(0)	(0)	(38)	(30)	(14)	(0)	(35)	(31)	(22)	(0)
	dilatation:tubular lumen		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)	(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																		

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 22

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney	urothelial hyperplasia:pelvis		<50>				<50>				<50>				<49>			
			1	0	0	0	2	0	0	0	4	1	0	0	11	0	0	0 **
			(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(8)	(2)	(0)	(0)	(22)	(0)	(0)	(0)
{Endocrine system}																		
pituitary	cyst		<50>				<50>				<50>				<49>			
			12	1	0	0	13	0	0	0	9	0	0	0	8	0	0	0
			(24)	(2)	(0)	(0)	(26)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	(16)	(0)	(0)	(0)
	hyperplasia		<50>				<50>				<50>				<49>			
			8	0	0	0	4	0	0	0	6	1	0	0	5	1	0	0
			(16)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(12)	(2)	(0)	(0)	(10)	(2)	(0)	(0)
	Rathke pouch		<50>				<50>				<50>				<49>			
			3	0	0	0	2	0	0	0	3	0	0	0	4	0	0	0
			(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
thyroid	cyst		<50>				<50>				<50>				<49>			
			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)
	ultimibranhial body remanet		<50>				<50>				<50>				<49>			
			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)	(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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 23

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
thyroid	C-cell hyperplasia		<50>				<50>				<50>				<49>			
			5	0	0	0	5	0	0	0	2	0	0	0	4	0	0	0
			(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
adrenal	hemorrhage		<50>				<50>				<50>				<49>			
			0	0	0	0	1	0	0	0	1	0	0	0	2	4	0	0 *
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(8)	(0)	(0)
	peliosis-like lesion		31	0	0	0	23	0	0	0	18	0	0	0 *	6	0	0	0 **
			(62)	(0)	(0)	(0)	(46)	(0)	(0)	(0)	(36)	(0)	(0)	(0)	(12)	(0)	(0)	(0)
	hyperplasia:cortical cell		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:medulla		2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	focal fatty change:cortex		7	2	0	0	3	0	0	0	6	4	0	0	9	2	0	0
			(14)	(4)	(0)	(0)	(6)	(0)	(0)	(0)	(12)	(8)	(0)	(0)	(18)	(4)	(0)	(0)
	necrosis:cortex		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)
{Reproductive system}																		
ovary	atrophy		<50>				<50>				<50>				<49>			
			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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 24

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
ovary	cyst		<50>				<50>				<50>				<49>			
			1	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0
			(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
uterus	dilatation		<50>				<50>				<50>				<49>			
			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)
	hemorrhage		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)	(0)	(0)	(0)	(0)
	cell atypia		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)
	cystic endometrial hyperplasia		3	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0
			(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
mammary gl	duct ectasia		<50>				<50>				<50>				<49>			
			2	0	0	0	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)
	galactoceles		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)

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

BAIS4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 25

Organ	Findings	Group Name No. of Animals on Study Grade	Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Nervous system}																		
brain	gliosis		<50>				<50>				<50>				<49>			
			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	accumulation of foamy cells		<50>				<50>				<50>				<49>			
			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)
{Special sense organs/appendage}																		
eye	cataract		<50>				<50>				<50>				<49>			
			6	0	0	0	3	0	0	0	1	0	0	0	3	0	0	0
			(12)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	retinal atrophy		<50>				<50>				<50>				<49>			
			5	0	0	0	3	0	0	0	1	0	0	0	4	0	0	0
			(10)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
Harder gl	lymphocytic infiltration		<50>				<50>				<50>				<49>			
			1	0	0	0	1	0	0	0	3	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
{Musculoskeletal system}																		
muscle	mineralization		<50>				<50>				<50>				<49>			
			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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 26

Organ	Findings	Group Name No. of Animals on Study				Control 50				2000 ppm 50				4000 ppm 50				8000 ppm 49			
		Grade																			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Musculoskeletal system)																					
bone	osteosclerosis	<50>				<50>				<50>				<49>							
		4	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
		(8)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference : * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

(HPT150)

BATS4

APPENDIX K 3

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 1

Organ	Findings	Group Name	Control				2000 ppm				4000 ppm				8000 ppm				
		No. of Animals on Study	37				39				32				2				
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
{Integumentary system/appandage}																			
skin/app			<37>				<39>				<32>				< 2>				
	inflammation		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)	
	fibrosis		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)	
	scar:dermis		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)	
	epidermal 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)	
	subcutis			<37>				<39>				<32>				< 2>			
abscess			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)	
{Respiratory system}																			
nasal cavit			<37>				<39>				<32>				< 2>				
	mineralization		13	0	0	0	16	0	0	0	14	0	0	0	0	0	0	0	?
		(35)	(0)	(0)	(0)	(41)	(0)	(0)	(0)	(44)	(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																			
? : Significant test is not applied, because No. of data in this group is less than 3.																			

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrJ
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 2

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<37>				<39>				<32>				< 2>			
	eosinophilic change:olfactory epithelium		11 (30)	13 (35)	7 (19)	0 (0)	12 (31)	8 (21)	7 (18)	0 (0)	8 (25)	12 (38)	8 (25)	0 (0)	1 (50)	0 (0)	0 (0)	? (0)
	inflammation:foreign body		16 (43)	0 (0)	0 (0)	0 (0)	10 (26)	1 (3)	1 (3)	0 (0)	9 (28)	0 (0)	1 (3)	0 (0)	1 (50)	0 (0)	0 (0)	? (0)
nasopharynx			<37>				<39>				<32>				< 2>			
	inflammation:foreign body		1 (3)	0 (0)	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)
lung			<37>				<39>				<32>				< 2>			
	hemorrhage		0 (0)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	? (0)
	osseous metaplasia		0 (0)	0 (0)	0 (0)	0 (0)	5 (13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	? (0)
	fibrosis		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)	? (0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b : Number of animals with lesion
(c) c : b / a * 100
Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
? : Significant test is not applied, because No. of data in this group is less than 3.

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 SACRIFICED ANIMALS (105W)

PAGE : 3

Organ	Findings	Group Name	Control				2000 ppm				4000 ppm				8000 ppm					
		No. of Animals on Study	37				39				32				2					
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)		
{Respiratory system}																				
lung			<37>				<39>				<32>				<2>					
	accumulation of foamy cells	5	0	0	0	0	6	0	0	0	0	8	0	0	0	0	0	0	0	?
		(14)	(0)	(0)	(0)	(0)	(15)	(0)	(0)	(0)	(0)	(25)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	bronchiolar-alveolar cell hyperplasia	8	1	0	0	0	0	1	0	0	0 **	0	0	0	0 *	0	0	0	0	?
		(22)	(3)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	uremic pneumonitis	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	?
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
{Hematopoietic system}																				
bone marrow			<37>				<39>				<32>				<2>					
	granulation	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	?
		(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(3)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	
	increased hematopoiesis	4	0	0	0	0	5	0	0	0	0	6	0	0	0	0	1	0	0	?
		(11)	(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(19)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
 < a > a : Number of animals examined at the site
 b : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
 ? : Significant test is not applied, because No. of data in this group is less than 3.

(IPT150)

BAIS4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 SACRIFICED ANIMALS (105W)

PAGE : 4

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Hematopoietic system)																		
lymph node	hemorrhage		<37>				<39>				<32>				< 2>			
			1	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)	
	lymphadenitis		1	0	0	0	1	0	0	0	2	0	0	0	0	0	0	?
			(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)	
spleen	deposit of hemosiderin		<37>				<39>				<32>				< 2>			
			32	3	0	0	23	11	1	0	14	17	1	0 **	2	0	0	?
			(86)	(8)	(0)	(0)	(59)	(28)	(3)	(0)	(44)	(53)	(3)	(0)	(100)	(0)	(0)	
	fibrosis:focal		0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	?
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	
	extramedullary hematopoiesis		5	0	0	0	6	1	0	0	6	0	2	0	1	0	0	?
			(14)	(0)	(0)	(0)	(15)	(3)	(0)	(0)	(19)	(0)	(6)	(0)	(50)	(0)	(0)	
	capsule hyperplasia		1	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)	

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 5

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2				
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Circulatory system}																			
heart	mineralization		<37>				<39>				<32>				< 2>				
		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	?
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
	myocardial fibrosis	16	0	0	0	24	0	0	0	14	1	0	0	1	0	0	0	0	?
		(43)	(0)	(0)	(0)	(62)	(0)	(0)	(0)	(44)	(3)	(0)	(0)	(50)	(0)	(0)	(0)	(0)	
	endomyocardial fibrosis	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	?
(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
artery/aort	mineralization		<37>				<39>				<32>				< 2>				
		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	?
(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
{Digestive system}																			
tongue	mineralization		<37>				<39>				<32>				< 2>				
		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	?
(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
? : Significant test is not applied, because No. of data in this group is less than 3.

BAIS4

(HPT150)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 6

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
stomach	mineralization		<37>				<39>				<32>				< 2>			
			0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	?
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(3)	(0)	(0)	(0)	(0)	(0)	
	basal cell hyperplasia		0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	?
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)	
	erosion:forestomach		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	?
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	
liver	ulcer:forestomach		0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	?
			(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	erosion:glandular stomach		1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	?
			(3)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	squamous cell hyperplasia:forestomach		1	0	0	0	3	0	0	0	4	0	0	0	0	0	0	?
			(3)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(0)	
liver	herniation		<37>				<39>				<32>				< 2>			
			6	0	0	0	4	0	0	0	3	0	0	0	0	0	0	?
			(16)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(9)	(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 ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
? : Significant test is not applied, because No. of data in this group is less than 3.

BAIS4

(HPT150)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 7

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver	granulation		<37>				<39>				<32>				< 2>			
			11	1	0	0	8	2	2	0	10	8	1	0 *	1	0	0	0 ?
			(30)	(3)	(0)	(0)	(21)	(5)	(5)	(0)	(31)	(25)	(3)	(0)	(50)	(0)	(0)	(0)
	clear cell focus		4	0	0	0	1	0	0	0	5	1	0	0	1	0	0	0 ?
			(11)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(16)	(3)	(0)	(0)	(50)	(0)	(0)	(0)
	acidophilic cell focus		1	0	0	0	2	0	0	0	2	2	0	0	1	0	0	0 ?
			(3)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(6)	(6)	(0)	(0)	(50)	(0)	(0)	(0)
pancreas	basophilic cell focus		4	0	0	0	7	0	0	0	19	4	0	0 **	1	0	0	0 ?
			(11)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	(59)	(13)	(0)	(0)	(50)	(0)	(0)	(0)
	spongiosis hepatis		0	0	0	0	5	0	0	0	4	1	1	0	2	0	0	0 ?
			(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(13)	(3)	(3)	(0)	(100)	(0)	(0)	(0)
	bile duct hyperplasia		35	2	0	0	38	1	0	0	32	0	0	0	2	0	0	0 ?
			(95)	(5)	(0)	(0)	(97)	(3)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
pancreas	atrophy		<37>				<39>				<32>				< 2>			
			5	0	0	0	7	0	0	0	2	0	0	0	0	0	0	0 ?
			(14)	(0)	(0)	(0)	(18)	(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 : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
? : Significant test is not applied, because No. of data in this group is less than 3.

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 8

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2				
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Digestive system)																			
pancreas			<37>				<39>				<32>				< 2>				
	islet cell hyperplasia		1	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)		
(Urinary system)																			
kidney			<37>				<39>				<32>				< 2>				
	atypical tubular dilatation:proximal tubule		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	?	
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
	cyst		0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	?	
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)		
	chronic nephropathy		17	13	7	0	5	13	20	1 **	0	0	19	13 **	0	0	0	?	
			(46)	(35)	(19)	(0)	(13)	(33)	(51)	(3)	(0)	(0)	(59)	(41)	(0)	(0)	(0)	(100)	
	mineralization:cortico-medullary junction		1	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)		

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b : Number of animals with lesion
(c) c : b / a * 100
Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
? : Significant test is not applied, because No. of data in this group is less than 3.

BAIS4

(HPT150)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 9

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney	mineralization:papilla		<37>				<39>				<32>				< 2>			
			3	0	0	0	6	0	0	0	3	17	11	0 **	1	1	0	0 ?
			(8)	(0)	(0)	(0)	(15)	(0)	(0)	(0)	(9)	(53)	(34)	(0)	(50)	(50)	(0)	(0)
	urothelial hyperplasia:pelvis		<37>				<39>				<32>				< 2>			
			11	0	0	0	6	0	0	0	27	1	0	0 **	1	0	0	0 ?
			(30)	(0)	(0)	(0)	(15)	(0)	(0)	(0)	(84)	(3)	(0)	(0)	(50)	(0)	(0)	(0)
{Endocrine system}																		
pituitary	cyst		<37>				<39>				<32>				< 2>			
			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		<37>				<39>				<32>				< 2>			
			9	1	0	0	10	0	0	0	4	0	0	0	0	0	0	0 ?
			(24)	(3)	(0)	(0)	(26)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	Rathke pouch		<37>				<39>				<32>				< 2>			
			1	0	0	0	4	0	0	0	1	0	0	0	0	0	0	0 ?
			(3)	(0)	(0)	(0)	(10)	(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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
? : Significant test is not applied, because No. of data in this group is less than 3.

BAIS4

(IIP1150)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 10

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary	aberrant craniopharyngeal tissue		<37>				<39>				<32>				< 2>			
			1	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)	
thyroid	C-cell hyperplasia		<37>				<39>				<32>				< 2>			
			2	1	0	0	3	0	0	0	5	0	0	0	0	0	0	?
			(5)	(3)	(0)	(0)	(8)	(0)	(0)	(0)	(16)	(0)	(0)	(0)	(0)	(0)	(0)	
	focal follicular cell hyperplasia		0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	?
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)	
parathyroid	vacuolar change:follicular cell		1	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)	
	hyperplasia		<37>				<39>				<32>				< 2>			
			0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	?
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)	
adrenal	hyperplasia:medulla		<37>				<39>				<32>				< 2>			
			2	0	0	0	5	0	0	0	3	0	0	0	0	0	0	?
			(5)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(9)	(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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
? : Significant test is not applied, because No. of data in this group is less than 3.

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 11

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
adrenal			<37>				<39>				<32>				< 2>			
	focal fatty change:cortex		3 (8)	0 (0)	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)
{Reproductive system}																		
testis			<37>				<39>				<32>				< 2>			
	atrophy		29 (78)	8 (22)	0 (0)	0 (0)	30 (77)	9 (23)	0 (0)	0 (0)	30 (94)	2 (6)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	? (0)
epididymis			<37>				<39>				<32>				< 2>			
	inflammation		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)	0 (0)	0 (0)	? (0)
prostate			<37>				<39>				<32>				< 2>			
	inflammation		11 (30)	1 (3)	0 (0)	0 (0)	3 (8)	1 (3)	0 (0)	0 * (0)	4 (13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	? (0)
	hyperplasia		7 (19)	0 (0)	0 (0)	0 (0)	9 (23)	0 (0)	0 (0)	0 (0)	6 (19)	1 (3)	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 ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
? : Significant test is not applied, because No. of data in this group is less than 3.

BAIS4

(HPT150)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 12

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2				
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																			
mammary gl			<37>				<39>				<32>				< 2>				
	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)		
		galactocoele	3	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	?
		(8)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
{Special sense organs/appendage}																			
eye			<37>				<39>				<32>				< 2>				
	cataract	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	?	
		(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
		retinal atrophy	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	?
		(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
Harder gl			<37>				<39>				<32>				< 2>				
	lymphocytic 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)		

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square
? : Significant test is not applied, because No. of data in this group is less than 3.

BAIS4

(HPT150)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 SACRIFICED ANIMALS (105W)

PAGE : 13

Organ	Findings	Group Name No. of Animals on Study Grade	Control 37				2000 ppm 39				4000 ppm 32				8000 ppm 2			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

{Special sense organs/appendage}

Harder gl	granulation	<37>				<39>				<32>				< 2>				?
		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)	

{Musculoskeletal system}

muscle	mineralization	<37>				<39>				<32>				< 2>				?
		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 ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square

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

BAIS4

(HPT150)

APPENDIX K 4

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 14

Organ	Findings	Control No. of Animals on Study Grade				2000 ppm 38				4000 ppm 35				8000 ppm 31			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																	
skin/app		<45>				<38>				<35>				<31>			
	scar	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)
	hyperplasia: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)
{Respiratory system}																	
nasal cavit		<45>				<38>				<35>				<31>			
	thrombus	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)
	mineralization	24	0	0	0	11	0	0	0 *	12	0	0	0	3	0	0	0 **
		(53)	(0)	(0)	(0)	(29)	(0)	(0)	(0)	(34)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	eosinophilic change:olfactory epithelium	2	15	27	0	3	13	20	0	5	11	19	0	4	14	12	0
		(4)	(33)	(60)	(0)	(8)	(34)	(53)	(0)	(14)	(31)	(54)	(0)	(13)	(45)	(39)	(0)
	inflammation:foreign body	3	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0
		(7)	(0)	(2)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
lung		<45>				<38>				<35>				<31>			
	hemorrhage	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)

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 15

Organ	Findings	Group Name No. of Animals on Study				Control 45				2000 ppm 38				4000 ppm 35				8000 ppm 31			
		Grade				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																					
lung		<45>				<38>				<35>				<31>							
	foreign body granuloma	0	0	1	0	0	0	0	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)	(0)	(0)
	osseous metaplasia	0	0	0	0	1	0	0	0	0	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)
	fibrosis	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
		(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	accumulation of foamy cells	7	0	0	0	7	1	0	0	9	1	0	0	6	1	0	0	(19)	(3)	(0)	(0)
		(16)	(0)	(0)	(0)	(18)	(3)	(0)	(0)	(26)	(3)	(0)	(0)	(19)	(3)	(0)	(0)	(19)	(3)	(0)	(0)
	bronchiolar-alveolar cell hyperplasia	1	0	0	0	1	0	0	0	0	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)	(0)	(0)	(0)	(0)
	uremic pneumonitis	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	(3)	(0)	(0)	(0)
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
{Hematopoietic system}																					
bone marrow		<45>				<38>				<35>				<31>							
	granulation	9	2	0	0	10	2	1	0	9	4	0	0	13	2	1	0	(20)	(4)	(0)	(0)
		(20)	(4)	(0)	(0)	(26)	(5)	(3)	(0)	(26)	(11)	(0)	(0)	(42)	(6)	(3)	(0)	(20)	(4)	(0)	(0)

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 16

Organ	Findings	Group Name No. of Animals on Study Grade	Control 45				2000 ppm 38				4000 ppm 35				8000 ppm 31			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Hematopoietic system)																		
bone marrow	increased hematopoiesis		<45>				<38>				<35>				<31>			
			4	0	0	0	3	0	0	0	1	0	0	0	4	0	0	0
			(9)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
lymph node	deposit of hemosiderin		<45>				<38>				<35>				<31>			
			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)
	lymphadenitis		<45>				<38>				<35>				<31>			
			1	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
spleen	deposit of hemosiderin		<45>				<38>				<35>				<31>			
			6	29	6	0	2	24	12	0 *	1	13	21	0 **	5	15	11	0
			(13)	(64)	(13)	(0)	(5)	(63)	(32)	(0)	(3)	(37)	(60)	(0)	(16)	(48)	(35)	(0)
	fibrosis:focal		<45>				<38>				<35>				<31>			
			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)
	extramedullary hematopoiesis		<45>				<38>				<35>				<31>			
			8	0	1	0	4	1	1	0	3	1	0	0	3	1	0	0
			(18)	(0)	(2)	(0)	(11)	(3)	(3)	(0)	(9)	(3)	(0)	(0)	(10)	(3)	(0)	(0)
(Circulatory system)																		
heart	inflammatory cell nest		<45>				<38>				<35>				<31>			
			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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

BATS4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 17

Organ	Findings	Group Name No. of Animals on Study Grade	Control 45				2000 ppm 38				4000 ppm 35				8000 ppm 31			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Circulatory system)																		
heart	myocardial fibrosis		<45>				<38>				<35>				<31>			
			15	0	0	0	16	0	0	0	18	0	0	0	15	0	0	0
			(33)	(0)	(0)	(0)	(42)	(0)	(0)	(0)	(51)	(0)	(0)	(0)	(48)	(0)	(0)	(0)
	endomyocardial fibrosis		<45>				<38>				<35>				<31>			
			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)
(Digestive system)																		
tongue	edema		<45>				<38>				<35>				<31>			
			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)	(10)	(0)	(0)	(0)
	hyperplasia:epithelium		<45>				<38>				<35>				<31>			
			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)
stomach	mineralization		<45>				<38>				<35>				<31>			
			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)
	basal cell hyperplasia		<45>				<38>				<35>				<31>			
			0	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(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

BAIS4

(HPT150)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 SACRIFICED ANIMALS (105W)

PAGE : 18

Organ	Findings	Group Name No. of Animals on Study Grade	Control 45				2000 ppm 38				4000 ppm 35				8000 ppm 31			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Digestive system)																		
stomach			<45>				<38>				<35>				<31>			
	erosion: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)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
	erosion:glandular stomach		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)
	squamous cell hyperplasia:forestomach		1	0	0	0	0	0	0	0	1	0	0	0	4	0	1	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(13)	(0)	(3)	(0)
large intes			<45>				<38>				<35>				<31>			
	ulcer		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)
	xanthogranuloma		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)
			<45>				<38>				<35>				<31>			
liver	herniation		8	0	0	0	6	0	0	0	9	0	0	0	2	0	0	0
			(18)	(0)	(0)	(0)	(16)	(0)	(0)	(0)	(26)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	peliosis-like lesion		1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 19

Organ	Findings	Group Name No. of Animals on Study Grade	Control 45				2000 ppm 38				4000 ppm 35				8000 ppm 31			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<45>				<38>				<35>				<31>			
	granulation		25	2	5	0	21	5	4	0	25	1	5	0	11	5	3	0
			(56)	(4)	(11)	(0)	(55)	(13)	(11)	(0)	(71)	(3)	(14)	(0)	(35)	(16)	(10)	(0)
	clear cell focus		2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	basophilic cell focus		13	1	0	0	11	0	0	0	11	0	0	0	8	1	0	0
			(29)	(2)	(0)	(0)	(29)	(0)	(0)	(0)	(31)	(0)	(0)	(0)	(26)	(3)	(0)	(0)
	spongiosis hepatitis		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)
	bile duct hyperplasia		6	0	0	0	4	0	0	0	3	0	0	0	1	0	0	0
			(13)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(3)	(0)	(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)
	biliary 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)	(3)	(0)	(0)	(0)
pancreas			<45>				<38>				<35>				<31>			
	atrophy		1	1	0	0	2	0	0	0	0	0	0	0	2	0	0	0
			(2)	(2)	(0)	(0)	(5)	(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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 SACRIFICED ANIMALS (105W)

PAGE : 20

		Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	45				38				35				31			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Organ	Findings		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
pancreas			<45>				<38>				<35>				<31>			
	arteritis		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)
	islet cell hyperplasia		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Urinary system}																		
kidney			<45>				<38>				<35>				<31>			
	infarct		0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(3)	(0)	(0)	(10)	(0)	(0)	(0)
	cyst		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)
	chronic nephropathy		10	2	3	0	6	2	1	0	6	15	9	1 **	3	3	20	5 **
			(22)	(4)	(7)	(0)	(16)	(5)	(3)	(0)	(17)	(43)	(26)	(3)	(10)	(10)	(65)	(16)
	papillary necrosis		0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0
		(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	
mineralization:cortico-medullary junction		6	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0
		(13)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(3)	(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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105#)

PAGE : 21

Organ	Findings	Group Name No. of Animals on Study Grade	Control 45				2000 ppm 38				4000 ppm 35				8000 ppm 31			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney	mineralization:papilla		<45>				<38>				<35>				<31>			
			5	0	0	0	13	0	0	0 *	15	12	3	0 **	10	10	7	0 **
			(11)	(0)	(0)	(0)	(34)	(0)	(0)	(0)	(43)	(34)	(9)	(0)	(32)	(32)	(23)	(0)
	dilatation:tubular lumen		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)	(0)	(0)	(0)	(0)
	urothelial hyperplasia:pelvis		1	0	0	0	2	0	0	0	3	0	0	0	6	0	0	0 *
			(2)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(19)	(0)	(0)	(0)
{Endocrine system}																		
pituitary	cyst		<45>				<38>				<35>				<31>			
			12	1	0	0	11	0	0	0	7	0	0	0	6	0	0	0
			(27)	(2)	(0)	(0)	(29)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(19)	(0)	(0)	(0)
	hyperplasia		7	0	0	0	4	0	0	0	6	1	0	0	2	1	0	0
			(16)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(17)	(3)	(0)	(0)	(6)	(3)	(0)	(0)
	Rathke pouch		3	0	0	0	2	0	0	0	2	0	0	0	1	0	0	0
			(7)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
thyroid	cyst		<45>				<38>				<35>				<31>			
			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)

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 22

Organ	Findings	Group Name No. of Animals on Study Grade	Control 45				2000 ppm 38				4000 ppm 35				8000 ppm 31			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
thyroid			<45>				<38>				<35>				<31>			
	ultimibranhial body remanet		1 (2)	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)
	C-cell hyperplasia		4 (9)	0 (0)	0 (0)	0 (0)	5 (13)	0 (0)	0 (0)	0 (0)	2 (6)	0 (0)	0 (0)	0 (0)	4 (13)	0 (0)	0 (0)	0 (0)
adrenal			<45>				<38>				<35>				<31>			
	peliosis-like lesion		28 (62)	0 (0)	0 (0)	0 (0)	20 (53)	0 (0)	0 (0)	0 (0)	11 (31)	0 (0)	0 (0)	0 (0)	5 (16)	0 (0)	0 (0)	0 (0)
	hyperplasia:cortical cell		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)
	hyperplasia:medulla		2 (4)	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)
	focal fatty change:cortex		6 (13)	2 (4)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	6 (17)	3 (9)	0 (0)	0 (0)	7 (23)	2 (6)	0 (0)	0 (0)
{Reproductive system}																		
ovary			<45>				<38>				<35>				<31>			
	atrophy		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 SACRIFICED ANIMALS (105W)

PAGE : 23

		Group Name	Control				2000 ppm				4000 ppm				8000 ppm				
		No. of Animals on Study	45				38				35				31				
Organ	Findings	Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
{Reproductive system}																			
ovary	cyst		<45>				<38>				<35>				<31>				
		1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	
		(2)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
uterus	dilatation		<45>				<38>				<35>				<31>				
		0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	
		(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	
	hemorrhage		0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	cell atypia		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	cystic endometrial hyperplasia		3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
		(7)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
mammary gl	duct ectasia		<45>				<38>				<35>				<31>				
		1	0	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)	(0)	
	galactoceles		1	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	
		(2)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(6)	(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																			

BAIS4

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
SACRIFICED ANIMALS (105W)

PAGE : 24

Organ	Findings	Group Name No. of Animals on Study Grade	Control 45				2000 ppm 38				4000 ppm 35				8000 ppm 31			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Nervous system}																		
brain	gliosis		<45>				<38>				<35>				<31>			
			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)
spinal cord	accumulation of foamy cells		<45>				<38>				<35>				<31>			
			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)
{Special sense organs/appendage}																		
eye	cataract		<45>				<38>				<35>				<31>			
			6	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0
			(13)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	retinal atrophy		<45>				<38>				<35>				<31>			
			5	0	0	0	2	0	0	0	1	0	0	0	3	0	0	0
			(11)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
Harder gl	lymphocytic infiltration		<45>				<38>				<35>				<31>			
			1	0	0	0	1	0	0	0	3	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
{Musculoskeletal system}																		
bone	osteosclerosis		<45>				<38>				<35>				<31>			
			4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
			(9)	(0)	(0)	(0)	(5)	(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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

BATS4

APPENDIX K 5

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 1

		Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	13				11				18				48			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Organ	Findings		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			<13>				<11>				<18>				<48>			
	fibrosis		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)	(2)	(0)	(0)	(0)	(0)
	scar		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)	(0)
{Respiratory system}																		
nasal cavit			<13>				<11>				<18>				<48>			
	thrombus		3	0	0	0	2	0	0	0	2	0	0	0	5	0	0	0
			(23)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	mineralization		7	0	0	0	4	0	0	0	4	0	0	0	13	0	0	0
			(54)	(0)	(0)	(0)	(36)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(27)	(0)	(0)	(0)
	eosinophilic change:olfactory epithelium		1	1	0	0	1	1	0	0	5	2	4	0	7	2	0	0
			(8)	(8)	(0)	(0)	(9)	(9)	(0)	(0)	(28)	(11)	(22)	(0)	(15)	(4)	(0)	(0)
	inflammation:foreign body		2	0	0	0	1	0	0	0	1	1	0	0	9	1	0	0
			(15)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(6)	(6)	(0)	(0)	(19)	(2)	(0)	(0)
nasopharynx			<13>				<11>				<18>				<48>			
	inflammation:foreign body		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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
 ANIMAL : RAT F344/DuGrj
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105#)

PAGE : 2

Organ	Findings	Group Name No. of Animals on Study Grade	Control 13				2000 ppm 11				4000 ppm 18				8000 ppm 48			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
larynx	inflammation		<13>				<11>				<18>				<48>			
			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)	(0)	(0)	(0)	(0)
lung	congestion		<13>				<11>				<18>				<48>			
			2	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0
			(15)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	hemorrhage		<13>				<11>				<18>				<48>			
			0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	inflammation		<13>				<11>				<18>				<48>			
			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)	(0)	(0)	(0)
	osseous metaplasia		<13>				<11>				<18>				<48>			
			1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
			(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	accumulation of foamy cells		<13>				<11>				<18>				<48>			
			1	0	0	0	2	0	0	0	2	0	0	0	9	0	0	0
			(8)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(19)	(0)	(0)	(0)
	uremic pneumonitis		<13>				<11>				<18>				<48>			
			0	0	0	0	0	0	0	0	4	0	1	0	18	3	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(0)	(6)	(0)	(38)	(6)	(0)	(0)
{Hematopoietic system}																		
bone marrow	granulation		<13>				<11>				<18>				<48>			
			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)	(0)	(0)	(0)	(0)

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 3

		Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	13				11				18				48			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Organ	Findings		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
bone marrow			<13>				<11>				<18>				<48>			
	increased hematopoiesis		3	0	0	0	1	0	0	0	3	0	0	0	8	0	0	0
			(23)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(17)	(0)	(0)	(0)
lymph node			<13>				<11>				<18>				<48>			
	lymphadenitis		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)
spleen			<13>				<11>				<18>				<48>			
	deposit of hemosiderin		3	2	0	0	1	4	0	0	4	5	5	0	32	12	0	0 **
			(23)	(15)	(0)	(0)	(9)	(36)	(0)	(0)	(22)	(28)	(28)	(0)	(67)	(25)	(0)	(0)
			<13>				<11>				<18>				<48>			
	fibrosis:focal		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
			<13>				<11>				<18>				<48>			
	extramedullary hematopoiesis		0	2	1	0	0	0	1	0	0	1	1	0	6	3	0	0
			(0)	(15)	(8)	(0)	(0)	(0)	(9)	(0)	(0)	(6)	(6)	(0)	(13)	(6)	(0)	(0)
{Circulatory system}																		
heart			<13>				<11>				<18>				<48>			
	dilatation		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(9)	(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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 4

Organ_____	Findings_____	Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	13				11				18				48			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Circulatory system}																		
heart			<13>				<11>				<18>				<48>			
	thrombus	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)	(0)	(4)	(0)	(0)	(0)
		0	0	0	0	0	0	0	0	0	3	1	0	0	18	0	0	0 *
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(6)	(0)	(0)	(38)	(0)	(0)	(0)
mineralization	7	2	0	0	4	1	0	0	8	2	0	0	27	0	0	0 *		
	(54)	(15)	(0)	(0)	(36)	(9)	(0)	(0)	(44)	(11)	(0)	(0)	(56)	(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)	(0)	(0)	(0)	(0)		
artery/aort		<13>				<11>				<18>				<48>				
	mineralization	0	0	0	0	0	0	0	0	2	0	0	0	16	0	0	0 *	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(33)	(0)	(0)	(0)	
		0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	
edema	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(23)	(0)	(0)	(0)		
	{Digestive system}																	
tongue		<13>				<11>				<18>				<48>				
	edema	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)	(23)	(0)	(0)	(0)	

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 5

Organ	Findings	Group Name No. of Animals on Study Grade	Control 13				2000 ppm 11				4000 ppm 18				8000 ppm 48			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
tongue	mineralization		<13>				<11>				<18>				<48>			
			0	0	0	0	0	0	0	0	4	0	0	0	19	0	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(40)	(0)	(0)	(0)
	arteritis		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)
stomach	mineralization		<13>				<11>				<18>				<48>			
			0	0	0	0	1	0	0	0	2	4	0	0	16	15	4	0 **
			(0)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(11)	(22)	(0)	(0)	(33)	(31)	(8)	(0)
	intestinal metaplasia		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)
	basal cell hyperplasia		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	erosion:forestomach		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	ulcer:forestomach		0	1	2	0	0	2	0	0	0	0	1	0	0	0	0	0 **
			(0)	(8)	(15)	(0)	(0)	(18)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)
	erosion:glandular stomach		1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0 *
			(8)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 6

Organ	Findings	Group Name No. of Animals on Study Grade	Control 13				2000 ppm 11				4000 ppm 18				8000 ppm 48			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
stomach	squamous cell hyperplasia:forestomach		<13>				<11>				<18>				<48>			
			4	0	0	0	5	0	0	0	3	0	0	0	0	0	0	0 **
			(31)	(0)	(0)	(0)	(45)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver	herniation		<13>				<11>				<18>				<48>			
			2	0	0	0	0	0	0	0	3	0	0	0	8	0	0	0
			(15)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(17)	(0)	(0)	(0)
	necrosis:zonal		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:central		1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	ground glass appearance		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)	(0)	(0)	(0)	(0)
	granulation		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	clear cell focus		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)
	acidophilic cell focus		0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(9)	(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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 7

Organ	Findings	Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	13				11				18				48			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<13>				<11>				<18>				<48>			
	basophilic cell focus		0	0	0	0	0	1	0	0	4	0	0	0	18	2	0	0 *
			(0)	(0)	(0)	(0)	(0)	(9)	(0)	(0)	(22)	(0)	(0)	(0)	(38)	(4)	(0)	(0)
	spongiosis hepatis		0	0	0	0	0	0	0	0	4	0	0	0	9	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(19)	(2)	(0)	(0)
	bile duct hyperplasia		10	1	0	0	11	0	0	0	17	0	0	0	45	1	0	0
			(77)	(8)	(0)	(0)	(100)	(0)	(0)	(0)	(94)	(0)	(0)	(0)	(94)	(2)	(0)	(0)
	vacuolic change:central		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)	(0)	(0)	(0)	(0)
pancreas			<13>				<11>				<18>				<48>			
	atrophy		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)	(0)	(0)	(0)	(0)
	arteritis		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)	(2)	(0)	(0)	(0)	
{Urinary system}																		
kidney			<13>				<11>				<18>				<48>			
	cyst		0	0	0	0	0	0	0	0	1	0	0	0	8	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(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

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REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 8

Organ_____	Findings_____	Group Name No. of Animals on Study Grade	Control 13				2000 ppm 11				4000 ppm 18				8000 ppm 48			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
(Urinary system)																		
kidney			<13>				<11>				<18>				<48>			
	inflammation		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	chronic nephropathy		5	2	1	1	5	1	4	0	0	1	6	10 **	1	0	1	46 **
			(38)	(15)	(8)	(8)	(45)	(9)	(36)	(0)	(0)	(6)	(33)	(56)	(2)	(0)	(2)	(96)
	mineralization:cortico-medullary junction		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			(15)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
	mineralization:papilla		5	0	0	0	1	0	0	0	5	9	3	0 **	36	8	0	0 **
			(38)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(28)	(50)	(17)	(0)	(75)	(17)	(0)	(0)
	urothelial hyperplasia:pelvis		1	0	0	0	0	0	0	0	7	0	0	0	34	0	0	0 **
			(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(39)	(0)	(0)	(0)	(71)	(0)	(0)	(0)
urin bladd			<13>				<11>				<18>				<48>			
	hemorrhage		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)	(0)	(0)	(0)	(0)
(Endocrine system)																		
pituitary			<13>				<11>				<18>				<48>			
	hyperplasia		1	0	0	0	1	0	0	0	2	0	0	0	3	0	0	0
			(8)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(11)	(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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 9

Organ	Findings	Group Name No. of Animals on Study Grade	Control 13				2000 ppm 11				4000 ppm 18				8000 ppm 48			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary	<13>																	
	osseous metaplasia		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	<11>																	
	Rathke pouch		0	0	0	0	2	0	0	0	0	0	0	0	5	0	0	0
			(0)	(0)	(0)	(0)	(18)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
thyroid	<18>																	
	C-cell hyperplasia		0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	<48>																	
	focal follicular cell hyperplasia		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)	(0)	(0)	(0)	(0)
parathyroid	<13>																	
	hyperplasia		0	0	0	0	0	0	0	0	4	0	0	0	23	0	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(48)	(0)	(0)	(0)
adrenal	<11>																	
	hemorrhage		0	0	0	0	0	0	0	0	2	0	0	0	13	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(27)	(0)	(0)	(0)
	<18>																	
	hyperplasia:cortical 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)

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 10

Organ	Findings	Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	13				11				18				48			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
adrenal			<13>				<11>				<18>				<48>			
	hyperplasia:medulla	1	0	0	0	1	0	0	0	1	0	0	0	3	0	0	0	
		(8)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	
	focal fatty change:cortex	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)	(6)	(0)	(2)	(0)	(0)	(0)	
	necrosis:cortex	0	0	0	0	0	0	0	0	2	0	0	0	10	0	0	0	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(21)	(0)	(0)	(0)	
{Reproductive system}																		
testis			<13>				<11>				<18>				<48>			
	atrophy	7	6	0	0	8	1	0	0	13	3	0	0	35	11	0	0	
		(54)	(46)	(0)	(0)	(73)	(9)	(0)	(0)	(72)	(17)	(0)	(0)	(73)	(23)	(0)	(0)	
	interstitial cell hyperplasia	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
		(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	
prostate			<13>				<11>				<18>				<48>			
	inflammation	4	1	0	0	0	0	0	0	3	2	0	0	10	0	0	0	
		(31)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(11)	(0)	(0)	(21)	(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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 11

		Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	13				11				18				48			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Organ	Findings		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
prostate			<13>				<11>				<18>				<48>			
	hyperplasia		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)	(0)	(0)	(0)	(0)
mammary gl			<13>				<11>				<18>				<48>			
	galactocoele		4	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0 *
			(31)	(0)	(0)	(0)	(9)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye			<13>				<11>				<18>				<48>			
	cataract		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)	(4)	(0)	(0)	(0)	
			<13>				<11>				<18>				<48>			
	retinal atrophy		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)	(6)	(0)	(0)	(0)	
Harder gl			<13>				<11>				<18>				<48>			
	lymphocytic infiltration		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)	(0)	(0)	(0)	(0)
{Musculoskeletal system}																		
muscle			<13>				<11>				<18>				<48>			
	mineralization		0	0	0	0	0	0	0	0	3	0	0	0	7	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(15)	(0)	(0)	(0)	(0)

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

BATS4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 12

		Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	13				11				18				48			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Organ_____	Findings_____		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<hr/>																		
{Body cavities}																		
			<13>				<11>				<18>				<48>			
mesenterium			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
arteritis			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)

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

BATS4

(HPT150)

APPENDIX K 6

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 13

Organ	Findings	Group Name No. of Animals on Study Grade	Control 5				2000 ppm 12				4000 ppm 15				8000 ppm 18			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			< 5>				<12>				<15>				<18>			
	scar		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)
	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)	(6)	(0)	(0)	(0)
{Respiratory system}																		
nasal cavit			< 5>				<12>				<15>				<18>			
	thrombus		2	0	0	0	1	0	0	0	4	0	0	0	3	0	0	0
			(40)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(27)	(0)	(0)	(0)	(17)	(0)	(0)	(0)
	mineralization		1	0	0	0	2	0	0	0	4	0	0	0	5	0	0	0
			(20)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(27)	(0)	(0)	(0)	(28)	(0)	(0)	(0)
	eosinophilic change:olfactory epithelium		1	0	4	0	1	2	5	0	6	4	3	0	3	9	0	0 **
			(20)	(0)	(80)	(0)	(8)	(17)	(42)	(0)	(40)	(27)	(20)	(0)	(17)	(50)	(0)	(0)
	inflammation:foreign body		0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(11)	(0)	(0)	(0)
lung			< 5>				<12>				<15>				<18>			
	congestion		2	0	0	0	1	0	0	0	3	0	0	0	2	0	0	0
			(40)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(20)	(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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference : * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : AI
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 14

Organ	Findings	Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	5				12				15				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
lung	accumulation of foamy cells		< 5>				<12>				<15>				<18>			
		0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	uremic pneumonitis		0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(17)	(0)	(0)	
{Hematopoietic system}																		
bone marrow	increased hematopoiesis		< 5>				<12>				<15>				<18>			
		1	0	0	0	4	0	0	0	7	0	0	0	3	0	0	0	
			(20)	(0)	(0)	(0)	(33)	(0)	(0)	(0)	(47)	(0)	(0)	(0)	(17)	(0)	(0)	(0)
lymph node	lymphadenitis		< 5>				<12>				<15>				<18>			
		1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
spleen	deposit of hemosiderin		< 5>				<12>				<15>				<18>			
		1	1	1	0	4	1	0	0	4	4	4	0	7	3	3	0	
			(20)	(20)	(20)	(0)	(33)	(8)	(0)	(0)	(27)	(27)	(27)	(0)	(39)	(17)	(17)	(0)
	fibrosis:focal		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																		

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 15

		Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	5				12				15				18			
Organ	Findings	Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<hr/>																		
{Hematopoietic system}																		
spleen			< 5>				<12>				<15>				<18>			
	extramedullary hematopoiesis		0	0	0	0	1	0	3	0	1	0	5	0	2	1	3	0
			(0)	(0)	(0)	(0)	(8)	(0)	(25)	(0)	(7)	(0)	(33)	(0)	(11)	(6)	(17)	(0)
<hr/>																		
{Circulatory system}																		
heart			< 5>				<12>				<15>				<18>			
	thrombus		0	0	0	0	1	0	0	0	0	0	1	0	4	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(22)	(0)	(0)	(0)
	mineralization		0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(28)	(0)	(0)	(0)
	myocardial fibrosis		1	0	0	0	5	0	0	0	6	0	0	0	12	0	0	0
			(20)	(0)	(0)	(0)	(42)	(0)	(0)	(0)	(40)	(0)	(0)	(0)	(67)	(0)	(0)	(0)
artery/aort			< 5>				<12>				<15>				<18>			
	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)	(6)	(0)	(0)	(0)
<hr/>																		
{Digestive system}																		
tongue			< 5>				<12>				<15>				<18>			
	edema		0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 16

Organ	Findings	Group Name No. of Animals on Study Grade	Control 5				2000 ppm 12				4000 ppm 15				8000 ppm 18			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
tongue	mineralization		< 5>				<12>				<15>				<18>			
			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)
stomach	mineralization		< 5>				<12>				<15>				<18>			
			0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(50)	(6)	(0)	(0)
	basal cell hyperplasia		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)
	erosion:forestomach		0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	ulcer:forestomach		0	0	1	0	2	2	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(20)	(0)	(17)	(17)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(0)	(0)	(0)
liver	erosion:glandular stomach		1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
	squamous cell hyperplasia:forestomach		3	0	0	0	6	0	0	0	2	0	0	0	1	1	0	0 *
			(60)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(6)	(6)	(0)	(0)
liver	herniation		< 5>				<12>				<15>				<18>			
			1	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0
			(20)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(7)	(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 : Number of animals with lesion

(c) c : b / a * 100

Significant difference : * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 17

Organ	Findings	Group Name No. of Animals on Study Grade				Control 5				2000 ppm 12				4000 ppm 15				8000 ppm 18			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																					
liver		< 5>				<12>				<15>				<18>							
	peliosis-like lesion	0	0	0	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)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	necrosis:central	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	6	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(13)	(7)	(0)	(0)	(6)	(0)	(0)	(0)	(6)	(0)	(0)
	degeneration:central	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	granulation	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	clear cell focus	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	basophilic cell focus	0	0	0	0	1	0	0	0	1	0	0	0	5	0	0	0	28	0	0	0
		(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(28)	(0)	(0)	(0)	(28)	(0)	(0)	(0)
	spongiosis hepatitis	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	0
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	bile duct hyperplasia	1	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
		(20)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(13)	(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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference : * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 18

Organ	Findings	Group Name No. of Animals on Study Grade	Control 5				2000 ppm 12				4000 ppm 15				8000 ppm 18			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Digestive system}																		
pancreas			< 5>				<12>				<15>				<18>			
	atrophy		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (6)	0 (0)	0 (0)	0 (0)
{Urinary system}																		
kidney			< 5>				<12>				<15>				<18>			
	chronic nephropathy		2 (40)	0 (0)	0 (0)	0 (0)	2 (17)	0 (0)	0 (0)	0 (0)	3 (20)	1 (7)	0 (0)	0 (0)	1 (6)	2 (11)	2 (11)	12 ** (67)
	hydronephrosis		0 (0)	0 (0)	0 (0)	0 (0)	2 (17)	0 (0)	0 (0)	0 (0)	2 (13)	0 (0)	0 (0)	0 (0)	2 (11)	0 (0)	0 (0)	0 (0)
	papillary necrosis		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization:cortico-medullary junction		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (7)	0 (0)	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 (8)	0 (0)	0 (0)	0 (0)	4 (27)	3 (20)	4 (27)	0 * (0)	7 (39)	5 (28)	4 (22)	0 ** (0)
	urothelial hyperplasia:pelvis		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (7)	1 (7)	0 (0)	0 (0)	5 (28)	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																		

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 19

Organ	Findings	Group Name No. of Animals on Study Grade	Control 5				2000 ppm 12				4000 ppm 15				8000 ppm 18			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary	cyst		< 5>				<12>				<15>				<18>			
			0	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	hyperplasia		1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)
			0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0
	Rathke pouch		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(17)	(0)	(0)	(0)
thyroid	ultimibranhial body remanet		< 5>				<12>				<15>				<18>			
			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)
	C-cell hyperplasia		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
adrenal	hemorrhage		< 5>				<12>				<15>				<18>			
			0	0	0	0	1	0	0	0	1	0	0	0	2	4	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(11)	(22)	(0)	(0)
	peliosis-like lesion		3	0	0	0	3	0	0	0	7	0	0	0	1	0	0	0 *
			(60)	(0)	(0)	(0)	(25)	(0)	(0)	(0)	(47)	(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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 20

Organ	Findings	Group Name No. of Animals on Study Grade	Control 5				2000 ppm 12				4000 ppm 15				8000 ppm 18			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
adrenal			< 5>				<12>				<15>				<18>			
	hyperplasia:medulla		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)
	focal fatty change:cortex		1	0	0	0	1	0	0	0	0	1	0	0	2	0	0	0
			(20)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(11)	(0)	(0)	(0)
	necrosis:cortex		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)
{Reproductive system}																		
ovary			< 5>				<12>				<15>				<18>			
	atrophy		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)
	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)	(6)	(0)	(0)	(0)
uterus			< 5>				<12>				<15>				<18>			
	cell atypia		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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 21

Organ	Findings	Group Name No. of Animals on Study Grade	Control 5				2000 ppm 12				4000 ppm 15				8000 ppm 18			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
uterus			< 5>				<12>				<15>				<18>			
	cystic endometrial 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)
mammary gl			< 5>				<12>				<15>				<18>			
	duct ectasia		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	galactoceles		0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye			< 5>				<12>				<15>				<18>			
	cataract		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)
	retinal atrophy		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)
{Musculoskeletal system}																		
muscle			< 5>				<12>				<15>				<18>			
	mineralization		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 : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≤ 0.05 ** : P ≤ 0.01 Test of Chi Square

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrJ
 REPORT TYPE : A1
 SEX : FEMALE

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
 DEAD AND MORIBUND ANIMALS (0-105W)

PAGE : 22

Organ_____	Findings_____	Group Name	Control				2000 ppm				4000 ppm				8000 ppm			
		No. of Animals on Study	5				12				15				18			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

(Musculoskeletal system)

bone	osteosclerosis	< 5>				<12>				<15>				<18>			
		0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0
		(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(13)	(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 : Number of animals with lesion
 (c) c : b / a * 100
 Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Chi Square

(HPT150)

BAIS4

APPENDIX L 1

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

RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 1

Time-related Weeks	Items	Group Name	Control	2000 ppm	4000 ppm	8000 ppm
0 - 52	NO. OF EXAMINED ANIMALS		0	1	1	1
	NO. OF ANIMALS WITH TUMORS		0	0	0	1
	NO. OF ANIMALS WITH SINGLE TUMORS		0	0	0	1
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	0
	NO. OF BENIGN TUMORS		0	0	0	1
	NO. OF MALIGNANT TUMORS		0	0	0	0
	NO. OF TOTAL TUMORS		0	0	0	1
53 - 78	NO. OF EXAMINED ANIMALS		1	0	2	8
	NO. OF ANIMALS WITH TUMORS		1	0	2	8
	NO. OF ANIMALS WITH SINGLE TUMORS		1	0	1	4
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	1	4
	NO. OF BENIGN TUMORS		0	0	1	11
	NO. OF MALIGNANT TUMORS		1	0	2	1
	NO. OF TOTAL TUMORS		1	0	3	12
79 - 104	NO. OF EXAMINED ANIMALS		12	10	15	39
	NO. OF ANIMALS WITH TUMORS		12	10	15	39
	NO. OF ANIMALS WITH SINGLE TUMORS		3	2	2	17
	NO. OF ANIMALS WITH MULTIPLE TUMORS		9	8	13	22
	NO. OF BENIGN TUMORS		16	12	25	61
	NO. OF MALIGNANT TUMORS		9	8	9	4
	NO. OF TOTAL TUMORS		25	20	34	65
105 - 105	NO. OF EXAMINED ANIMALS		37	39	32	2
	NO. OF ANIMALS WITH TUMORS		37	39	32	2
	NO. OF ANIMALS WITH SINGLE TUMORS		17	12	6	0
	NO. OF ANIMALS WITH MULTIPLE TUMORS		20	27	26	2
	NO. OF BENIGN TUMORS		55	72	74	5
	NO. OF MALIGNANT TUMORS		9	6	7	0
	NO. OF TOTAL TUMORS		64	78	81	5

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 2

Time-related Weeks	Items	Group Name	Control	2000 ppm	4000 ppm	8000 ppm
0 - 105	NO. OF EXAMINED ANIMALS		50	50	50	50
	NO. OF ANIMALS WITH TUMORS		50	49	49	50
	NO. OF ANIMALS WITH SINGLE TUMORS		21	14	9	22
	NO. OF ANIMALS WITH MULTIPLE TUMORS		29	35	40	28
	NO. OF BENIGN TUMORS		71	84	100	78
	NO. OF MALIGNANT TUMORS		19	14	18	5
	NO. OF TOTAL TUMORS		90	98	118	83

(HPT070)

BATS4

APPENDIX L 2

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

RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 3

Time-related Weeks	Items	Group Name	Control	2000 ppm	4000 ppm	8000 ppm
0 - 52	NO. OF EXAMINED ANIMALS		0	0	1	0
	NO. OF ANIMALS WITH TUMORS		0	0	1	0
	NO. OF ANIMALS WITH SINGLE TUMORS		0	0	1	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	1	0
	NO. OF TOTAL TUMORS		0	0	1	0
53 - 78	NO. OF EXAMINED ANIMALS		0	2	2	1
	NO. OF ANIMALS WITH TUMORS		0	2	2	1
	NO. OF ANIMALS WITH SINGLE TUMORS		0	2	1	1
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	1	0
	NO. OF BENIGN TUMORS		0	0	0	1
	NO. OF MALIGNANT TUMORS		0	2	3	0
	NO. OF TOTAL TUMORS		0	2	3	1
79 - 104	NO. OF EXAMINED ANIMALS		5	10	12	17
	NO. OF ANIMALS WITH TUMORS		5	10	12	12
	NO. OF ANIMALS WITH SINGLE TUMORS		2	7	7	8
	NO. OF ANIMALS WITH MULTIPLE TUMORS		3	3	5	4
	NO. OF BENIGN TUMORS		6	6	10	12
	NO. OF MALIGNANT TUMORS		3	9	8	5
	NO. OF TOTAL TUMORS		9	15	18	17
105 - 105	NO. OF EXAMINED ANIMALS		45	38	35	31
	NO. OF ANIMALS WITH TUMORS		30	31	22	17
	NO. OF ANIMALS WITH SINGLE TUMORS		23	24	15	13
	NO. OF ANIMALS WITH MULTIPLE TUMORS		7	7	7	4
	NO. OF BENIGN TUMORS		29	34	25	15
	NO. OF MALIGNANT TUMORS		11	5	4	7
	NO. OF TOTAL TUMORS		40	39	29	22

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 4

Time-related Weeks	Items	Group Name	Control	2000 ppm	4000 ppm	8000 ppm
0 - 105	NO. OF EXAMINED ANIMALS		50	50	50	49
	NO. OF ANIMALS WITH TUMORS		35	43	37	30
	NO. OF ANIMALS WITH SINGLE TUMORS		25	33	24	22
	NO. OF ANIMALS WITH MULTIPLE TUMORS		10	10	13	8
	NO. OF BENIGN TUMORS		35	40	35	28
	NO. OF MALIGNANT TUMORS		14	16	16	12
	NO. OF TOTAL TUMORS		49	56	51	40

(HPT070)

BAIS4

APPENDIX M 1

HISTOPATHOLOGICAL FINDINGS : NEOPLASTIC LESIONS : SUMMARY

RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 1

Organ	Findings	Group Name No. of animals on Study	Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 50
{Integumentary system/appandage}						
skin/app	squamous cell papilloma		<50> 0 (0%)	<50> 0 (0%)	<50> 2 (4%)	<50> 0 (0%)
	trichoepithelioma		2 (4%)	0 (0%)	1 (2%)	1 (2%)
	keratoacanthoma		1 (2%)	1 (2%)	2 (4%)	0 (0%)
	sebaceous adenoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	trichoepithelioma:malignant		0 (0%)	0 (0%)	1 (2%)	0 (0%)
subcutis	fibroma		<50> 2 (4%)	<50> 2 (4%)	<50> 4 (8%)	<50> 0 (0%)
	lipoma		1 (2%)	0 (0%)	1 (2%)	0 (0%)
{Respiratory system}						
nasal cavit	chondroma		<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)
lung	bronchiolar-alveolar adenoma		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)
{Hematopoietic system}						
bone marrow	histiocytic sarcoma		<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)
spleen	histiocytic sarcoma		<50> 1 (2%)	<50> 0 (0%)	<50> 2 (4%)	<50> 0 (0%)

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 2

Organ	Findings	Group Name No. of animals on Study	Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 50
(Hematopoietic system)						
spleen	mononuclear cell leukemia		<50> 8 (16%)	<50> 5 (10%)	<50> 3 (6%)	<50> 0 (0%)
	hemangiosarcoma		2 (4%)	0 (0%)	0 (0%)	0 (0%)
(Digestive system)						
oral cavity	keratoacanthoma		<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)
tongue	squamous cell papilloma		<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)
stomach	squamous cell papilloma		<50> 1 (2%)	<50> 3 (6%)	<50> 0 (0%)	<50> 0 (0%)
	epidermal cyst		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	squamous cell carcinoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	adenocarcinoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
liver	hepatocellular adenoma		<50> 0 (0%)	<50> 1 (2%)	<50> 13 (26%)	<50> 11 (22%)
	hemangiosarcoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
pancreas	islet cell adenoma		<50> 2 (4%)	<50> 2 (4%)	<50> 2 (4%)	<50> 0 (0%)
(Urinary system)						
kidney	renal cell adenoma		<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)

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

(HPT085)

BAIS4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 3

Organ	Findings	Group Name No. of animals on Study	Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 50
{Urinary system}						
kidney			<50>	<50>	<50>	<50>
	transitional cell carcinoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
{Endocrine system}						
pituitary			<50>	<50>	<50>	<50>
	adenoma		14 (28%)	11 (22%)	9 (18%)	9 (18%)
thyroid			<50>	<50>	<50>	<50>
	C-cell adenoma		7 (14%)	11 (22%)	10 (20%)	2 (4%)
	C-cell carcinoma		3 (6%)	2 (4%)	1 (2%)	0 (0%)
	follicular adenocarcinoma		1 (2%)	0 (0%)	1 (2%)	2 (4%)
adrenal			<50>	<50>	<50>	<50>
	pheochromocytoma		4 (8%)	3 (6%)	1 (2%)	2 (4%)
	pheochromocytoma:malignant		0 (0%)	1 (2%)	3 (6%)	0 (0%)
{Reproductive system}						
testis			<50>	<50>	<50>	<50>
	interstitial cell tumor		34 (68%)	45 (90%)	48 (96%)	48 (96%)
prostate			<50>	<50>	<50>	<50>
	adenoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
mammary gl			<50>	<50>	<50>	<50>
	fibroadenoma		0 (0%)	2 (4%)	3 (6%)	0 (0%)
prep/cli gl			<50>	<50>	<50>	<50>
	adenoma		1 (2%)	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

BAIS4

(HPT085)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 4

Organ	Findings	Group Name No. of animals on Study	Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 50
{Nervous system}						
brain	malignant reticulosis		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)
	glioma		1 (2%)	1 (2%)	0 (0%)	0 (0%)
spinal cord			<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)
	glioma					
{Special sense organs/appendage}						
Zymbal gl	adenoma		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<50> 2 (4%)
	sarcoma:NOS		0 (0%)	1 (2%)	0 (0%)	0 (0%)
{Musculoskeletal system}						
bone			<50> 0 (0%)	<50> 1 (2%)	<50> 1 (2%)	<50> 1 (2%)
	osteosarcoma					
{Body cavities}						
pleura			<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)
	mesothelioma					
peritoneum			<50> 1 (2%)	<50> 1 (2%)	<50> 2 (4%)	<50> 1 (2%)
	mesothelioma					
abdominal c			<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)
	liposarcoma					

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

(HPT085)

BATS4

APPENDIX M 2

HISTOPATHOLOGICAL FINDINGS : NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 5

Organ	Findings	Group Name No. of animals on Study	Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 49
{Integumentary system/appandage}						
skin/app	trichoepithelioma		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<49> 0 (0%)
subcutis	fibroma		<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)	<49> 0 (0%)
{Respiratory system}						
lung	bronchiolar-alveolar adenoma		<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)	<49> 1 (2%)
{Hematopoietic system}						
spleen	mononuclear cell leukemia		<50> 8 (16%)	<50> 7 (14%)	<50> 1 (2%)	<49> 1 (2%)
{Digestive system}						
oral cavity	squamous cell papilloma		<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)	<49> 1 (2%)
	squamous cell carcinoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
tongue	squamous cell papilloma		<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)	<49> 2 (4%)
liver	hepatocellular adenoma		<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)	<49> 5 (10%)
pancreas	islet cell adenoma		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<49> 0 (0%)
{Urinary system}						
kidney	renal cell adenoma		<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)	<49> 0 (0%)

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

BATS4

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 6

Organ	Findings	Group Name No. of animals on Study	Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 49
{Urinary system}						
kidney			<50>	<50>	<50>	<49>
	renal cell carcinoma		0 (0%)	1 (2%)	1 (2%)	0 (0%)
urin bladd			<50>	<50>	<50>	<49>
	transitional cell papilloma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
{Endocrine system}						
pituitary			<50>	<50>	<50>	<49>
	adenoma		14 (28%)	15 (30%)	15 (30%)	7 (14%)
	adenocarcinoma		2 (4%)	0 (0%)	0 (0%)	0 (0%)
thyroid			<50>	<50>	<50>	<49>
	C-cell adenoma		5 (10%)	3 (6%)	8 (16%)	6 (12%)
	follicular adenoma		0 (0%)	0 (0%)	0 (0%)	2 (4%)
	follicular adenocarcinoma		1 (2%)	0 (0%)	1 (2%)	0 (0%)
adrenal			<50>	<50>	<50>	<49>
	pheochromocytoma		1 (2%)	0 (0%)	0 (0%)	1 (2%)
{Reproductive system}						
ovary			<50>	<50>	<50>	<49>
	granulosa-theca cell tumor		1 (2%)	1 (2%)	0 (0%)	0 (0%)
uterus			<50>	<50>	<50>	<49>
	leiomyoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	endometrial stromal polyp		8 (16%)	14 (28%)	3 (6%)	1 (2%)

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 7

Organ	Findings	Group Name No. of animals on Study	Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 49
{Reproductive system}						
uterus			<50>	<50>	<50>	<49>
	adenocarcinoma		1 (2%)	4 (8%)	8 (16%)	8 (16%)
	fibrosarcoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
	schwannoma:malignant		1 (2%)	1 (2%)	0 (0%)	0 (0%)
	sarcoma:NOS		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	endometrial stromal sarcoma		0 (0%)	2 (4%)	0 (0%)	0 (0%)
mammary gl			<50>	<50>	<50>	<49>
	fibroadenoma		4 (8%)	5 (10%)	4 (8%)	1 (2%)
prep/cli gl			<50>	<50>	<50>	<49>
	adenoma		0 (0%)	1 (2%)	1 (2%)	1 (2%)
{Nervous system}						
brain			<50>	<50>	<50>	<49>
	malignant reticulosis		1 (2%)	0 (0%)	1 (2%)	0 (0%)
	glioma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
{Special sense organs/appendage}						
Zymbal gl			<50>	<50>	<50>	<49>
	adenocarcinoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	adenosquamous carcinoma		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

BAIS4

(HPT085)

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 8

Organ	Findings	Group Name No. of animals on Study	Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 49
{Musculoskeletal system}						
bone	osteosarcoma		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<49> 0 (0%)
{Body cavities}						
retroperit	schwannoma:malignant		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<49> 0 (0%)

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

BA1S4

(HPT085)

APPENDIX N 1

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS,

RAT : MALE

(2-YEAR STUDY)

STUDY No. : 0401
 ANIMAL : RAT F344/DuCrj
 SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

PAGE : 1

Group Name	Control	2000 ppm	4000 ppm	8000 ppm
SITE : subcutis TUMOR : fibroma				
Tumor rate				
Overall rates(a)	2/50(4.0)	2/50(4.0)	4/50(8.0)	0/50(0.0)
Adjusted rates(b)	5.41	5.13	7.50	0.0
Terminal rates(c)	2/37(5.4)	2/39(5.1)	2/32(6.3)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.2988			
Prevalence method(d)	P = 0.4152			
Combined analysis(d)	P = 0.3467			
Cochran-Armitage test(e)	P = 0.3291			
Fisher Exact test(e)		P = 0.6913	P = 0.3389	P = 0.2475
SITE : spleen TUMOR : mononuclear cell leukemia				
Tumor rate				
Overall rates(a)	8/50(16.0)	5/50(10.0)	3/50(6.0)	0/50(0.0)
Adjusted rates(b)	5.41	2.56	0.0	0.0
Terminal rates(c)	2/37(5.4)	1/39(2.6)	0/32(0.0)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.9407			
Prevalence method(d)	P = 0.9167			
Combined analysis(d)	P = 0.9760			
Cochran-Armitage test(e)	P = 0.0027**			
Fisher Exact test(e)		P = 0.2768	P = 0.0999	P = 0.0029**
SITE : stomach TUMOR : squamous cell papilloma				
Tumor rate				
Overall rates(a)	1/50(2.0)	3/50(6.0)	0/50(0.0)	0/50(0.0)
Adjusted rates(b)	2.70	7.69	0.0	0.0
Terminal rates(c)	1/37(2.7)	3/39(7.7)	0/32(0.0)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.7097			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.1719			
Fisher Exact test(e)		P = 0.3087	P = 0.5000	P = 0.5000

STUDY No. : 0401
 ANIMAL : RAT F344/DuCrj
 SEX : MALE

NEOPLASTIC LESIONS—INCIDENCE AND STATISTICAL ANALYSIS

PAGE : 2

Group Name	Control	2000 ppm	4000 ppm	8000 ppm
SITE : liver TUMOR : hepatocellular adenoma				
Tumor rate				
Overall rates(a)	0/50(0.0)	1/50(2.0)	13/50(26.0)	11/50(22.0)
Adjusted rates(b)	0.0	2.56	40.63	75.00
Terminal rates(c)	0/37(0.0)	1/39(2.6)	13/32(40.6)	1/ 2(50.0)
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 = 0.5000	P < 0.0001**	P = 0.0003**
SITE : pituitary gland TUMOR : adenoma				
Tumor rate				
Overall rates(a)	14/50(28.0)	11/50(22.0)	9/50(18.0)	9/50(18.0)
Adjusted rates(b)	25.53	23.26	17.14	100.00
Terminal rates(c)	7/37(18.9)	8/39(20.5)	5/32(15.6)	2/ 2(100.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.4952			
Prevalence method(d)	P = 0.4299			
Combined analysis(d)	P = 0.4402			
Cochran-Armitage test(e)	P = 0.2329			
Fisher Exact test(e)		P = 0.3224	P = 0.1710	P = 0.1710
SITE : thyroid TUMOR : C-cell adenoma				
Tumor rate				
Overall rates(a)	7/50(14.0)	11/50(22.0)	10/50(20.0)	2/50(4.0)
Adjusted rates(b)	15.56	28.21	23.53	6.45
Terminal rates(c)	5/37(13.5)	11/39(28.2)	7/32(21.9)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.4406			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.0707			
Fisher Exact test(e)		P = 0.2178	P = 0.2977	P = 0.0798

STUDY No. : 0401
 ANIMAL : RAT F344/DuCrj
 SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

PAGE : 3

Group Name	Control	2000 ppm	4000 ppm	8000 ppm
SITE : thyroid TUMOR : C-cell carcinoma				
Tumor rate				
Overall rates(a)	3/50(6.0)	2/50(4.0)	1/50(2.0)	0/50(0.0)
Adjusted rates(b)	7.69	5.13	3.13	0.0
Terminal rates(c)	2/37(5.4)	2/39(5.1)	1/32(3.1)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.8565			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.0685			
Fisher Exact test(e)		P = 0.5000	P = 0.3087	P = 0.1212
SITE : thyroid TUMOR : C-cell adenoma, C-cell carcinoma				
Tumor rate				
Overall rates(a)	10/50(20.0)	13/50(26.0)	11/50(22.0)	2/50(4.0)
Adjusted rates(b)	22.50	33.33	26.47	6.45
Terminal rates(c)	7/37(18.9)	13/39(33.3)	8/32(25.0)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.6166			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.0128*			
Fisher Exact test(e)		P = 0.3176	P = 0.5000	P = 0.0139*
SITE : adrenal gland TUMOR : pheochromocytoma				
Tumor rate				
Overall rates(a)	4/50(8.0)	3/50(6.0)	1/50(2.0)	2/50(4.0)
Adjusted rates(b)	10.81	7.69	2.38	4.88
Terminal rates(c)	4/37(10.8)	3/39(7.7)	0/32(0.0)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.6695			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.3236			
Fisher Exact test(e)		P = 0.5000	P = 0.1811	P = 0.3389

BAIS4

(HPT360A)

STUDY No. : 0401
 ANIMAL : RAT F344/DuCrj
 SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

PAGE : 4

Group Name	Control	2000 ppm	4000 ppm	8000 ppm
SITE : adrenal gland TUMOR : pheochromocytoma:malignant				
Tumor rate				
Overall rates(a)	0/50(0.0)	1/50(2.0)	3/50(6.0)	0/50(0.0)
Adjusted rates(b)	0.0	2.56	8.82	0.0
Terminal rates(c)	0/37(0.0)	1/39(2.6)	2/32(6.3)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.0727			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 1.0000			
Fisher Exact test(e)		P = 0.5000	P = 0.1212	P = N.C.
SITE : adrenal gland TUMOR : pheochromocytoma, pheochromocytoma:malignant				
Tumor rate				
Overall rates(a)	4/50(8.0)	4/50(8.0)	4/50(8.0)	2/50(4.0)
Adjusted rates(b)	10.81	10.26	9.52	4.88
Terminal rates(c)	4/37(10.8)	4/39(10.3)	2/32(6.3)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.3843			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.3991			
Fisher Exact test(e)		P = 0.6425	P = 0.6425	P = 0.3389
SITE : testis TUMOR : interstitial cell tumor				
Tumor rate				
Overall rates(a)	34/50(68.0)	45/50(90.0)	48/50(96.0)	48/50(96.0)
Adjusted rates(b)	81.58	93.33	100.00	100.00
Terminal rates(c)	30/37(81.1)	36/39(92.3)	32/32(100.0)	2/ 2(100.0)
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 = 0.0064**	P = 0.0002**	P = 0.0002**

STUDY No. : 0401
 ANIMAL : RAT F344/DuCrj
 SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

PAGE : 5

Group Name	Control	2000 ppm	4000 ppm	8000 ppm
SITE : mammary gland TUMOR : fibroadenoma				
Tumor rate				
Overall rates(a)	0/50(0.0)	2/50(4.0)	3/50(6.0)	0/50(0.0)
Adjusted rates(b)	0.0	5.13	9.38	0.0
Terminal rates(c)	0/37(0.0)	2/39(5.1)	3/32(9.4)	0/ 2(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.0719			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.8183			
Fisher Exact test(e)		P = 0.2475	P = 0.1212	P = N.C.

BAIS4

(HPT360A)

- (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 : * : $P \leq 0.05$ ** : $P \leq 0.01$
 N.C.:Statistical value cannot be calculated and was not significant.

APPENDIX N 2

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS,

RAT : FEMALE

(2-YEAR STUDY)

STUDY No. : 0401
 ANIMAL : RAT F344/DuCrj
 SEX : FEMALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

PAGE : 6

Group Name	Control	2000 ppm	4000 ppm	8000 ppm
SITE : spleen TUMOR : mononuclear cell leukemia				
Tumor rate				
Overall rates(a)	8/50(16.0)	7/50(14.0)	1/50(2.0)	1/49(2.0)
Adjusted rates(b)	13.33	2.63	2.04	0.0
Terminal rates(c)	6/45(13.3)	1/38(2.6)	0/35(0.0)	0/31(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.8673			
Prevalence method(d)	P = 0.9985			
Combined analysis(d)	P = 0.9972			
Cochran-Armitage test(e)	P = 0.0044**			
Fisher Exact test(e)		P = 0.5000	P = 0.0154*	P = 0.0166*
SITE : liver TUMOR : hepatocellular adenoma				
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	0/50(0.0)	5/49(10.2)
Adjusted rates(b)	0.0	0.0	0.0	12.82
Terminal rates(c)	0/45(0.0)	0/38(0.0)	0/35(0.0)	2/31(6.5)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.0001**?			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.0005**			
Fisher Exact test(e)		P = N. C.	P = N. C.	P = 0.0267*
SITE : pituitary gland TUMOR : adenoma				
Tumor rate				
Overall rates(a)	14/50(28.0)	15/50(30.0)	15/50(30.0)	7/49(14.3)
Adjusted rates(b)	25.53	35.71	30.23	12.77
Terminal rates(c)	11/45(24.4)	13/38(34.2)	10/35(28.6)	3/31(9.7)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.5411			
Prevalence method(d)	P = 0.9669			
Combined analysis(d)	P = 0.9613			
Cochran-Armitage test(e)	P = 0.0843			
Fisher Exact test(e)		P = 0.5000	P = 0.5000	P = 0.0768

STUDY No. : 0401
 ANIMAL : RAT F344/DuCrj
 SEX : FEMALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

PAGE : 7

Group Name	Control	2000 ppm	4000 ppm	8000 ppm
SITE : pituitary gland TUMOR : adenoma, adenocarcinoma				
Tumor rate				
Overall rates(a)	16/50(32.0)	15/50(30.0)	15/50(30.0)	7/49(14.3)
Adjusted rates(b)	29.79	35.71	30.23	12.77
Terminal rates(c)	13/45(28.9)	13/38(34.2)	10/35(28.6)	3/31(9.7)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.5411			
Prevalence method(d)	P = 0.9860			
Combined analysis(d)	P = 0.9823			
Cochran-Armitage test(e)	P = 0.0372*			
Fisher Exact test(e)		P = 0.5000	P = 0.5000	P = 0.0315*
SITE : thyroid TUMOR : C-cell adenoma				
Tumor rate				
Overall rates(a)	5/50(10.0)	3/50(6.0)	8/50(16.0)	6/49(12.2)
Adjusted rates(b)	11.11	7.14	22.86	17.14
Terminal rates(c)	5/45(11.1)	2/38(5.3)	8/35(22.9)	5/31(16.1)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.1150			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.4665			
Fisher Exact test(e)		P = 0.3575	P = 0.2768	P = 0.4856
SITE : uterus TUMOR : endometrial stromal polyp				
Tumor rate				
Overall rates(a)	8/50(16.0)	14/50(28.0)	3/50(6.0)	1/49(2.0)
Adjusted rates(b)	16.33	34.21	7.69	3.23
Terminal rates(c)	6/45(13.3)	13/38(34.2)	2/35(5.7)	1/31(3.2)
Statistical analysis				
Peto test				
Standard method(d)	P = -----			
Prevalence method(d)	P = 0.9983			
Combined analysis(d)	P = -----			
Cochran-Armitage test(e)	P = 0.0025**			
Fisher Exact test(e)		P = 0.1135	P = 0.0999	P = 0.0166*

STUDY No. : 0401
 ANIMAL : RAT F344/DuCrj
 SEX : FEMALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

PAGE : 8

Group Name	Control	2000 ppm	4000 ppm	8000 ppm
SITE : uterus TUMOR : adenocarcinoma				
Tumor rate				
Overall rates(a)	1/50(2.0)	4/50(8.0)	8/50(16.0)	8/49(16.3)
Adjusted rates(b)	2.22	7.89	5.71	15.63
Terminal rates(c)	1/45(2.2)	3/38(7.9)	2/35(5.7)	4/31(12.9)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.0452*			
Prevalence method(d)	P = 0.0209*			
Combined analysis(d)	P = 0.0041**			
Cochran-Armitage test(e)	P = 0.0153*			
Fisher Exact test(e)		P = 0.1811	P = 0.0154*	P = 0.0142*
SITE : mammary gland TUMOR : fibroadenoma				
Tumor rate				
Overall rates(a)	4/50(8.0)	5/50(10.0)	4/50(8.0)	1/49(2.0)
Adjusted rates(b)	8.89	12.20	8.57	2.86
Terminal rates(c)	4/45(8.9)	4/38(10.5)	3/35(8.6)	0/31(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.3459			
Prevalence method(d)	P = 0.8764			
Combined analysis(d)	P = 0.8460			
Cochran-Armitage test(e)	P = 0.1674			
Fisher Exact test(e)		P = 0.5000	P = 0.6425	P = 0.1874

(HPT360A)

BAIS4

- (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 : * : $P \leq 0.05$ ** : $P \leq 0.01$
 N.C. : Statistical value cannot be calculated and was not significant.

PPENDIX O 1

HISTOPATHOLOGICAL FINDINGS : METATSASIS OF TUMOR : SUMMARY

RAT : MALE : ALL ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 1

Group Name		Control	2000 ppm	4000 ppm	8000 ppm
No. of Animals on Study		50	50	50	50
Organ	Findings				
{Integumentary system/appandage}					
subcutis	metastasis:thyroid tumor	<50> 0	<50> 0	<50> 1	<50> 0
{Respiratory system}					
nasal cavit	leukemic cell infiltration	<50> 2	<50> 0	<50> 0	<50> 0
lung	leukemic cell infiltration	<50> 6	<50> 5	<50> 3	<50> 0
	metastasis:thyroid tumor	0	0	1	0
	metastasis:bone tumor	0	1	0	1
	metastasis:zybal gland tumor	0	1	0	0
	metastasis:abdominal cavity tumor	1	0	0	0
{Hematopoietic system}					
bone marrow	leukemic cell infiltration	<50> 8	<50> 4	<50> 3	<50> 0
	metastasis:spleen tumor	1	0	0	0
lymph node	leukemic cell infiltration	<50> 0	<50> 1	<50> 2	<50> 0
	metastasis:thyroid tumor	1	0	0	0
	metastasis:bone tumor	0	1	0	0
	metastasis:spleen tumor	1	0	0	0

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 2

Group Name No. of Animals on Study		Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 50
Organ	Findings				
{Hematopoietic system}					
lymph node	metastasis:zymbal gland tumor	<50> 0	<50> 1	<50> 0	<50> 0
{Circulatory system}					
heart	leukemic cell infiltration	<50> 2	<50> 1	<50> 1	<50> 0
{Digestive system}					
liver	leukemic cell infiltration	<50> 6	<50> 5	<50> 3	<50> 0
	metastasis:bone tumor	0	1	0	0
	metastasis:spleen tumor	1	0	0	0
{Urinary system}					
kidney	leukemic cell infiltration	<50> 3	<50> 2	<50> 1	<50> 0
{Endocrine system}					
adrenal	metastasis:spleen tumor	<50> 1	<50> 0	<50> 0	<50> 0
{Nervous system}					
brain	leukemic cell infiltration	<50> 3	<50> 2	<50> 2	<50> 0

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE

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

PAGE : 3

		Group Name	Control	2000 ppm	4000 ppm	8000 ppm
		No. of Animals on Study	50	50	50	50
Organ	Findings					
{Nervous system}						
spinal cord	leukemic cell infiltration		<50> 3	<50> 1	<50> 0	<50> 0
< a >		a : Number of animals examined at the site				
b		b : Number of animals with lesion				

(JPT150)

BAIS4

APPENDIX O 2

HISTOPATHOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : FEMALE : ALL ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 4

Group Name No. of Animals on Study		Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 49
Organ	Findings				
{Respiratory system}					
nasal cavit		<50>	<50>	<50>	<49>
	leukemic cell infiltration	0	1	0	0
	metastasis:bone tumor	0	0	1	0
lung		<50>	<50>	<50>	<49>
	leukemic cell infiltration	3	6	0	1
	metastasis:uterus tumor	0	3	5	4
{Hematopoietic system}					
bone marrow		<50>	<50>	<50>	<49>
	leukemic cell infiltration	2	5	0	1
lymph node		<50>	<50>	<50>	<49>
	leukemic cell infiltration	0	0	1	0
	metastasis:uterus tumor	0	1	2	0
{Digestive system}					
stomach		<50>	<50>	<50>	<49>
	metastasis:uterus tumor	0	1	0	1
liver		<50>	<50>	<50>	<49>
	leukemic cell infiltration	4	7	1	1
	metastasis:uterus tumor	0	2	3	3
pancreas		<50>	<50>	<50>	<49>
	metastasis:uterus tumor	0	1	1	1
{Urinary system}					
kidney		<50>	<50>	<50>	<49>
	leukemic cell infiltration	0	4	0	0

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 5

Group Name No. of Animals on Study		Control 50	2000 ppm 50	4000 ppm 50	8000 ppm 49
Organ	Findings				
{Urinary system}					
kidney		<50>	<50>	<50>	<49>
	metastasis:uterus tumor	0	0	1	2
{Endocrine system}					
pituitary		<50>	<50>	<50>	<49>
	metastasis:zybal gland tumor	0	0	1	0
adrenal		<50>	<50>	<50>	<49>
	leukemic cell infiltration	0	0	0	1
	metastasis:uterus tumor	0	0	1	0
{Reproductive system}					
ovary		<50>	<50>	<50>	<49>
	metastasis:uterus tumor	0	1	4	1
uterus		<50>	<50>	<50>	<49>
	leukemic cell infiltration	0	1	0	0
	metastasis:bone tumor	0	0	1	0
{Nervous system}					
brain		<50>	<50>	<50>	<49>
	leukemic cell infiltration	1	4	0	0
spinal cord		<50>	<50>	<50>	<49>
	leukemic cell infiltration	0	5	0	0
{Body cavities}					
peritoneum		<50>	<50>	<50>	<49>
	metastasis:uterus tumor	0	0	1	2

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

STUDY NO. : 0401
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : FEMALE

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

PAGE : 6

		Group Name	Control	2000 ppm	4000 ppm	8000 ppm
		No. of Animals on Study	50	50	50	49
Organ	Findings					
{Body cavities}						
retroperit			<50>	<50>	<50>	<49>
	metastasis:uterus tumor		0	0	0	1
< a >		a : Number of animals examined at the site				
b		b : Number of animals with lesion				

(JPT150)

BAIS4

AAPPENDIX O 3

HISTOPATHOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : MALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 1

Group Name No. of Animals on Study		Control 37	2000 ppm 39	4000 ppm 32	8000 ppm 2
Organ	Findings				
{Integumentary system/appandage}					
subcutis	metastasis:thyroid tumor	<37> 0	<39> 0	<32> 1	< 2> 0
{Respiratory system}					
lung	leukemic cell infiltration	<37> 0	<39> 1	<32> 0	< 2> 0
	metastasis:thyroid tumor	0	0	1	0
{Hematopoietic system}					
bone marrow	leukemic cell infiltration	<37> 2	<39> 0	<32> 0	< 2> 0
lymph node	metastasis:thyroid tumor	<37> 1	<39> 0	<32> 0	< 2> 0
{Digestive system}					
liver	leukemic cell infiltration	<37> 0	<39> 1	<32> 0	< 2> 0
< a >	a : Number of animals examined at the site				
b	b : Number of animals with lesion				

(JPT150)

BATS4

APPENDIX O 4

HISTOPATHOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : FEMALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 2

Group Name No. of Animals on Study		Control 45	2000 ppm 38	4000 ppm 35	8000 ppm 31
Organ	Findings				
{Respiratory system}					
lung		<45>	<38>	<35>	<31>
	leukemic cell infiltration	1	0	0	0
	metastasis:uterus tumor	0	1	0	2
{Digestive system}					
liver		<45>	<38>	<35>	<31>
	leukemic cell infiltration	2	1	0	0
	metastasis:uterus tumor	0	1	0	2
pancreas		<45>	<38>	<35>	<31>
	metastasis:uterus tumor	0	0	0	1
{Urinary system}					
kidney		<45>	<38>	<35>	<31>
	metastasis:uterus tumor	0	0	0	2
{Reproductive system}					
ovary		<45>	<38>	<35>	<31>
	metastasis:uterus tumor	0	1	2	1
{Body cavities}					
peritoneum		<45>	<38>	<35>	<31>
	metastasis:uterus tumor	0	0	0	1
retroperit		<45>	<38>	<35>	<31>
	metastasis:uterus tumor	0	0	0	1
< a > a : Number of animals examined at the site b b : Number of animals with lesion					

PPENDIX O 5

HISTOPATHOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : MALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 1

Group Name No. of Animals on Study		Control 13	2000 ppm 11	4000 ppm 18	8000 ppm 48
Organ	Findings				
{Respiratory system}					
nasal cavit		<13>	<11>	<18>	<48>
	leukemic cell infiltration	2	0	0	0
lung		<13>	<11>	<18>	<48>
	leukemic cell infiltration	6	4	3	0
	metastasis:bone tumor	0	1	0	1
	metastasis:zybal gland tumor	0	1	0	0
	metastasis:abdominal cavity tumor	1	0	0	0
{Hematopoietic system}					
bone marrow		<13>	<11>	<18>	<48>
	leukemic cell infiltration	6	4	3	0
	metastasis:spleen tumor	1	0	0	0
lymph node		<13>	<11>	<18>	<48>
	leukemic cell infiltration	0	1	2	0
	metastasis:bone tumor	0	1	0	0
	metastasis:spleen tumor	1	0	0	0
	metastasis:zybal gland tumor	0	1	0	0
{Circulatory system}					
heart		<13>	<11>	<18>	<48>
	leukemic cell infiltration	2	1	1	0
{Digestive system}					
liver		<13>	<11>	<18>	<48>
	leukemic cell infiltration	6	4	3	0

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

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : MALE

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

PAGE : 2

Group Name No. of Animals on Study		Control 13	2000 ppm 11	4000 ppm 18	8000 ppm 48
Organ	Findings				
{Digestive system}					
liver	metastasis:bone tumor	<13> 0	<11> 1	<18> 0	<48> 0
	metastasis:spleen tumor	1	0	0	0
{Urinary system}					
kidney	leukemic cell infiltration	<13> 3	<11> 2	<18> 1	<48> 0
{Endocrine system}					
adrenal	metastasis:spleen tumor	<13> 1	<11> 0	<18> 0	<48> 0
{Nervous system}					
brain	leukemic cell infiltration	<13> 3	<11> 2	<18> 2	<48> 0
spinal cord	leukemic cell infiltration	<13> 3	<11> 1	<18> 0	<48> 0
< a >	a : Number of animals examined at the site				
b	b : Number of animals with lesion				

(JPT150)

BATS4

APPENDIX O 6

HISTOPATHOLOGICAL FINDINGS : METASTASIS OF TUMOR : SUMMARY

RAT : FEMALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 3

Organ	Findings	Group Name No. of Animals on Study	Control 5	2000 ppm 12	4000 ppm 15	8000 ppm 18
{Respiratory system}						
nasal cavit			< 5>	<12>	<15>	<18>
	leukemic cell infiltration		0	1	0	0
	metastasis:bone tumor		0	0	1	0
lung			< 5>	<12>	<15>	<18>
	leukemic cell infiltration		2	6	0	1
	metastasis:uterus tumor		0	2	5	2
{Hematopoietic system}						
bone marrow			< 5>	<12>	<15>	<18>
	leukemic cell infiltration		2	5	0	1
lymph node			< 5>	<12>	<15>	<18>
	leukemic cell infiltration		0	0	1	0
	metastasis:uterus tumor		0	1	2	0
{Digestive system}						
stomach			< 5>	<12>	<15>	<18>
	metastasis:uterus tumor		0	1	0	1
liver			< 5>	<12>	<15>	<18>
	leukemic cell infiltration		2	6	1	1
	metastasis:uterus tumor		0	1	3	1
pancreas			< 5>	<12>	<15>	<18>
	metastasis:uterus tumor		0	1	1	0
{Urinary system}						
kidney			< 5>	<12>	<15>	<18>
	leukemic cell infiltration		0	4	0	0
< a >	a : Number of animals examined at the site					
b	b : Number of animals with lesion					

STUDY NO. : 0401
 ANIMAL : RAT F344/DuCrj
 REPORT TYPE : A1
 SEX : FEMALE

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

PAGE : 4

Organ	Findings	Group Name No. of Animals on Study	Control 5	2000 ppm 12	4000 ppm 15	8000 ppm 18
{Urinary system}						
kidney	metastasis:uterus tumor		< 5> 0	<12> 0	<15> 1	<18> 0
{Endocrine system}						
pituitary	metastasis:zymlal gland tumor		< 5> 0	<12> 0	<15> 1	<18> 0
adrenal	leukemic cell infiltration		< 5> 0	<12> 0	<15> 0	<18> 1
	metastasis:uterus tumor		0	0	1	0
{Reproductive system}						
ovary	metastasis:uterus tumor		< 5> 0	<12> 0	<15> 2	<18> 0
uterus	leukemic cell infiltration		< 5> 0	<12> 1	<15> 0	<18> 0
	metastasis:bone tumor		0	0	1	0
{Nervous system}						
brain	leukemic cell infiltration		< 5> 1	<12> 4	<15> 0	<18> 0
spinal cord	leukemic cell infiltration		< 5> 0	<12> 5	<15> 0	<18> 0
{Body cavities}						
peritoneum	metastasis:uterus tumor		< 5> 0	<12> 0	<15> 1	<18> 1

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

APPENDIX P 1

IDENTITY AND IMPURITY OF *p*-NITROANISOLE
IN THE 2-YEAR FEED STUDY

IDENTITY AND IMPURITY OF *p*-NITROANISOLE IN THE 2-YEAR FEED STUDY

Test Substance : *p*-Nitroanisole (Wako Pure Chemical Industries, Ltd.)

Lot No. : KSJ0005

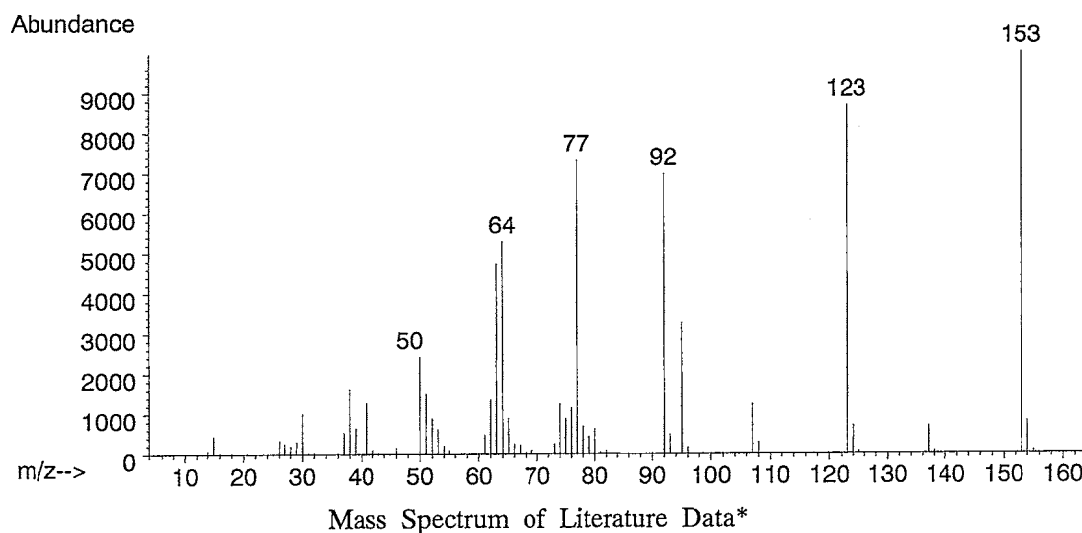
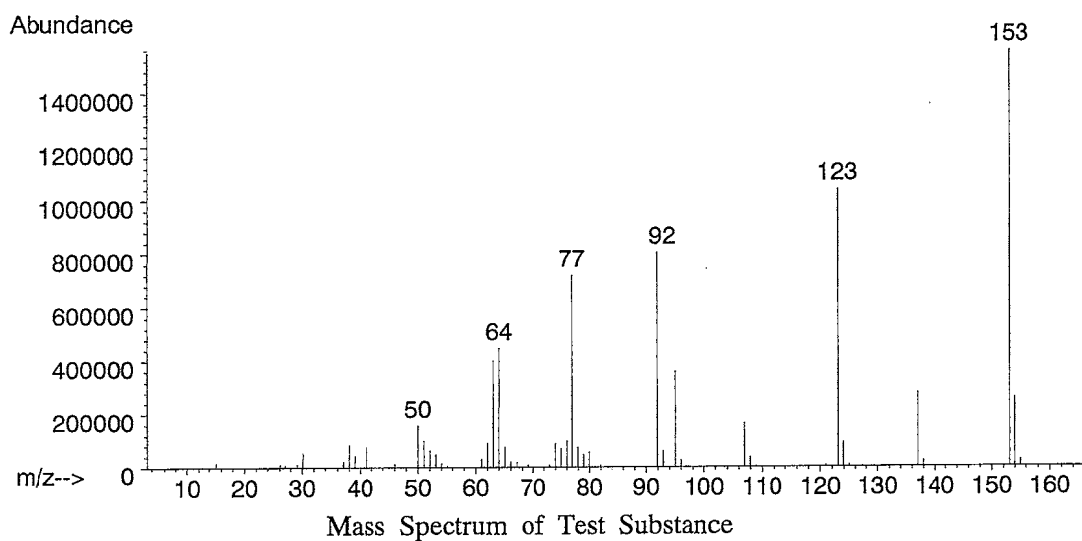
1. Spectral data

Mass Spectrometry

Instrument : Hewlett Packard 5989B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Result: The mass spectrum was consistent with literature spectrum.

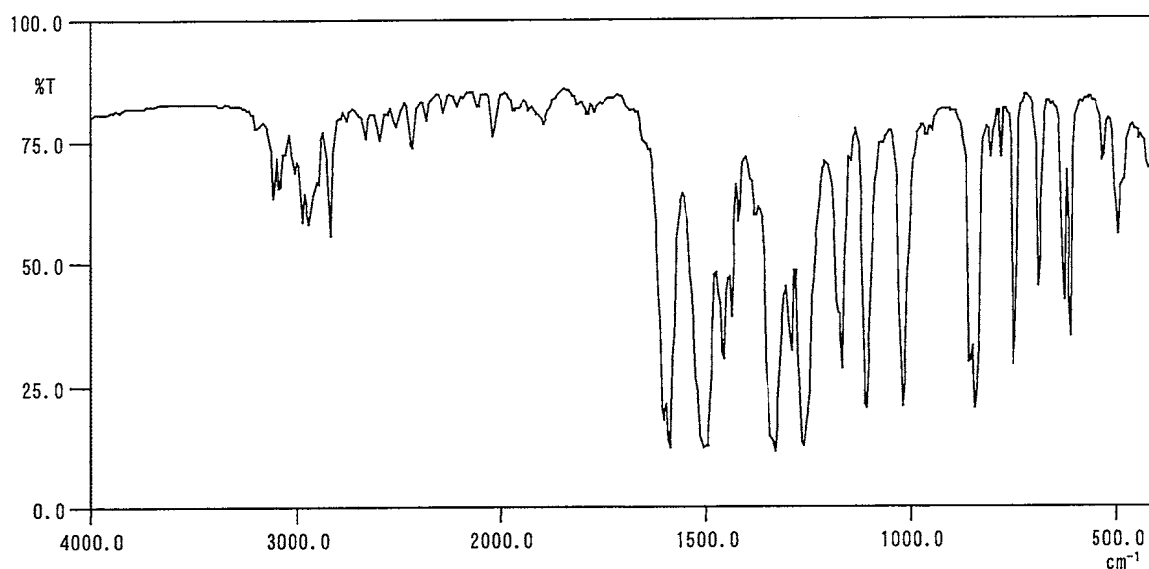
(*McLafferty FW, ed. 1994. Wiley Registry of Mass Spectral Data. 6th ed.
New York, NY : John Wiley and Sons.)

Infrared Spectrometry

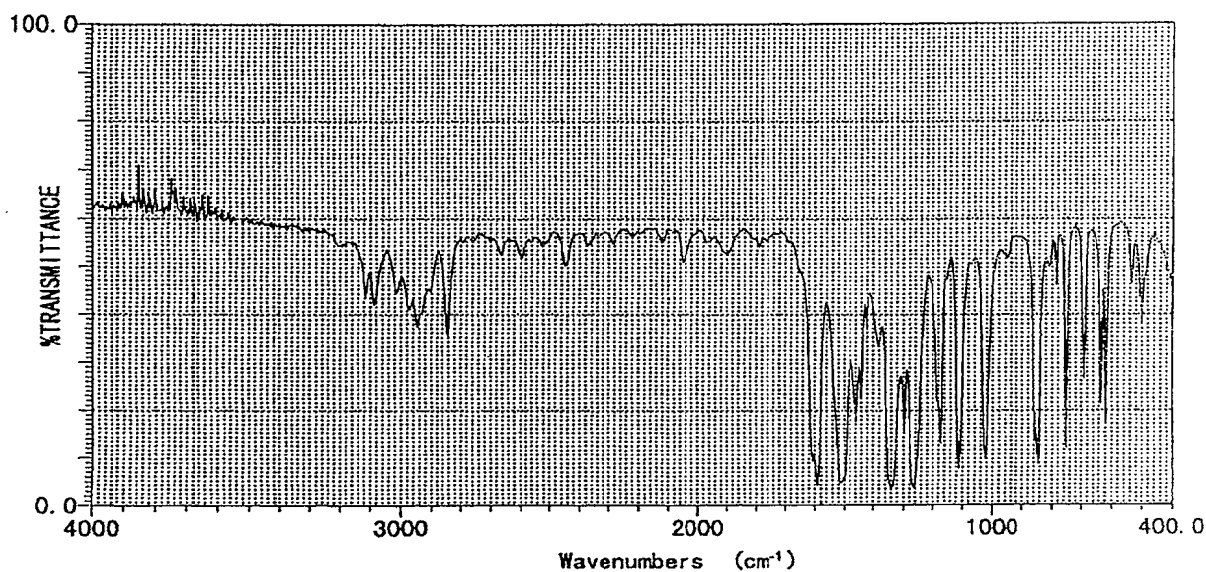
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 2.0 cm^{-1}



Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data*

Result: The infrared spectrum was consistent with literature spectrum.

(*Performed by Wako Pure Chemical Industries, Ltd.)

2. Impurity

Instrument : Hewlett Packard 5890A Gas Chromatograph
Column : INNOWAX (0.2 mm ϕ \times 50 m)
Column Temperature : 80 °C \rightarrow (15 °C/min) \rightarrow 280 °C (5 min)
Flow Rate : 1 mL/min
Detector : FID (Flame Ionization Detector)
Injection Volume : 1 μ L

Sample Name	Peak No.	Area (%)	Peak Name
Test Substance	1	0.25	<i>m</i> -Chloronitrobenzene
	2	99.75	<i>p</i> -Nitroanisole

Result: Gas chromatography indicated one major peak (peak No.2) and one impurity. It was identified by comparing GC-MS with that of *m*-chloronitrobenzene (peak No.1) in the *p*-nitroanisole. The amount in the test substance were 0.25% (The quantity value by the standard sample was 0.28%.) with a gas chromatograph.

3. Conclusion: The test substance was identified as *p*-nitroanisole by mass spectrum and infrared spectrum. Gas chromatography indicated one major peak (*p*-nitroanisole) and one impurity. The impurity was *m*-chloronitrobenzene in the test substance.

APPENDIX P 2

STABILITY OF *p*-NITROANISOLE IN FEEDING OF RATS IN THE 2-YEAR FEED STUDY

STABILITY OF *p*-NITROANISOLE IN THE 2-YEAR FEED STUDYTest Substance : *p*-Nitroanisole (Wako Pure Chemical Industries, Ltd.)

Lot No. : KSJ0005

1. Sample : This lot was used from 1999.11.11 to 2001.11.14. Test substance was stored in a dark place at room temperature.

2. Gas Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : INNOWAX (0.2 mm ϕ \times 50 m)Column Temperature : 80 °C \rightarrow (15 °C/min) \rightarrow 280 °C (5 min)

Flow Rate : 1 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 μ L

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
1999.11.04	1	10.259	0.25
	2	13.134	99.75
2001.12.26	1	10.244	0.25
	2	13.073	99.75

Result: Gas chromatography indicated one major peak (peak No.2) and one impurity (peak No.1 < 0.3% of total area) analyzed on 1999.11.04 and one major peak (peak No.2) and one impurity (peak No.1 < 0.3% of total area) analyzed on 2001.12.26. No new trace impurity peak in the test substance analyzed on 2001.12.26 was detected.

3. Conclusion: The test substance was stable for about 26 months in a dark place at room temperature.

APPENDIX P 3

CONCENTRATION OF *p*-NITROANISOLE IN FORMULATED
DIETS IN THE 2-YEAR FEED STUDY

CONCENTRATION OF *p*-NITROANISOLE IN FORMULATED DIETS IN THE 2-YEAR FEED STUDY

Date Analyzed	Target Concentration		
	2000 ^a	4000	8000
1999.11.10	1990 (99.5) ^b	3990 (99.8)	8200 (103)
2000.01.26	2060 (103)	4090 (102)	7830 (97.9)
2000.04.19	1990 (99.5)	3910 (97.8)	7920 (99.0)
2000.07.12	2090 (105)	3890 (97.3)	7910 (98.9)
2000.10.04	1910 (95.5)	3820 (95.5)	7840 (98.0)
2000.12.27	2000 (100)	4080 (102)	8180 (102)
2001.03.21	2140 (107)	4130 (103)	7980 (99.8)
2001.06.06	2120 (106)	3890 (97.3)	7770 (97.1)
2001.08.29	2020 (101)	4110 (103)	8280 (104)

^a ppm

^b %

Analytical method : The samples were analyzed by high performance liquid chromatography.

Instrument : Hewlett Packard 1090 High Performance Liquid Chromatograph

Column : TSK GEL ODS-80TM (4.6 mm ϕ \times 15 cm)

Column Temperature : Room Temperature

Flow Rate : 1 mL/min

Mobile Phase : Distilled Water : Acetonitrile = 1 : 1

Detector : UV (295 nm)

Injection Volume : 20 μ L

APPENDIX P 4

STABILITY OF *p*-NITROANISOLE IN FORMULATED DIETS IN THE 2-YEAR FEED STUDY

STABILITY OF *p*-NITROANISOLE IN FORMULATED DIETS IN THE 2-YEAR FEED STUDY

Date Prepared	Date Analyzed	Target Concentration	
		300 ^a	40000
1998.09.24	1998.09.24	314 (100) ^b	40500 (100)
	1998.10.02 ^c	257 (81.8)	37400 (92.3)
	1998.10.29 ^d	304 (96.8)	39400 (97.3)

^a ppm

^b % (Percentage was based on the concentration on date of preparation.)

^c Animal room samples

^d Cold storage samples

Analytical method : The samples were analyzed by high performance liquid chromatography.

Instrument : Hewlett Packard 1090 High Performance Liquid Chromatograph

Column : TSK GEL ODS-80TM (4.6 mm ϕ \times 15 cm)

Column Temperature : Room Temperature

Flow Rate : 1 mL/min

Mobile Phase : Distilled Water : Acetonitrile = 1 : 1

Detector : UV (295 nm)

Injection Volume : 20 μ L

APPENDIX P 5

HOMOGENEITY OF *p*-NITROANISOLE IN FORMULATED DIETS IN THE 2-YEAR FEED STUDY

HOMOGENEITY OF *p*-NITROANISOLE IN FORMULATED DIETS IN THE 2-YEAR FEED STUDY

	Target Concentration		
	2000 ^a	4000	8000
Coefficient Variation	5.39 ^b	4.17	4.00

^a ppm

^b % (n=7)

Analytical method : The samples were analyzed by high performance liquid chromatography.

Instrument : Hewlett Packard 1090 High Performance Liquid Chromatograph

Column : TSK GEL ODS-80TM (4.6 mm ϕ \times 15 cm)

Column Temperature : Room Temperature

Flow Rate : 1 mL/min

Mobile Phase : Distilled Water : Acetonitrile = 1 : 1

Detector : UV (295 nm)

Injection Volume : 20 μ L

APPENDIX Q

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY
IN THE 2-YEAR FEED STUDY OF *p*-NITROANISOLE

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY
IN THE 2-YEAR FEED STUDY OF *p*-NITROANISOLE

Item	Method	Unit	Decimal place
Hematology			
Red blood cell (RBC)	Light scattering method ¹⁾	$\times 10^6/\mu\text{L}$	2
Hemoglobin(Hgb)	Cyanmethemoglobin method ¹⁾	g/dL	1
Hematocrit(Hct)	Calculated as $\text{RBC} \times \text{MCV}/10$ ¹⁾	%	1
Mean corpuscular volume(MCV)	Light scattering method ¹⁾	fL	1
Mean corpuscular hemoglobin(MCH)	Calculated as $\text{Hgb}/\text{RBC} \times 10$ ¹⁾	pg	1
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as $\text{Hgb}/\text{Hct} \times 100$ ¹⁾	g/dL	1
Platelet	Light scattering method ¹⁾	$\times 10^3/\mu\text{L}$	0
White blood cell(WBC)	Light scattering method ¹⁾	$\times 10^3/\mu\text{L}$	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 $\text{Alb}/(\text{TP} - \text{Alb})$ 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 (ADVIA120 : Bayer Corporation)

2) Automatic blood cell differential analyzer (MICROX HEG-120NA : OMRON Corporation)

3) Automatic analyzer (Hitachi 7070 : Hitachi,Ltd.)