キノリンのラットを用いた経口投与によるがん原性試験(混水試験)報告書

試験番号:0303

APPENDIX

APPENDIXES

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APPENDIX P 3	HISTOLOGICAL FINDINGS: METASTASIS OF TUMOR: SUMMARY, RAT: MALE: DEAD AND MORIBUND ANIMALS (2-YEAR STUDY)
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APPENDIX A 1

CLINICAL OBSERVATION: SUMMARY, RAT: MALE

(2-YEAR STUDY)

STUDY NO. : 0303

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

Clinical sign	Group Name		stration W												
· · · · · · · · · · · · · · · · · · ·		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
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	. 0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	mag 008	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 96

STUDY NO. : 0303

SEX : MALE

Clinical sign	Group Name	Admini	istration W	eek-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
2.000															
EATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	1	1	1	1	1	1	1
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	. 0	0	0	0	0	0	0
UNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթտ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0303

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A1 96

SEX : MALE

Clinical sign	Group Name		istration W	eek-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
EATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2111	200 ppm	0	0	0	0	0	0	0	0	0	1	0 1	0 1	0 1	0
	400 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	800 ppm	1	1	2	2	2	3	3	6	7	7	7	9	9	9
														•	
ORIBUND SACRIFICE	Control	0	0	0	0	0 -	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
OCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	ō
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	ō	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	Ŏ	Ö	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	ő	0	0	Ö	ő	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	Ŏ	ő	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	Ö	ŏ	ő	1	Ö	0	0
DILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-	200 ppm	0	Ö	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	Ö	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	Ö	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

Clinical sign Group Name Administration Week-day 43 - 744-745-746-7 47-7 48-7 49-7 50-7 51-7 52-7 53-7 54-7 55-7 56-7

DEATH Control 200 ppm 400 ppm 800 ppm MORIBUND SACRIFICE Control 200 ppm Ω

400 ppm 800 ppm LOCOMOTOR MOVEMENT DECR Control 200 ppm 400 ppm 800 ppm

HUNCHBACK POSITION Control 200 ppm 400 ppm 800 ppm PARALYTIC GAIT Control 200 ррт

400 ppm 800 ppm WASTING Control 200 ррт Ð 400 ppm 800 ppm

PILOERECTION Control 200 ppm 400 ppm 800 ppm SOILED PERI GENITALIA Control 200 ррш 400 ppm

800 ppm

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

STUDY NO. : 0303

SEX : MALE

Clinical sign	Group Name	Admini	stration W	eek-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
EATII	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թբա	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	400 ppm	4	4	5	5	5	6	7	11	13	15	15	15	17	18
	800 ppm	35	38	39	39	41	42	42	42	42	42	42	42	43	43
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	1	1	2	2	2	2	2	2
	800 ppm	3	3	4	4	4	4	4	5	5	5	5	5 .	5	5
OCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	1	1	1	0	0	0	0	0	0
	400 ppm	Õ	0	0	0	0	1	0	1	ő	0	0	o O	Ö	ő
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	Ö	Ö	Ô	0	0	0	0	0	0
	400 ppm	Ö	0	ő	ő	ő	í	0	ŏ	Ő	0	Ö	Ö	0	0
	800 ppm	ő	0	0	Ŏ	0	0	0	0	0	0	0	0	0	0
	ooo ppm	•	•	v	v	v	v	•	0	J	•	v	•	v	v

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A1 96

STUDY NO. : 0303

Clinical sign	Group Name	A J	stration V	V1.		•									
orinical Sign	oroup name	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	0	0	1	1
	200 ppm	2	2	2	2	3	3	6	6	6	7	7	8	9	10
	400 ppm	21	24	27	29	30	31	33	33	35	37	38	38	38	38
	800 ppm	43	43	43	44	44	45	-	-			-	-	-	
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	2	2	2	2
	400 ppm	2	2	2	2	4	5	7	7	7	7	7	7	7	7
	800 ppm	5	5	5	5	5	5	-	-	-	-	-		***	_
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթտ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	=	=	=	-	=	-	-	-	-
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	-	~			-	_	-	
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0		-	-	-	-	-	-	-	-
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	-	-	-	-	-	-		-
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	3	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	=	=	=	_	_	_	_	_	_
SOILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	1	1	1	1	_	_	_	_	_	_	_	-	-

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

STUDY NO. : 0303

SEX : MALE

Clinical sign	Group Name	Admini	stration W	eek-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
DEATH	Control	1	1	1	1	1	1	1	1	1	1	1	1
	200 ррт	10	13	15	17	19	20	22	23	23	24	27	28
	400 ppm	38	38	40	40	40	40	40	40	40	40	41	
	800 ppm	-	-	-	-	-	-	-	-	-	-	-	_
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	2	2	2	3	3	3	3	3	3	3	3	3
	400 ppm	7	7	8	8	8	8	8	8	8	8	9	-
	800 ppm	-	-	-	-	-	-	-	-	-	-	_	-
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0		-
	800 ppm	_	-	-	-	1871	***	-	-	-	-	-	-
JUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	1
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	-
	800 ppm	-	_	-	-	-	-	-	-	-	-	-	
PARALYTIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	-
	800 ppm	-	•	-	-	-	-		-	-	-	-	-
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	1	0	0	0	0	0	0	0	0	0	1
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	-
	800 ppm	-	-	-	-	-	-	see	-	_	-	_	-
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	1
	400 ppm	0	0	0	0	0	0	0	0	0	0	_	***
	800 ppm	-	alan	-	_	_	_	_	-	-	-	-	-
SOILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	_
	800 ppm	-	-	-	-	_	-	-	_	_	_	_	none.

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

STUDY NO. : 0303

SEX : MALE

Clinical sign	Group Name	Admini	stration We	ek-day _											
		1-7	2-7	3-7	47	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
XOPIITHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATARACT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	mqq 008	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY)

ANIMAL : RAT F344/DuCrj ALL ANIMALS

REPORT TYPE : A1 96

STUDY NO. : 0303

SEX : MALE

															I AGD .
Clinical sign	Group Name	Admini	istration W	Yeek-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
WODERLIN WOO	a . 1	•	•	•	•	•	•	•							_
XOPIITHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	_	0		0	0	0	0	0	0	0	0	0	0	0
	400 ppm 800 ppm	0	0	0 0	0	0 0	0 0	0 0	0	0	0 0	0	0	0	0
	ooo ppm	U	U	U	U	U	0	U	U	Ü	U	U	U	0	0
YE OPACITY	Control	1	i	1	1	1	1	1	1	1	1	1	1	1 ·	1
	200 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATARACT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ORNEAL OPACITY	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
olduzin ornerri	200 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Ö	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ооо ррш	v	v	v	V	v	v	V	V	V	v	v	V	V	V
XTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	Õ	0	ō	0	ő	0	0	0	0	Ö	0	0
	400 ppm	0	Ö	Ö	0	o o	Ö	0	0	0	0	0	0	0	ő
	800 ppm	0	0	0	0	0	0	0	0	ő	0	ō	0	0	0
. PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

Clinical sign	Group Name	Admini	istration W	leek-dav											
		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
EXOPITTIALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YE OPACITY	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	200 ррт	1	1	1	1	1	1	1	1	1	1	1	1	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթտ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	. 0
CORNEAL OPACITY	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	200 թբա	1	1	1	1	1	1	1	1	1	1	1	1	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	. 0	0	0	0	0	0
I. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 96

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Admini	stration W	eek-dav											
		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
EXOPIITHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	1	1	1	1	1	1	1	2
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0 .	0	0	0	0	0	0
YE OPACITY	Control	1	1	1	1	2	2	2	2	2	2	2	2	2	2
	200 թբա	2	1	1	1	1	1	2	2	2	1	2	2	2	2
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	200 թբա	1	1	1	1	1	1	1	1	1	1	2	2	2	2
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	200 ppm	0	0	0	0	0	0	1	1	1	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	400 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	800 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
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
A. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	. 0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mqq 008	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

PAGE: 12 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 EXOPIITHALMOS Control 200 ppm 400 ppm 800 ppm EYE OPACITY Control 200 ррш 400 ppm 800 ppm n ß CATARACT Control 200 ppm 400 ppm 800 ppm CORNEAL OPACITY Control 200 ррт 400 ppm 800 ppm EXTERNAL MASS Control 200 рри 400 ppm 800 ppm INTERNAL MASS Control 200 ppm 400 ppm 800 ppm M. NOSE Control 200 ррт 400 ppm 800 ppm M. PERI MOUTH Control 200 ррт n 400 ppm 800 ppm

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX: MALE

Clinical sign	Group Name	Admini	stration W	eek-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
XOPIITHALMOS	Control	0	1	1	1	1	1	1	1	,1	1	1	1	1	1
	200 թթտ	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	_	-	-	_	_	-		-
YE OPACITY	Control	4	4	4	4	4	4	4	4	4	5	5	5	5	5
	200 ррт	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	400 ppm	0	0	0	1	1	2	2	3	1	1	1	1	1	1
	800 ppm	0	0	0	0	0	-	-	-	differ	-	_		-	-
ATARACT	Control	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	200 թթա	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	400 ppm	0	0	0	1	1	2	2	3	1	1	1	1	1	1
	800 ppm	0	0	0	0	0	_	-	-	-	-	-		_	_
ORNEAL OPACITY	Control	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	200 թբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	_	_	-	-	-		-	_
XTERNAL MASS	Control	1	1	2	3	3	3	3	4	4	4	4	5	6	7
	200 թթա	3	3	3	3	3	3	3	3	5	6	5	5	6	6
	400 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	800 ppm	1	1	1	0	0	-	_	_	=	-	-	-	-	-
NTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	400 ppm	0	1	1	0	1	1	1	1	1	1	1	1	1	1
	800 ppm	0	0	0	0	0		-	-	-	-	-	-	-	-
I. NOSE	Control	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	_	-	-	_		-	_	<u>-</u>	_
. PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	1	1	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	_	_			_	_	_	_	

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Admini	istration W	leek-day									
		85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	947	95-7	96-7
EXOPIITHALMOS	Control	1	1	1	1	1	1	1	.1	1	1	1	1
	200 ррш	2	2	1	1	1	1	1	1	1	1	1	1
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	_
	800 ppm	-	-	-	-	~	-	-	_	-	-	_	_
YE OPACITY	Control	5	5	5	5	5	5	5	5	5	5	5	5
	200 ррт	5	5	4	4	4	4	4	4	4	4	4	4
	400 ppm	1	1	0	0	0	0	0	0	0	1	-	-
	800 ppm		-	-	-	-	-	-	-	-	-	-	_
CATARACT	Control	3	3	3	3	3	3	3	3	3	3	3	3
	200 ррт	5	5	4	4	4	4	4	4	4	4	4	4
	400 ppm	1	1	0	0	0	0	0	0	0	1	-	-
	800 ppm	_	-	_	-	-	-	-		-	-	_	_
ORNEAL OPACITY	Control	2	2	2	2	2	2	2	2	2	2	2	2
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	_
	800 ppm	-		-	_	_	_	-	-	-	_	_	. =
XTERNAL MASS	Control	8	8	8	9	10	9	9	9	9	10	10	10
	200 ррш	6	6	5	4	4	4	4	4	4	4	4	4
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	
	800 ppm	_	_	-	-		-		-	-	_	-	_
NTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	1	0	0	0	0	0	0	0	0	0
	400 ppm	1	1	0	0	0	0	0	0	0	0	-	-
	800 ppm	-	-	-	_		-	-	-Map	-	-	_	_
. NOSE	Control	1	1	1	2	2	2	2	2	2	2	2	2
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	***	_
	800 ppm	=	=	-	_	_	_	-	-	-	Wa	_	_
PERI MOUTH	Control	0	0	0	0	1	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	Ó	0	0	0	0	0	0	_	-
	800 ppm	_	-	_	-	_	_	_	-	-	_	_	-

CLINICAL OBSERVATION (SUMMARY)

ANIMAL : RAT F344/DuCrj ALL ANIMALS

REPORT TYPE: A1 96

STUDY NO. : 0303

SEX : MALE

Clinical sign	Group Name	Admini	stration W	eek-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
PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0 .	0	0	. 0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	mqq 008	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDISE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name		istration W		-										
		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
A. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	. 0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	o O	0	0	0	0	0	0 .
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ō
AUNDISE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	Ö	Ö	Ŏ	Ö	Ö
	400 ppm	0	0	0	0	0	0	0	Õ	0	Ö	ő	Ö	Ö	ŏ
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0303

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

SEX : MALE

Group Name														
	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
														0
										-				0
												-		0
800 ppm	Ū	0	U	Ü	0	0	0	0	0	0	0	0	0	0
Control	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
400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 ррш	0	0	0	0	0	0	1	1	1	1	1	1	1	1
400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	n	0	0	Ω	n	n	n	n	n	0	0
	0									-	-	_	-	o
	0	0												0
800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	n	Ω	n	0	0
	0	0				-				=				0
	0	0										•	-	Ö
800 ppm	0	0	0	Ō	0	0	0	0	Ö	Ö	0	ő	ő	Ö
Control	n	0	n	n	0	0	0	0	0	٥	0	0	٥	0
	0	-												0
	0	-						-				-		0
800 ppm	0	0	0	0	0	0	ő	ŏ	0	ő	0	0	0	0
Control	n	0	0	Ω	n	n	0	n	0	0	0	0	0	0
												-	-	0 0
	-	-					-			-		-		0
800 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Control	n	0	0	٥	0	0	٥	٥	0	0	0	0	0	0
	-	-				-	-			-		-		0
	-											-		•
800 ppm	0	0	0	0	0							-		0
	Control 200 ppm 400 ppm 800 ppm	Control 0 200 ppm 0 400 ppm 0 800 ppm 0 Control 0 200 ppm 0 400 ppm 0 800 ppm 0 Control 0 200 ppm 0 800 ppm 0 Control 0 200 ppm 0 400 ppm 0 800 ppm 0 Control 0 200 ppm 0 800 ppm 0 Control 0 Control 0 Control 0 200 ppm 0 800 ppm 0 Control 0	Control 0 0 0 200 ppm 0 0 0 800 ppm 0 0 0 800 ppm 0 0 0 800 ppm 0 0 0 Control 0 0 0 800 ppm 0 0 0 800 ppm 0 0 0 Control 0 0 0 200 ppm 0 0 0 800 ppm 0 0 0 Control 0 0 0 200 ppm 0 0 0 800 ppm 0 0 0 Control 0 0 0 800 ppm 0 0 0 Control 0 0 0 200 ppm 0 0 0 Control 0 0 0 200 ppm 0 0 0 Roo ppm 0 0 0 Control 0 0 0 Control 0 0 0 Control 0 0 0 Roo ppm 0 0 0 Control 0 0 0 Roo ppm 0 0 0 Control 0 0 0 Control 0 0 0 Roo ppm 0 0 0 Control 0 0 0 Control 0 0 0 Roo ppm 0 0 0 Control 0 0 0	Control 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Control 0	Control O	Control O	29-7 30-7 31-7 32-7 33-7 34-7 35-7	Control O	Control 0	Control O O O O O O O O O	Centrol 0	Control O	Control 0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

Clinical sign	Group Name	Admini	stration W	eek-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
A. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	400 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	mqq 008	0	0	0	0	0	0	0	0	0	1	1	0	0	1
JAUNDISE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

01 1 .															
Clinical sign	Group Name	Admini 57-7	stration V 58-7	√eek-day <u> </u>	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	CO 7	CO 7	70.7
		31-1	30-1	J9-1	80-7	01-1	02-1	03-1	04-7	05-7	66-7	01-1	68-7	69-7	70-7
. PERI EAR	Control	0	0	0	0	٥	0	^	0	0	0	•	•		•
LIENI BAN	200 ppm	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
	400 ppm	1	1	1	1	1	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	. 0	0	0	0	0	0
	200 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	400 ppm	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	800 ррш	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	1	1
	200 ppm	0	0	0	0	0	Ô	0	ō	0	Ö	Ö	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	Ö	o o	0	ő	ŏ
	800 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	1
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	Ö	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	o	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
a. OMITABIN	200 ppm	0	0	0	0	0	0	0	1	1	1	1	0 1	0	1
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1 0	=
	800 ppm	0	0	0	0	0	0	0	0						0
	800 ppm	U	U	U	U	U	U	U	U	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	1	1	1	1	2	1	1	2	0	0	0	0	1	1
	800 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0
JAUNDISE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	ō
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

SEX : MALE

Clinical sign	Group Name	Admin	istration W	eek-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
M. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	. 0	0	0	0	0	0	0	0
	mqq 008	0	0	0	0	0	-	•••	-	-	-	_		-	-
A. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	~	_		THE	-	-	-	-
A. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	200 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3
	400 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	_	-	_	_	_	-	-	-
. ANTERIOR. DORSUM	Control	1	1	1	2	2	2	2	2	2	2	2	3	4	4
	200 թթա	0	0	0	0	0	0	0	0	1	2	2	2	2	2
	400 ppm	0	0	0	0	0	0	0	0	ō	0	0	0	0	0
	800 ppm	1	1	1	0	0	_	_	_	-	-	_	-	_	-
I. HINDLIMB	Control	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	Ŏ	Ö	0
	800 ppm	0	0	0	0	0	_	-	-	-	_	-	-	-	_
. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 բբա	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	400 ppm	0	0	0	0	0	Ō	0	Ō	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	_	_	_	_	_	-	-	-
NEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	1	0	0	0	0	0	1	1	1	0	1
	400 ppm	3	1	2	4	2	3	0	0	1	1	0	0	0	0
	800 ppm	0	0	0	ō	ō	_	_	_	-	_	_	-	-	-
AUNDISE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	ő	0	0	ő
	400 ppm	ō	0	Ö	0	Ŏ	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	ů	0	_	_	~	_	-	_	_	_	_

STUDY NO. : 0303

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

SEX : MALE

Clinical sign	Group Name	Admini	stration W	eek-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	
.PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0	_	_	
	800 ppm	-	-	_	-	-	_	-	-	-	-	-	-	
NECK	Control	1	1	1	1	1	1	1	1	1	1	1	1	
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0	_	_	
	800 ppm	_	-	-	-	-	_		-	-	-	-	-	
. ABDOMEN	Control	1	1	1	1	1	1	1	1	1	2	2	2	
	200 ppm	3	3	2	1	1	1	1	1	1	1	1	1	
	400 ppm	0	0	0	0	ō	0	0	õ	0	0	_		
	800 ppm	_	-	_	-	_	-	-	_	_	_	-	-	
ANTERIOR. DORSUM	Control	4	4	4	4	4	4	4	4	4	4	4	4	
	200 ррт	2	2	2	2	2	2	2	2	2	2	2	2	
	400 ppm	0	0	0	0	0	0	0	0	0	0	_	_	
	800 ppm	-	-	-	-	-	-	-	-	-	-	-	-	
. HINDLIMB	Control	1	1	1	1	1	1	1	1	1	1	1	1	
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0	_	_	
	800 ppm	-	-	-	-	. –	-	nam	_	-		-	-	
. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ppm	1	1	1	1	1	1	1	1	1	1	1	1	
	400 ppm	0	0	0	0	0	0	0	0	0	0		_	
	800 ppm	-	-	-	-	-	-	-	_	-	-	-	-	
NEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ppm	3	0	1	0	0	1	3	3	3	5	4	4	
	400 ppm	1	1	0	0	0	0	0	1	1	1	-		
	800 ppm	-	-	-	_	-	-		_	-	-	-	-	
AUNDISE	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	1		_	
	800 ppm	_	_	_	_	_	-	_		_	_	_		

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 96

STUDY NO. : 0303

SEX : MALE

Clinical sign	Group Name	Admini	stration We	eek-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
IEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	mqq 008	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0 -	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
raciiypnea	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY)

ANIMAL : RAT F344/DuCrj ALL ANIMALS REPORT TYPE : A1 96

STUDY NO. : 0303

SEX : MALE PAGE: 23

Clinical sign	Group Name														
-		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
													2000	A.F.	···
IEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	Õ	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	ō	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Õ
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

PAGE: 24 Clinical sign Group Name Administration Week-day 29 - 730-7 31-732-7 33-7 34-7 35-7 36-7 37-7 38-7 39-7 40-7 41-7 42-7 HEMORRHAGE Control 200 ppm n 400 ppm 800 ppm TORTICOLLIS Control 200 ppm 400 ppm 800 ppm IRREGULAR BREATHING Control 200 ppm 400 ppm 800 ppm RESPIRATORY SOUND ABNOR Control 200 ррт 400 ppm 800 ppm ABNORMAL RESPIRATION Control 200 ppm 400 ppm 800 ppm TACHYPNEA Control 200 ppm 400 ppm 800 ppm DEEP BREATHING Control 200 ррт 400 ppm 800 ppm ABNORMAL RESPIRA, SOUND Control 200 ppm 400 ppm 800 ppm

STUDY NO. : 0303 CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A1 96

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 HEMORRHAGE Control 200 ppm 400 ppm 800 ppm TORTICOLLIS Control 200 ррт 400 ppm 800 ppm IRREGULAR BREATHING Control 200 ppm 400 ppm 800 ppm RESPIRATORY SOUND ABNOR Control 200 ppm 400 ppm 800 ppm ABNORMAL RESPIRATION Control 200 ppm 400 ppm 800 ppm TACIIYPNEA Control 200 ppm 400 ppm 800 ppm DEEP BREATHING Control 200 ррт 400 ppm 800 ppm ABNORMAL RESPIRA. SOUND Control 200 ррт 400 ppm 800 ppm

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

STUDY NO. : 0303

SEX : MALE

Clinical sign	Group Name	Admini	istration W	ek-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
EMORRIJAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAIORATA DE	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	2	1	1	1	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ооо ррш	v	Ť	•	v	v	Ü	v	V	J	Ü	٧	V	V	Ū
ORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	ō	0	0	0	ō	0	1	1	2	2	2	2	2
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
													•	•	,
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթտ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	1	0	0	2	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	. 0	0
	200 рут	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	. 0	0
	200 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	400 ppm	0	0	0	0	1	1	0	2	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

STUDY NO. : 0303

Clinical sign	Group Name	Admini	stration W	lookday											***************************************
	oroup name	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
IEMORRHAGE	Control	0	0		0	0	0	0	0	0	0	٥	0	•	•
EMURRIAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	_	_	-	_	_	_		territ.	_
ORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թբա	2	2	2	2	2	3	3	3	3	3	3	3	3	3
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	-	-	~		_	_	_	_
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	1	0	0	0	1
	400 ppm	0	0	0	2	0	0	0	0	Ō	0	0	0	0	0
	800 ppm	0	0	0	0	0	_	_	_	_	-	-	_	_	_
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOS TRUTORY DOORD TENOR	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	-	-	-	-	-	-	-	-
DNODHAI DECDIDATION	C - t - 1	0											0		
ABNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	1
	400 ppm	1	0	0	2	0	0	0	0	0	0	0	0	0	0
	mqq 008	0	0	0	0	0	-	_	=		=	==	-	_	_
'ACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	-	-	-	-	- ·	-		-
EEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ō
	800 ppm	0	0	0	0	0	_	_	-	_	_	_	_	***	
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The state of the s	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	Ô	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	_	_	V	0	U	_	_	_	_

CLINICAL OBSERVATION (SUMMARY)

ANIMAL : RAT F344/DuCrj ALL ANIMALS

REPORT TYPE : A1 96

STUDY NO. : 0303

SEX : MALE

Clinical sign	Group Name	Administration Week-day												
		85-7	86-7	87-7	88-7	89–7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	
IEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	_	
	800 ppm	_	_	-	_	-	_	_	_	_			-	
ORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ррт	3	3	3	3	3	3	3	3	3	3	2	2	
	400 ppm	0	0	0	0	0	. 0	0	0	0	0	_	-	
	800 ppm	-	-	-	-	-	-	-	-	-	-		=	
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ррт	1	1	1	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0		-	
	800 ppm	-	_	-	_	<u>-</u>	-	_	_	w.	_	-	-	
ESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0	_	-	
	800 ppm	_	-	-	-	-	_	-	-	-	-	-	-	
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ррт	1	1	1	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	_	
	800 ppm	-	-	-	-	-	-	-	-	-	-	-	_	
FACHYPNEA .	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	_	
	800 ppm	-	_	-	-	-	-	-	_	-	-	-		
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	_	
	800 ppm	-	-	-	-	-	-	-	-	-	_	-	-	
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	
	200 թբա	0	0	0	0	0	0	0	0	0	0	0	0	
	400 ppm	0	0	0	0	0	0	0	0	0	0	-	_	
	800 ppm	_	-	_	_	_	_	_		-	_	_		

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

PAGE: 29

Clinical sign	Group Name														
		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
RED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	. 0	0	0	0	0
ELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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BAIS 3

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A1 96

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

PAGE: 30

Clinical sign	Group Name	Admini	stration W	eek-day		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				
ED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	200 թբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
ELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	200 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0				
LIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0				
UBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

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BAIS 3

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

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Sign Group Name Administration Week-day

Clinical sign	Group Name	Admin	istration W	eek-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
•															
ED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ELLOW URINE	Control	0	0	0	0 .	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	1	1	0	0	0
UBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ö
	800 ppm	0	0	0	Ö	0	0	0	0	Ö	1	Ö	0	0	o O

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ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

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Clinical sign	Group Name	Admini	stration W	eek-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
RED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	Ö
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	1	1	0	0	0	0	0	Ō	0	0	0	0
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	1
DLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	800 ppm	0	0	1	1	1	0	0	1	0	0	0	0	ō	ō
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0		0	0	0	0
	200 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	o o
	400 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ő
	800 ppm	0	0	0	0	0	0	0	0	0	Ö	0	0	Ö	ő

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ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

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
RED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KED UKINE		0	0	0	0	0	0	0	0		0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	-	0	0		0	0	0	0	0	0	0
	800 ppm	0	U	U	0	0	0	0	0	0	0	0	0	U	U
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	1	1	1	0	0	0	0	0	0
	400 ppm	0	0	0	0	0	1	0	1	0	0	0	3	1	1
	800 ppm	0	0	0	1	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
	200 ррт	0	0	0	0	0	1	1	1	0	0	ō	0	ō	0
	400 ppm	0	0	0	0	0	2	1	2	0	0	0	3	1	1
	800 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	o O	Ŏ	0	0	0	0	0	0
	400 ppm	0	0	o O	0	0	0	0	0	Ö	0	0	Õ	Õ	0
	800 ppm	0	•	0	ů	0	0	0	0	v	v	v	V	v	v

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ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 96

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : MALE

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Clinical sign	Group Name	Admini	stration W	eek-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
EP HOLLE										_					
ED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	_	-	_		-	-	-	. —
ELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ррт	0	0	0	1	0	0	0	0	0	0	0	0	0	ō
	400 ppm	2	1	1	2	2	1	0	0	0	0	0	0	0	0
	800 ppm	0	0	0	0	0	-	-	-	-	~	_	_	_	_
MALL STOOL	Control	0	0	0	0	0	0	0	0	0	1	1	1	0	0
	200 ррт	0	0	0	0	0	0	0	0	1	1	1	0	Ô	0
	400 ppm	2	1	0	4	1	1	0	0	0	1	0	Ö	0	0
	800 ppm	0	0	0	0	0	_	<u>-</u>	_	_	_	_	-	_	-
JIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	1	1	1	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	2	1	0	1	1
	400 ppm	1	1	0	4	1	1	0	0	0	1	0	0	0	0
	800 ppm	0	0	0	0	0	_		_	_	_	-	_	_	-
JBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200 ppm	0	0	0	0	0	0	0	0	0	0	0	Ô	0	0
	400 ppm	0	0	0	0	0	0	0	0	Ŏ	0	Õ	0	Ô	0
	800 ppm	0	ō	0	0	Ö	-	_	_	-	_	-	_	_	_

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ANIMAL : RAT F344/DuCrj

REPORT TYPE: A1 96

SEX : MALE

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

PAGE: 35

RED URINE Control 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	95-7 96-7 0 0 0 0 		93-7	92-7	91-7	90-7	00.7						
200 ppm	0 0 -	0 0					89-1	88-7	87-7	86-7			
200 ppm	0 0 -	0 0						"					
200 ppm	0 0 -	0 0	0	0	0	0	0	0	0	0	0	Control	ED URINE
400 ppm					0		0	0	0	0	0	200 ppm	
ELLOW URINE Control 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-						0	0	0	0	0		
200 ppm			-				-	-	-	-	-		
200 ppm	0 0	0 0	0	0	0	n	Û	0	0	0	0	Control	ELLOW URINE
400 ppm 1 2 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1											1		
800 ppm	1 1		1	1							1		
200 ppm 2 1 0 0 0 0 2 2 2 1 1 400 ppm 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		1	_	_			-				-		
200 ppm 2 1 0 0 0 0 2 2 2 1 1 400 ppm 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						^	^	0	0	0	0	C-5+1	IOOT2 LIAM
400 ppm 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0			1	1					0			RALL STOOL
800 ppm	1 1									1	Z		
LIGO-STOOL Control 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	_	0 ~	0	0					*	I	1		
200 ppm 1 0 0 0 0 1 0 0 0			-	-		-	-	_	_	_	_	800 ppm	
	0 0	0 0	0	0	0	0	0	0	0	0	0	Control	LIGO-STOOL
	0 0	0 0	0	0	0	1	0	0	0	0	1	200 ррт	
400 ppm 0 0 0 0 0 0 0 0 0		0 -	0	0	0	0	0	0	0	0	0	400 ppm	
800 ppm		~ -	-	-	-	-	-		_	-	-	800 ppm	
UBNORMAL TEMP Control 0 0 0 0 0 0 0 0 0	0 0	0 0	0	0	0	0	0	0	0	0	0	Control	UBNORMAL TEMP
200 ррш 0 0 0 0 0 0 0 0	0 0												
400 ppm 0 0 0 0 0 0 0 0 0								-		-			
800 ppm				-	-			-	_	_			

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BAIS 3

APPENDIX A 2

CLINICAL OBSERVATION: SUMMARY, RAT: FEMALE

(2-YEAR STUDY)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX: FEMALE

Clinical sign	Group Name	Admini	stration We	eek-dav											
	•	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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

STUDY NO. : 0303

REPORT TYPE: A2 104

SEX : FEMALE

Clinical sign	Group Name	Admini	istration W	eek-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
ЕАТН	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
721111	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ооо ррш	•	· ·	Ü	v	v	v	v	v	v	V	v	V	V	v
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	Õ	0	0	0	0	0	Ő	0	0	Ö	0	0
	600 ppm	0	0	0	0	0	0	0	0	Ō	0	0	0	0	0
JUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Ō	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Õ	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	Ö	ō	0	Ö	0	Ö	ő	ŏ
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	Ö	Õ	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0 ,	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0 ,	ō
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Õ	ō
	600 ppm	0	0	0	0	0	0	0	0	0	Ō	0	Ō	0	Ō
SOILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	ō
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY)

ANIMAL : RAT F344/DuCrj ALL ANIMALS

REPORT TYPE : A2 104

STUDY NO. : 0303

SEX : FEMALE

Clinical sign	Group Name	Admin	istration W	eek 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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
OCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROG BELLY	Control	0	0	0	0	0	0	0	- 0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0303

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	1	1	1	1	1	1	1	1	1	1	1	1	2	2
	600 ppm	2	2	2	2	2	2	3	3	3	3	4	6	6	8
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
OCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թբm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

SEX: FEMALE

Clinical sign	Group Name	Admini	istration W	eek-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	0	0	1	1	1	1	1	1	1	1
	150 թթտ	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	300 ppm	2	3	3	3	3	3	4	5	5	5	6	6	7	7
	600 ppm	9	9	12	12	14	15	16	16	17	18	23	23	24	27
ORTBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	1	1	1	1	1	2	2	2	2	2	2	2	2	2
	600 ppm	1	1	1	2	3	3	3	5	5	5	. 5	6	7	8
OCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
UNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	1	0	1	0	1	1
TAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	. 0	0	1	0	1	1	1	1

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

STUDY NO. : 0303

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-day											
-	· 	71-7	72-7	73-7	747	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
ЕАТН	C 1	1	•		·	•			4						
EATH	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	150 ррт	1	1	1	1	3	3	3	4	4	5	5	5	5	5
	300 ppm	9	10	10	10	11	12	15	16	16	20	21	21	22	23
	600 ppm	29	30	30	33	34	35	36	36	37	37	37	38	38	38
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	1	1	1	1	1	2	2	2
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	2	3	3	3	3	3	3	3	3	3	3	4	4	8
	600 ppm	9	9	9	10	10	10	10	10	10	11	11	11	11	11
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROG BELLY	Control	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	Ŏ	0	0
	300 ppm	0	0	Õ	0	0	0	Ö	0	0	0	ő	Ö	0	0
	600 ppm	ō	ő	ő	Ö	ő	ŏ	ŏ,	ő	ő	0	0	0	0	0
SOILED PERI GENITALIA	Control	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	Ö	0	0	Ö	0	0	Ö	0
	300 ppm	1	0	ő	0	0	0	ő	0	Ö	0	0	0	0	0
	600 ppm	0	1	1	0	0	1	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2 104

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STUDY NO. : 0303

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-day											
	-	85-7	86-7	87-7	88-7	89-7	907	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
DEATH	Control	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	150 ррт	5	10	12	12	12	12	13	14	15	15	15	17	17	18
	300 ppm	23	23	24	26	27	28	28	29	29	30	32	33	33	34
	600 ppm	38	38	38	38			-	-	_	_	-	-		-
DRIBUND SACRIFICE	Control	2	2	2	2	2	2	2	2	2	2	3	3	3	3
	150 ррт	0	0	1	1	1	1	1	2	5	5	6	6	6	6
	300 ppm	8	8	8	8	9	9	9	9	9	10	10	10	11	11
	600 ppm	11	11	11	11	-	enan.	-	-		-	mage.	_	-	-
OCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	1	0	0	0	0	0	0	0	0	1	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	-	-	-	-	-	-	-	_	-	_
UNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	300 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	1	-	-	-	-		-	_	_	_	-
TAXIC GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	-		_		_	_	_	_	-	-
ILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	Ö	0	o o
	600 ppm	0	0	0	0	-	-	_	_	-	-	-	-	-	-
ROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	Ô	ő
	300 ppm	0	0	Ō	0	0	0	Õ	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	-	-	_	_	_	~	-	-	-	-
OILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	_	_	_	_	_	_	-	-	_	-

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Admin	istration '	Week-day			
		99-7	100-7	101-7	102-7	103-7	104-7
DEATH	Control	2	3	3	3	4	4
	150 ppm	20	20	20	21	25	27
	300 ppm	34	34	34	34	35	36
	600 ppm	-	-	-	-	-	_
MORIBUND SACRIFICE	Control	4	5	5	5	5	5
	150 ppm	6	6	6	6	6	6
	300 ppm	12	12	12	12	12	12
	600 ppm		-	-	-		-
LOCOHOTOD HOWEVENIT DECE	0	0	0	^	0	0	^
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0
	600 ppm	-	-	_	-	-	-
HUNCHBACK POSITION	Control	0	0	0	0	0	0
	150 ррт	0	o o	0	0	0	0
	300 ppm	0	0	0	0	0	0
	600 ppm	_	-	_	_	_	_
	ooo ppiii						
ATAXIC GAIT	Control	0	0	0	0	0	0
	150 ррш	0	0	0	0	1	1
	300 ppm	0	0	0	0	0	0
	600 ppm	-	-	-	-	_	_
DI OFFICATION							
PILOERECTION	Control	0	0	0	0	0	0
	150 թթա	0	0	0	1	1	1
	300 ppm	0	0	0	0	0	0
	600 ppm	-	-	_	-	_	~
FROG BELLY	Control	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0
	600 ppm	-	-		_	_	
	ooo ppui						
SOILED PERI GENITALIA	Control	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0
	600 ppm	_	-	***	_	_	

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

STUDY NO. : 0303

SEX : FEMALE

Clinical sign	Group Name	Admini	stration We	eek-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
EXOPITTIALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	. 0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	-0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERIOS CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0 .	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GROWTH OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	Ö	0	Ö	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ö
	600 ppm	0	0	0	0	0	0	0	0	0	ō	0	Ö	0	0
EXTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ō
	300 ppm	0	0	0	0	0	0	0	0	0	Ö	0	Ö	0	ő
	600 ppm	0	0	0	0	0	0	0	0	0	Ö	ő	ő	0	ő
NTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

STUDY NO. : 0303

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-dav _											
	•	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
EXOPIITHALMOS	Control	0	0	0	0	0	0	0	0	0	٥	0	0	0	0
EXOT ITTIALMOS	150 ppm	0	0	0	0	0 0	0	0	0 0	0 0	0	0	0	0	0
	300 ppm				1		0	0			0	0	0	0	0
		1	1 0	1 0	-	1	1	1	1	1	1	1	1	1	1
	600 ppm	0	U	U	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
	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	1	1	1	1	1	1	. 1	1	1	1	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	Ô	ō	0	0
CATARACT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	Control	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	Õ	0	0	0	0	0	Ö	0	0	Ö	0	0
	300 ppm	0	0	0	0	0	0	0	0	Ö	0	0	0	0	0
	600 ppm	0	Õ	0	0	0	0	Ö	0	0	0	0	0	0	0
ADMODULAL ODOSTELL OF TERMINA	0 . 1														
ABNORMAL GROWTH OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ō
	300 ppm	0	0	0	0	0	0	0	Ö	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ŏ
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	٥	0
MINIMUM REIOU	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	•	•	-		-
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	and hhu	U	U	U	U	U	U	U	U	U	U	U	U	υ	U

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

SEX : FEMALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

PAGE: 11 Clinical sign Group Name Administration Week-day 30-7 32-7 29-7 31-7 33-7 34-7 35-7 36-7 37-7 38-7 39-7 40-7 41-7 42 - 7EXOPIITHALMOS Control 150 ppm 300 ppm 600 ppm EYE OPACITY Control 150 рри 300 ppm 600 ppm CATARACT Control 150 ppm 300 ppm 600 ppm CORNEAL OPACITY Control 150 ppm 300 ppm 600 ppm ANTERIOS CHAMBER OPACITY Control 150 ppm 300 ppm 600 ppm ABNORMAL GROWTH OF TEETH Control 150 ppm 300 ppm 600 ppm EXTERNAL MASS Control 150 ррт 300 ppm 600 ppm INTERNAL MASS Control 150 թբա 300 ppm 600 ppm

STUDY NO. : 0303 CLINICAL OBSERVATION (SUMMARY) ANIMAL : RAT F344/DuCrj ALL ANIMALS

REPORT TYPE : A2 104

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-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
XOPIITHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	600 ppm	1	1	1	1	1	1	1	1	2	2	2	2	2	2
YE OPACITY	Control	1	2	2	2	2	2	2	2	2	2	2	2	2	1
	150 թթա	0	0	1	1	1	1	1	1	1	1	2	2	2	2
	300 ppm	1	1	1	1	1	1 -	2	2	2	2	2	2	2	2
	600 ppm	0	0	0	0	0	0	0	0	1	1	1	0	0	0
CATARACT	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	150 ppm	0	0	1	1	1	1	1	1	1	1	2	2	2	2
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	1	1	1	0	0	0
ORNEAL OPACITY	Control	0	1	1	1	1	1	1	1	1	1	1	1	1	0
	150 թթտ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	1	1	1	1	1	1	2	2	2	2	2	2	2	2
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NTERIOS CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	. 0	0	0	0	0	0	0	0	0
BNORMAL GROWTH OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XTERNAL MASS	Control	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	1	1	0	0	0	0	0	0	1	1	1	1	1	1
	600 ppm	, 0	0	0	0	0	0	0	0	0	0	0	ō	ō	Ô
NTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0303 CLINICAL OBSERVATION (SUMMARY) ANIMAL : RAT F344/DuCrj ALL ANIMALS

REPORT TYPE : A2 104

Clinical sign	Group Name	A J		V1. J											
STITUTE SIGN	Group Name	57-7	stration V 58-7	чеек-дау 597	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
7 100							****								
CXOPIITIIALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	600 ppm	2	2	2	2	2	2	1	1	1	1	1	1	0	0
EYE OPACITY	Control	1	1	1	2	2	2	2	2	2	2	2	2	2	2
	150 թթա	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	300 ppm	1	1	1	1	1	1	1	1	1	1	1	1	2	2
	600 ppm	0	0	0	0	0	0	1	1	1	1	1	1	0	0
CATARACT	Control	1	1	1	2	2	2	2	2	2	2	2	2	2	2
	150 ррт	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	300 ppm	0	0	0	0	1	1	1	1	1	1	1	1	2	2
	600 руш	0	0	0	0	0	0	1	1	1	1	1	1	0	0
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GROWTH OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թթտ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	Ó	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	300 ppm	1	1	1	1	1	0	0	1	1	1	1	1	1	1
	600 ppm	0	1	1	1	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
	150 թթտ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	2	1	1	1	2	2	0	1	1	1	1	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

runi iire - AZ 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-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
	W									······			*		
EXOPIITHALMOS	Control	0	0	0	0	0	0	0	0	٥	0	0	0	0	0
EXOI IIIIME#IO5			0	0	0	0				0		0	0	0	0
	150 ppm	0					0	0	0	0	0	0	0	0	0
	300 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	150 ррш	2	2	2	3	3	3	3	3	3	3	3	3	3	3
	300 ppm	2	2	2	3	3	3	3	3	3	3	3	3	3	2
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	150 ррт	2	2	2	3	3	3	3	3	3	3	3	3	3	3
	300 ppm	2	2	2	3	3	3	3	3	3	3	3	3	3	2
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERIOS CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	Ŏ	Ŏ	ō
	300 ppm	0	0	0	0	0	Ö	0	Ö	Ö	0	0	0	0	0
	600 ppm	0	o o	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL GROWTH OF TEETH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	1	2	2	2	2	2	1	1	1	1	1	0	4	,
MIDMIND MASS		-				2	2	1	1	1	-	1	2	4	4
	150 ppm	2	3	3	3	2	2	2	2	2	4	4	5	5	5
	300 ppm	0	0	1	1	2	2	2	2	2	1	0	1	1	1
	600 ppm	0	1	1	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
	150 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	2
	300 ppm	0	0	0	0	0	0	0	0	3	2	2	1	3	1
	600 ppm	0	0	1	0	0	0	0	0	1	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

SEX : FEMALE

Clinical sign

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

Administration Week-day

Group Name

300 ppm

600 ppm

Control

150 ppm

300 ppm

600 ppm

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 EXOPIITHALMOS Control 150 ppm n 300 ppm 600 ppm EYE OPACITY Control 150 ppm 300 ppm 600 ppm CATARACT Control 150 ppm 300 ppm 600 ppm CORNEAL OPACITY Control 150 ppm 300 ppm 600 ppm ANTERIOS CHAMBER OPACITY Control 150 ppm 300 ppm 600 ppm ABNORMAL GROWTH OF TEETH Control 150 ppm 300 ppm 600 ppm EXTERNAL MASS Control 150 ppm

INTERNAL MASS

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Admin	istration '	Week-day				
•	-	99-7	100-7	101-7	102-7	103-7	104-7	
EVODUTULI MOC	0 . 1		•	•				
EXOPITTIALMOS	Control	0	0	0	0	0	0	
	150 ppm	0	0	0	0	0	0	
	300 ppm	0	0	0	0	0	0	
	600 ppm	-	-	-	-	-	-	
E OPACITY	Control	4	4	4	4	4	4	
AL OFACITI		4	4	4	4	4	4	
	150 ррт	4	4	4	3	2	2	
	300 ppm	0	0	0	0	0	0	
	600 ppm	-	-	-	-	-	_	
CATARACT	Control	3	3	3	3	3	3	
•	150 ppm	4	4	4	3	2	2	
	300 ppm	0	0	0	0	0	0	
		-	_	-	_	_	-	
	600 ppm	_	_	_	_	_	-	
ORNEAL OPACITY	Control	0	0	0	0	0	0	
	150 ррт	0	0	0	0	0	0	
	300 ppm	0	0	0	0	0	0	
	600 ppm	_	-	_	-	_	~	
	000 ppm		_	_	•	_	-	
NTERIOS CHAMBER OPACITY	Control	1	1	1	1	1	1	
	150 ppm	0	0	0	0	0	0	
	300 ppm	0	0	0	0	0	0	
	600 ppm	_	-	_	-	_	_	
	ooo ppiii							
BNORMAL GROWTH OF TEETH	Control	0	0	0	0	0	0	
	150 ppm	0	0	0	0	0	0	
	300 ppm	0	0	0	0	0	0	
	600 ppm		-	-	-	-	_	
EXTERNAL MASS	Control	8	7	8	0	7	7	
DAIDIUM MADO					8	7	7	
	150 ррш	3	3	4	5	4	4	
	300 ppm	0	0	0	0	0	0	
	600 ppm	_	_	-	-	-	-	
INTERNAL MASS	Control	. 0	0	0	0	0	0	
	150 ppm	1	1	2	2	2	2	
	300 ppm	0	0	0	0	0	0	
	600 ppm	-	-	_	-	- -	- -	

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Admini	stration We	eek-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
NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	^		0
. 100D	150 ppm	0	0	0	0	0	0	0	0	0	0 0	0	0	0 0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	осо ррш	V	v	v	U	v	V	v	v	U	U	U	U	U	U
. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	Ō	0	Ö	0	ō	Ö	Ŏ	ő	Ö	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	Ö	0	ŏ	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	o O	ő	o 0	Ŏ	0	0	o o
			•	-	-	-	•	•	ŭ	•	·	•	V	v	v
I. PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թբա	0	. 0	0	0	0	0	0	Õ	0	Ô	Ö	Ö	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. FORLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	Ö	Ö	Ö	ő
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	Ö	0	Ö	ő	Ŏ
. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	Ö
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0303 CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2 104

SEX: FEMALE

Clinical sign	Group Name	Admin	istration W	eek-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
NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. 1000	150 ppm	0	0	0	0	0	0	0	0	0	0 0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	oo pp	•	•	·	· ·	·	v	v	· ·	·	v	v	v	٠.	Ū
I. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	Ô	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թբա	0	0	0	0	0	0	0	0	0	0	0	. 0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. FORLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 բբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

Clinical sign	Group Name	Admin	istration \	Nook-day			***************************************								
Timiour Sign	oroup name	29-7	30-7	31-7	32-7	33-7	34-7	35-7	367	37-7	38-7	39-7	40-7	41-7	42-7
Man															
I. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	.0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ooo ppiii	v	·	Ů	v	V	V	V	V	v	v	V	V	U	V
. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 руш	0	0	0	0	Õ	o o	0	0	0	0	0	Ô	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	Ö	Ō	Ö	Ö	Ö	0	Ö	0	0	0	0
I. NECK	0 . 1		_		•										
. NECA	Control 150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0		0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0 0	0	0 0	0 0	0	0	0	0	0	0	0	0	0
	ооо ррш	U	U	U	U	U	U	0	0	0	0	0	0	0	0
. FORLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррм	0	0	0	0	0	0	Ö	0	Ö	0	0	0	0	0
	300 ppm	0	Ō	0	0	0	0	Ö	0	ő	0	0	0	Ö	0
	600 ppm	0	0	0	0	0	0	0	0	Ö	Ö	0	Ô	Ö	0

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2 104

SEX: FEMALE

STUDY NO. : 0303

Clinical sign	Group Name	Admin	istration W	Yeek-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
I. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	Ö	0	0	0	0	ő	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	Ö	Ö	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Ō	0
i. eye	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A. PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. MANDIBULAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0 .	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. FORLIMB	Control	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0 .	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Admin	istration W	eek-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
I. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0 -	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	Ö	Ö	Ö	0	Ö
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. FORLIMB	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	150 ppm	0	0	0	0	0	0	0	0	Õ	0	Ô	0	Ô	0
	300 ppm	0	0	0	0	0	0	0	0	0	Ō	Ŏ	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	Ō	Ō	0	0
A. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	1	i	1	1	1
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ô
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2 104 ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-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
NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	Ŏ	0	0	0	Ö	0	0	0	0	0	0
	300 ppm	0	Ŏ	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	ő	Ö	ō	ő	0
EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MANDIBULAR	Control	0	1	1	1	1	1	0	0	0	0	0	0	1	1
	150 թբտ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0,
PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	1	1	1	0	0	0	0	0	1	1	1	1	1
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	1	1	1	1	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	. 0
FORLIMB	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Admini	istration W	eek-day _											
14-14-14		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
. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0		0
	150 ppm	0	0	1	1	1	1	1	1	1	0 1	0 1	0 1	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	-
	600 ppm	0	0	0	0	~	_	-	_	<u>.</u>	-	- -	_	0	0
	OOO ppm	v	v	U	Ū				_	_	_	_	_	_	_
. EYE	Control	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	150 ppm	0	0	0	0	0	0	ő	Ö	ő	Ô	0	0	0	0
	300 ppm	0	0	0	0	0	0	Ö	0	ő	0	0	0	0	ő
	600 ppm	0	0	0	0		_	-	_	_	_	_	_	_	_
			•	-	-										
M. PERI MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0 .	0	0	0	0	0
	600 ppm	0	0	0	0	-	-	-	-	-	-	***	-		_
. MANDIBULAR	Control	^	^	0	^		^				•			_	_
i. MANDIDULAR	150 ppm	0 0	0	0 0	0 0	1	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ооо рра	Ü	U	U	U	_	-	_	_	-		_	-	-	_
L PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	1	0	0	0	0	0	0	0	0	Ö	0	Ö	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	o O	Ö	0
	600 ppm	0	0	0	0		-	_	_	-	_	-	-	_	_
LATECIZ	0 . 1	•	^				_	_							
I. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm		0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0		-	-	-	-	-	-	-		-
I. FORLIMB	Control	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	Ö	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	ů	0	0	_	_	_	_		_	~	_	_	_
	FF	•	•	ŭ	·										
I. BREAST	Control	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	150 ppm	2	1	1	1	1	1	1	1	1	1	1	0	0	ō
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	-	_		_	_	_	_	_	_	_

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

SEX: FEMALE

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

Clinical sign	Group Name		istration					
		99-7	100-7	101-7	102-7	103-7	104-7	
M. NOSE	Control	0	0	0	0	0	0	
	150 թթա	1	1	1	1	1	1	
	300 ppm	0	0	0	0	0	0	
	600 ppm	=	-	_	-	-	***	
	A . 1							
A. EYE	Control	1	0	0	0	0	0	
	150 ррт	0	0	0	0	0	0	
	300 ppm	0	0	0	0	0	0	
	600 ppm	_		1977	-	-	-	
I. PERI MOUTH	Control	0	0	0	0	0	0	
	150 ppm	0	0	0	0	0	0	
	300 ppm	0	0	0	0	0	0	
	500 ppm	_	_	_	-	_	-	
	ооо ррш							
. MANDIBULAR	Control	0	0	0	0	0	0	
	150 ppm	0	0	0	0	0	0	
	300 ppm	0	0	0	0	0	0	
	600 ppm	_	_	_	_	_	-	
	ovv ppm							
A. PERI EAR	Control	0	0	0	0	0	0	
	150 ppm	0	0	0	0	0	0	
	300 ppm	0	0	0	0	0	0	
	600 ppm	_	_	_	_	_	_	
	•• •							
NECK	Control	0	0	0	0	0	0	
	150 ppm	0	0	0	0	0	0	
	300 ppm	0	0	0	0	0	0	
	600 ppm	-	_	-		-	_	
A CODI IMB	0 . 1		•					
M. FORLIMB	Control	2	2	2	2	2	2	
	150 ррт	0	0	0	0	0	0	
	300 ppm	0	0	0	0	.0	0	
	600 ppm	-	-	_	-	-	-	
M. BREAST	Control	1	1	2	2	2	2	
III. DILLIAN I	150 ppm	0	0				2	
	300 ppm	0	0	0 0	1 0	1 0	1 0	
	300 ppm 600 ppm	U	U	U	U	U	U	

600 ppm

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE															PAGE: 2
Clinical sign	Group Name	Admini	stration W	eek-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. ABDOMEN	Control	0	0	٥	0	0		0	0	0	0	0	0	٥	•
m. ADDOMEN	Control	0	0 0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm			0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	U	U	U	U	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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ррт	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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	Ö	0	Ö	Ŏ	0
	600 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
	150 ррт	0	0	0	0	0	0	0	0	Õ	Õ	0	0	0	Ö
	300 ppm	0	0	0	0	0	0	0	Ŏ	0	Ő	0	ő	0	Ö
	600 ppm	0	0	0	0	0	0	0	0	0	Ö	0	0	0	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	ů.	0	0	0	0	Ô	0	0	0	0	0	0	0	Ö
	300 ppm	0	ů	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	ō	Ŏ	ő	0	0	0	ō	ő
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AND THE POOR PROPERTY.	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-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
. ABDOMEN	Control	0	0	. 0	0	0	0	0	0	0	0	0	0	0	^
I. ADDOREN	150 ppm	0	0	0	0	0	0	0	0	0	0	0 0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0 0	0		0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0 0	0	0 0	0 0
	ooo ppiii	V	v	U	U	U	V	U	v	U	U	U	U	U	U
I. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	ő	Ö	0	ő	0	0	0	0	0	0	0	0	0	0
1 CINYTHAT TA		_		_	_										
M. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0 .	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	ō	0	0	0	0	0	Ŏ	0	0	. 0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IMBOOMIN DRIMINO	150 բթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	•
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0
	ооо ррш	v	v	J	U	v	U	U	U	U	U	U	U	U	U
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE							****								PAGE: 2
Clinical sign	Group Name		stration W												
		29-7	30-7	31-7	32-7	33-7	34-7	357	36-7	37-7	38-7	39-7	40-7	41-7	42-7
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
and The Domest	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	_		
	600 ppm	0	0	0	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
	150 թթա	0	0	0	0	0	0	0	ŏ	Ö	0	ő	0	0	0
	300 ppm	0	0	0	0	0	0	0	Ö	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	ő	ō	0	0	0	ő	0	0
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	1	1	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
TORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	. 0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	. 0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

STUDY NO. : 0303

SEX: FEMALE

Clinical sign	Group Name	Admin	istration W	leek-day _											
	W-1	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
I. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	Õ	0	0	Ö	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	Ō	Ö	Ö	Ö	Ö	ő	ŏ	0	0	0	ō	0	0	0
I. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
f. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FORTICOLLIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	1	1	1	0	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE															PAGE: 29
Clinical sign	Group Name	Admini	stration W	eek-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
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	٥	^
W. VDDOWINA	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0				-	0	-	0	0	0	0	0
	600 ppm	0	0	0	0 0	0	0	0 0	0 0	0	0 0	0 0	0	0	0
	doo ppm	V	U	U	U	V	U	v	U	U	U	υ	Ü	U	U
M. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	1	1	1	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
A TIMESTAL	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	orr pp	· ·	•	·	Ů	· ·	v	v	v	v	J	v	v	v	V
M. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	1	1	1	1	1	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEM1A	Control	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	Ŏ	0	0	0	0	0	0
	300 ppm	1	1	1	1	1	0	0	0	0	0	0	1	3	3
	600 ppm	0	3	1	1	1	1	2	1	1	2	1	2	1	ō
TORTICOLLIS	C., t. 1	0			•	•	•								
TORT TOULLS	Control	0	1	1	1	1	1	1	1	1	1	1	Į.	1	1
	150 ppm 300 ppm	0	0	0	0	0	0	1	1	1	1	1	1	1	1
		1	1 1	1 1	1	1	1	1	1	1	1	1	1	1	1
	600 ppm	1	1	1	1	1	1	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	- 0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	2	0	1	1	0	0	0	0
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ADDITION DOORD IDNON	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0			
	ouu ppm	U	U	U	U	U	U	U	U	U	U	U	0	0	0

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	leek-dav											
	*	71-7	72-7	73-7	74-7	75-7	76-7	77-7	787	79-7	80-7	81-7	82-7	83-7	84-7
M. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	150 ррт	0	0	0	0	0	0	0	0	0	1	1	2	2	2
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	600 ppm	0	1	1	0	0	0	0	0	0	0	0	0	0	0
. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	1	1	1	1	1	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	1	1	1	1	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEMIA	Control	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	1	2	3	4
	300 ppm	1	0	0	1	0	1	1	0	1	1	1	0	2	1
	600 ppm	0	1	1	0	0	0	0	0	0	0	0	0	0	0
TORTICOLLIS	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	150 ррт	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	300 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	1	1	1	1	1	1	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	600 ppm	0	1	1	0	0	0	0	0	0	0	0	0	0	0
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

SEX : FEMALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX : FEMALE															PAGE: 31
Clinical sign	Group Name		istration '									*****			
		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
M. ABDOMEN	Control	1	1	1	1	1	1	1	1	1	1	1	1	n	9
	150 թթա	2	1	1	1	2	2	2	2	2	2	1 2	1 2	2 2	2 2
	300 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	Ô	0	0	-	-	-	-	_	-	-	_	-	-
M. ANTERIOR. DORSUM	Control	1	1	1	1	i	2	2	1	1	1	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	Ö
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0		-		-	-	-		-	-	_
M. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	-	Audi	_	-	-	-	-	-	-	-
M. GENITALIA	Control	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	_	-		-	-	_	-	-		-
ANEMIA	Control	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	150 ppm	4	2	0	0	0	0	1	1	1	1	1	0	1	0
	300 ppm	1	1	1	0	0	1	1	0	1	1	0	0	0	0
	600 ppm	0	0	0	1	na.	-	-	-	_	-	-	-		-
TORTICOLLIS	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	150 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	_	-	-	-	_	_	-	-		-
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	1	0	0	0	0	0	1	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	_	-	-	_	-	_	-		_	Asset
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ррт	0	0	0	0	_	-	-	_	_	-	-	-	_	-

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

Clinical sign	Group Name	Admin	istration \	Week-day _			
	- >	99-7	100-7	101-7	102-7	103-7	104-7
W ADDOMEN	a						
M. ABDOMEN	Control	3	3	3	3	2	2
	150 ppm	2	2	3	3	2	2
	300 ppm	0	0	0	0	0	0
	600 ppm	-	_	_	***	-	**
M. ANTERIOR. DORSUM	Control	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0
	600 ppm	-	Alder	_		-	-
M. HINDLIMB	Control	0	0	0	0	0	0
	150 ppm	ŏ	ő	0	0	0	0
	300 ppm	ő	0	0	0	ő	0
	600 ppm	-	-	-	-	-	_
A OFFITTAL TA							
M. GENITALIA	Control	1	1	1	1	1	1
	150 թթա	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0
	600 ppm	-	_	-	-	_	-
ANEMIA	Control	1	1	1	1	1	1
	150 ppm	0	0	1	1	ō	1
	300 ppm	0	0	0	0	0	Ô
	600 ppm	_	-	-	-	_	
TORTICOLLIS	Control	1	1	1	1	1	1
	150 թթա	1	1	1	1	1	1
	300 ppm	0	0	0	0	0	0
	600 ppm	-	-	-	-	-	_
TROCCHI ID DON'ITHING						_	
IRREGULAR BREATHING	Control	0	0	0	0	0	0
	150 ррт	0	0	0	0	1	1
	300 ppm	0	0	0	0	0	0
	600 ppm	_	_	_	_		=
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0
	300 ppm	0	0	0	0	Ö	0
	600 ppm	_	-		_	_	_

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

SEX : FEMALE

Clinical sign	Group Name		stration W												
		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
VOISY	0 . 1	•	•		•	•				_	_				
10121	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ррт	0	0	0	0	0	0	0	0	0	0	ő	Ŏ	ő	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	Ő	0	0	o
	600 ppm	0	0	0	0	0	ō	ō	Ö	0	Ö	ő	0	Ö	0
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	Ö	0	ő	0	ő	ő	0	0
	300 ppm	0	0	0	0	0	0	0	Ö	Ŏ	0	0	ő	Ö	0
	600 ррш	0	0	0	0	0	0	0	Ö	0	0	0	Ö	0	0
RED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	Ö	Ŏ	Ö	0	0	0	0	0
	300 ppm	Ö	0	Õ	Ö	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	Ö	0	0	0	0	0	0	0	0	0	0	0
TELLOW URINE	Control	0	0	0	0	0	0	^	0	•	0		•		
TELECON ORTHE	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	-	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	. 0	0 0	0	0 0	0	0 0	0 0	0
	FF	-	•	·	·	·	•	Ü	v	v	J	v	v	v	V
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	o
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Õ	Ö
	600 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name		stration W												
		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
MOTON							_								
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 թթտ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ppm	0	0	0	0	0	0	0	0	Õ	Ō	0	0	0	ő
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ő
	600 ppm	0	0	0	0	0	0	ō	0	Ö	Ö	ō	Ö	0	Ŏ
YELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	. 0	0	Ö	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	Ö	0	0	0	ŏ	0	0	0	0	0	0	0
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	o	0	Ö	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
	150 թբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	Ö	0	Ö	0	0	0	0	0	1	0	0	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

SEX : FEMALE

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

Clinical sign	Group Name	Admin	istration W	eek-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
													•		
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Õ	0
	600 ppm	Û	0	0	0	0	0	0	0	0	0	0	0	ō	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	Ô	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 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
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	Ō	Ö	ő
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	0
SMALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ō
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ő
	600 ррш	0	0	0	0	0	0	0	0	0	0	0	0	1	0
LIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	Ö	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

SEX : FEMALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

Clinical sign	Group Name	Admini	stration W	eek-dav											
-	•	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
VOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	Ő	o o	0	0	ő
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ő
	600 ppm	0	0	0	0	0	0	0	0	Ō	0	0	0	ō	Ô
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	- 0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	1	1	1	0	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
MALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	1	1	0	0	0	0
LIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	1	1	1	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

STUDY NO. : 0303

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-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
									•						
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 թթա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	2	0	1	1	0	0	0	0
EEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
ELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	1	2	2
	600 ppm	0	0	0	0	0	0	1	1	1	0	0	1	1	0
MALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	600 ppm	0	1	0	0	0	0	1	1	2	1	1	1	2	1
LIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	1	3	3
	600 ppm	0	1	0	0	0	0	0	0	2	2	3	2	1	0

STUDY NO. : 0303 CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

Clinical sign	Group Name	Admini	stration W	look-day											
	oroup numo	71-7	72-7	73-7	74-7	75-7	76-7	77-7	787	79–7	80-7	81-7	82-7	83-7	84-7
DISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0151	150 ppm	0	1	1	1	1	1	1	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	ő	0	0	0	0	ő	ő	ő	ō	0	0	0	0	0
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	1	1	1	1	1	1	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	1	0	0	0	0	0	1	0
•	600 ppm	0	1	1	0	0	0	0	0	0	0	0	0	0	0
EEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	1	1	1	1	1	1	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
•	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0
ELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	0	0	0	0	0	0	0	0	0	0	1	2	2	2
	300 ppm	1	0	0	0	0	1	1	0	0	1	1	0	1	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MALL STOOL	Control	0	0	0	0	0	2	0	0	0	0	1	0	0	0
	150 ррш	0	0	0	1	0	1	1	0	0	0	0	1	1	1
	300 ppm	1	0	0	0	0	1	1	0	0	1	1	0	1	0
	600 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
LIGO-STOOL	Control	0	0	0	0	0	2	0	0	0	0	1	0	0	0
	150 թթա	0	0	0	1	0	1	1	0	0	0	0	0	0	0
	300 ppm	1	0	0	0	0	1	1	0	1	0	0	0	2	0
	600 ppm	0	0	0	0	0	1	0	0	1	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY)

ANIMAL : RAT F344/DuCrj ALL ANIMALS

REPORT TYPE : A2 104

STUDY NO. : 0303

SEX : FEMALE PAGE : 39

Clinical sign	Group Name	Admini	stration W	eek-dav											
		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
OISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	_		-	-	-	-	_			-
BNORMAL RESPIRATION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	2	1	0	0	1	1	2	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	-	-	-	-	-	-	-		_	
EEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	1	1	0	0	1	1	1	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ррш	0	0	0	0	_	_	-	_	-	<u>-</u>	_	_	_	_
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	_	-	_	_	_	_	_	_	_	_
ED URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	1	1	1	0	0	0	0	0
	600 ppm	0	0	0	0	_	_	-	_	-	_	_	_	ž.	
ELLOW URINE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ррт	3	1	0	0	0	0	1	1	1	1	1	0	0	0
	300 ppm	Ō	1	1	1	1	0	1	0	ô	0	0	Ŏ	Ö	Ö
	600 ppm	0	0	0	1	_	_	_	_	_	-	~	_	-	_
MALL STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	1	1	0	0	0	0	1	1	1	1	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	ō	0	0	0	0	0
	600 ppm	0	0	0	1	-	-	_	_	_	-	_	_	_	-
LIGO-STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	2	1	1	0	0	0	0	1	1	1	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	Õ	ō	0	0	Ö	Ō
	600 ppm	0	0	1	1	_	_	_		-	_	•	_	-	

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

SEX : FEMALE

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

Clinical sign	Group Name	Admini	istration '					
		99-7	100-7	101-7	102-7	103-7	104-7	

NOISY Control 0 0 0 0 0
150 ppm 0 0 0 0 0 .0
300 ppm 0 0 0 0 0 0
600 ppm
ABNORMAL RESPIRATION Control 0 0 0 0 0 0
150 ppm 0 0 0 0 1 1
300 ppm 0 0 0 0 0 0
600 ppm
DEEP BREATHING Control 0 0 0 0 0
150 ppm 0 0 0 0 0 0
300 ppm 0 0 0 0 0 0
600 ppm
ABNORMAL RESPIRA. SOUND Control 0 0 0 0 0
150 ppm 0 0 0 0 0 0
300 ppm 0 0 0 0 0 0
600 ppm
RED URINE Control 0 0 0 0 0 0
150 ppm 0 0 0 0 0
300 ppm 0 0 0 0 0 0
600 ppm
YELLOW URINE Control 0 0 0 0 0

300 ppm

600 ppm

(HAN190)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

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Clinical sign	Group Name	Admini	stration W	eek-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
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

PAGE: 42

Clinical sign	Group Name	Admini	stration W	eek-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
SUBNORMAL TEMP	Control	0	n	0	n	n	0	0	0	0	0	0	0	0	0
CONTORNAL TEME	150 ppm	ő	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

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Clinical sign	Group Name	Admini	stration W	eek-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-
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 բբա	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

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Clinical sign	Group Name	Admini	stration W	eek-day _											
		43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	517	52-7	53-7	54-7	55-7	56-7
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	Ô	Õ	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

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Clinical sign	Group Name	Admin	stration W	eek-day											
77 974		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
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

PAGE: 46

Clinical sign	Group Name	Admini	stration W	eek-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
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

PAGE: 47

Clinical sign	Group Name	Admini	stration W	eek-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
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	n	n	0	0
	150 ppm	0	0	0	Ő	ő	0	Ö	1	ő	0	0	0	0	0
	300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	_	-	_	_	_	_	***	_	_	

(HAN190)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 104

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Admin	istration	Week-day _						
		99-7	100-7	101-7	102-7	103-7	104-7			
SUBNORMAL TEMP	Control	0	0	0	0	0	0			
	150 ppm	0	0	0	0	0	0			
	300 ppm	0	0	0	0	0	0			
	600 ррт	-	-	-	-		-			
(1)								 	 	
(HAN190)										BAI

APPENDIX B 1

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

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

Group Name	Adm	inistratio	n week						·· · · · ·			,			
		0		1		2		3		4		5		6	
Control		119 ±	4	145 ±	6	179 ±	8	201 ±	9	$225~\pm$	11	$239~\pm$	12	$252~\pm$	13
200 ppm		119 ±	4	143 ±	5	176 ±	8	198 ±	8	222 ±	8	$236~\pm$	9	248 ±	9
400 ppm		119 ±	4	139 ±	6**	171 ±	8**	193 ±	10**	216 ±	11**	230 ±	12**	$243~\pm$	13**
800 ppm		119 ±	4	124 ±	8**	154 ±	10**	178 ±	10**	202 ±	10**	217 ±	11**	229 ±	12**
Significant difference; Significant difference;	* : P≤ 0.05 * : P≤ 0.05		P≦0.01 P≤0.01			unnett (0- (90-96 we	-86 weeks) eks)								

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 96 SEX : MALE

Group Name	Adm	inistratio	n week		.,	·									
		7		8		9		10		11		12		13	
Control		264 ±	14	272 ±	16	284 ±	16	294 ±	16	300 ±	17	307 ±	18	312 ±	18
200 ppm		260 ±	10	269 ±	10	280 ±	10	290 ±	10	295 ±	11	303 ±	12	309 ±	12
400 ppm		$254~\pm$	14**	$263~\pm$	15*	274 ±	16**	283 ±	17**	287 ±	17**	$294~\pm$	17**	299 ±	17**
800 ppm		240 ±	13**	247 ±	13**	259 ±	14**	268 ±	14**	273 ±	15**	281 ±	15**	287 ±	15**
Significant difference; Significant difference;	* : P≤ 0.05 * : P≤ 0.05		: P≦0.01 : P≦0.01			unnett (0- (90-96 we		3)							

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

Group Name	Adm	inistratio	on week	18		22		26		30		34		38	
Control		317 ±	18	336 ±	19	352 ±	21	367 ±	22	377 ±	23	385 ±	25	392 ±	24
200 ppm		313 ±	12	$332~\pm$	14	346 ±	16	359 ±	18	367 ±	19	$375~\pm$	20	384 ±	19
400 ppm		304 ±	17**	322 ±	19**	337 ±	20**	350 ±	22**	$358~\pm$	23**	$364~\pm$	25**	371 ±	26**
800 ppm		291 ±	16**	310 ±	18**	$323~\pm$	20**	334 土	22**	$343~\pm$	23**	$346~\pm$	26**	351 ±	28**
Significant difference; Significant difference;	* : P≤ 0.05 * : P≤ 0.05		: P≤0.01 : P≤0.01		Γest of Du Γest of t (-86 weeks) eks)								

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

Group Name	Adm	inistratio	n week												
		42		46		50		54		58		62		66	
Control		403 ±	26	411 ±	26	418 ±	25	422 ±	26	427 ±	26	431 ±	26	433 ±	27
200 ppm		394 ±	20	399 ±	21	406 ±	21*	412 ±	22	414 ±	20*	414 ±	23*	416 ±	22**
400 ppm		378 ±	27**	384 ±	27**	390 ±	26**	391 ±	30**	$393~\pm$	28**	387 ±	36**	$393~\pm$	28**
800 ppm		$356 \pm$	31**	356 ±	31**	361 ±	21**	362 ±	22**	$357 \pm$	17**	358 ±	24**	349 ±	37**
Significant difference;	* : P≤ 0.05 * : P≤ 0.05		: P≤0.01 : P≤0.01		Test of Du)							

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

PAGE: 5

Group Name	Administration week 70	74	78	82	86	90	94
Control	$436~\pm~~28$	440 ± 28	444 ± 28	442 ± 31	442 ± 30	$442~\pm~~34$	441 ± 34
200 ppm	416 ± 22**	418 ± 27**	416 ± 28**	413 ± 33**	404 ± 55**	398 ± 31**	386 ± 41**
400 ppm	381 ± 31**	376 ± 39**	372 ± 25**	359 ± 32**	329 ± 55**	353 ± 2 ?	$266 \pm 44 ?$
800 ppm	355 ± 45 ?	298 ± 0 ?	_	_		. –	_

Significant difference;

* : P≦ 0.05

** : P≤0.01

Test of Dunnett (0-86 weeks)

Significant difference;

* : P≦ 0.05

** : P≦0.01

Test of t (90-96 weeks)

^{?:} Siginificant test is not applied, because NO. of data in this group is less than 3.

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

PAGE: 6

Administration week_96 Group Name Control 438 ± 34

200 ppm $379 \pm 55**$

400 ppm

 $800~\mathrm{ppm}$

Significant difference;

* : P≦ 0.05

** : P≦0.01

Test of Dunnett (0-86 weeks)

Significant difference;

* : P≦ 0.05

** : P≦0.01

Test of t (90-96 weeks)

APPENDIX B 2

BODY WEIGHT CHANGES: SUMMARY, RAT: FEMALE

(2-YEAR STUDY)

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

Group Name	Adm	inistratio	n week												
		0		1		2		3		4		5		6	
Control		99 ±	4	111 ±	5 .	125 ±	5	132 ±	6	144 ±	6	149 ±	7	155 ±	7
150 ppm		99 ±	4	109 ±	4	122 ±	5*	129 ±	6*	140 ±	6*	146 ±	7*	151 ±	8*
300 ppm		99 ±	4	107 ±	4**	119 ±	4**	126 ±	5**	136 ±	5**	141 ±	6**	146 ±	7**
600 ppm		99 ±	4	100 ±	5**	113 ±	5**	122 ±	6**	131 ±	6**	136 ±	7**	141 ±	7**
Significant difference;	* : P≤ 0.05 * : P≤ 0.05		: P≤0.01 : P≤0.01			nnett (0– (104 weeks		s)							

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

Group Name	Adm	inistratio	n week			_				4					
		7		8		9		10		11		12		13	
Control		158 ±	8	162 ±	7	$166~\pm$	8	170 ±	8	172 ±	9	174 ±	9	176 ±	9
150 ppm		154 ±	8*	158 ±	9*	163 ±	9	167 ±	9	169 ±	9	171 ±	10	173 ±	10
300 ppm		149 ±	7**	151 ±	8**	156 ±	9**	159 ±	9**	160 ±	10**	163 ±	10**	164 ±	10**
600 ppm		144 ±	7**	146 ±	8**	150 ±	9**	153 ±	9**	154 ±	10**	157 ±	10**	157 ±	10**
Significant difference;	* : P≤ 0.05 * : P≤ 0.05		: P≤0.01 : P≤0.01			ınnett (0– (104 weeks		rs)							

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

Group Name	Adm	inistration	ı week				·			· · · · · · · · · · · · · · · · · · ·					
		14		18		22		26		30		34		38	
Control		177 ±	9	185 ±	9	190 ±	10	196 ±	11	201 ±	11	204 ±	12	209 ±	13
150 ppm		174 ±	10	182 ±	11	188 ±	12	194 ±	12	198 ±	13	201 ±	14	206 ±	14
300 ppm		166 ±	10**	173 ±	11**	178 ±	12**	182 ±	13**	187 ±	14**	189 ±	14**	193 ±	15**
600 ppm		161 ±	10**	166 ±	11**	170 ±	12**	174 ±	12**	179 ±	13**	180 ±	13**	184 ±	15**
Significant difference;	* : P≤ 0.05 * : P≤ 0.05		P≤0.01 P≤0.01			nnett (0- (104 week		rs)				·			

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

Group Name	Adm	inistratio	n week												
		42		46		50		54		58		62		66	
Control		214 ±	14	219 ±	15	225 ±	15	230 ±	18	233 ±	19	238 ±	22	244 ±	23
150 ppm		213 ±	15	219 ±	16	224 ±	16	229 ±	18	234 ±	21	239 ±	22	245 ±	23
300 ppm		196 ±	16**	201 ±	18**	206 ±	19**	208 ±	20**	211 ±	20**	214 ±	20**	219 ±	19**
600 ppm		185 ±	15**	189 ±	16**	193 ±	17**	197 ±	17**	196 ±	18**	195 ±	20**	189 ±	23**
Significant difference;	* : P≤ 0.05 * : P≤ 0.05		P≤0. 01 P≤0. 01			nnett (0- (104 week		s)							

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

PAGE: 5

Group Name	Administration week_ 70	74	78	82	86	90	94
Control	249 ± 24	$256~\pm~~26$	263 ± 26	$266~\pm~~26$	269 ± 26	$273~\pm~~29$	$277~\pm~~30$
150 ppm	$250~\pm~~24$	254 ± 30	$262~\pm~~24$	$258~\pm~~28$	253 ± 36*	258 ± 33*	258 ± 42**
300 ppm	215 ± 19**	217 ± 20**	222 ± 19**	221 ± 20**	213 ± 21**	215 ± 21**	214 ± 20**
600 ppm	180 ± 23**	188 ± 12**	181 ± 10**	180 ± 0 ?	177 ± 0 ?		

Significant difference;

* : P≤ 0.05

** : P≤0.01

Test of Dunnett (0-102 weeks)

Significant difference;

* : P≦ 0.05

** : P≦0.01

Test of t (104 weeks)

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

BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

PAGE: 6

Group Name	Admi	inistratio 96	on week	98		102		104	
$\operatorname{Control}$		279 ±	33	278 ±	33	284 ±	41	284 ±	47
150 ppm		$257~\pm$	30*	255 ±	42*	$252~\pm$	56**	234 ±	34**
300 ppm		211 ±	15**	201 ±	14**	192 ±	2**	184 ±	13 ?
600 ppm		_		_		_		-	
Significant difference;	* : P≤ 0.05 * : P≤ 0.05		: P≦0.01 · P≤0.01			unnett (0-		s)	

Significant difference;

 $*: P \leq 0.05$

** : P≦0.01

Test of t (104 weeks)

^{?:} Siginificant test is not applied, because NO. of data in this group is less than 3.

APPENDIX C 1

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

WATER CONSUMPTION CHANGES (SUMMARY)

PAGE: 1

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: MALE

Group Name	Administra	Administration week-day(effective)											
W4	1-7(7)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)						
Control	17.0	18.3	19.8	21.6	21.4	21.3	21.9						
200ppm	14.7	15.3	15.8	16.6	16.8	16.4	16.1						
400ppm	11.9	12.7	13.1	13.3	13.6	13.7	13.5						
800ppm	9.3	11.2	12.0	12.5	12.6	12.6	12.3						

WATER CONSUMPTION CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: MALE

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)					
_	24.8	24.0	25.2	18.9	18.6	18.2					
16.2	16.8	16.6	16.2	16.8	16.9	16.9					
13.6	14.2	13.7	13.5	14.2	13.6	13.4					
12.4	12.8	12.6	12.6	14.4	15.2	12.7					
	- 16.2 13.6	- 24.8 16.2 16.8 13.6 14.2	- 24.8 24.0 16.2 16.8 16.6 13.6 14.2 13.7	- 24.8 24.0 25.2 16.2 16.8 16.6 16.2 13.6 14.2 13.7 13.5	- 24.8 24.0 25.2 18.9 16.2 16.8 16.6 16.2 16.8 13.6 14.2 13.7 13.5 14.2	- 24.8 24.0 25.2 18.9 18.6 16.2 16.8 16.6 16.2 16.8 16.9 13.6 14.2 13.7 13.5 14.2 13.6					

WATER CONSUMPTION CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: MALE

Group Name	Administra	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	17.9	18.4	18.8	18.4	17.3	19.2	18.5						
200ppm	15.4	15.4	15.5	15.5	15.2	15.2	14.9						
400ppm	13.1	13.2	13.1	13.0	13.0	13.8	13.2						
800ppm	12.1	12.0	12.0	12.3	12.0	12.6	12.3						

STUDY NO.

: 0303

WATER CONSUMPTION CHANGES (SUMMARY)

10.9

11.0

10.9

PAGE: 4

11.3

ANIMAL

: RAT F344/DuCrj

12.4

12.0

ALL ANIMALS

UNIT

: g

800ppm

SEX

: MALE

Group Name Administration week-day(effective) 66-7(7) 46-7(7) 50-7(7) 54-7(7) 58-7(7) 62-7(7)70-7(7)Control 18.1 17.6 18.3 18.3 18.7 17.7 18.9 200ppm 15.0 15.7 15.7 15.6 15.3 15.7 14.6 400ppm 13.4 14.1 14.2 14.6 13.3 13.3 12.7

11.8

WATER CONSUMPTION CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: MALE

Administration week-day(effective)									
74-7(7)	78-7(7)	82-7(7)	86-7(7)	90-7(7)	94-7(7)	96-7(7)			
18.6	18.7	19.3	19.5	20.4	22.4	22.7			
14.9	15.1	15.1	15.2	14.8	15.5	14.9			
12.1	12.4	11.5	13.4	13.1	6.7				
9.7									
	74-7(7) 18.6 14.9 12.1	74-7(7) 78-7(7) 18.6 18.7 14.9 15.1 12.1 12.4	74-7(7) 78-7(7) 82-7(7) 18.6 18.7 19.3 14.9 15.1 15.1 12.1 12.4 11.5	74-7(7) 78-7(7) 82-7(7) 86-7(7) 18.6 18.7 19.3 19.5 14.9 15.1 15.1 15.2 12.1 12.4 11.5 13.4	74-7(7) 78-7(7) 82-7(7) 86-7(7) 90-7(7) 18.6 18.7 19.3 19.5 20.4 14.9 15.1 15.1 15.2 14.8 12.1 12.4 11.5 13.4 13.1	74-7(7) 78-7(7) 82-7(7) 86-7(7) 90-7(7) 94-7(7) 18.6 18.7 19.3 19.5 20.4 22.4 14.9 15.1 15.1 15.2 14.8 15.5 12.1 12.4 11.5 13.4 13.1 6.7			

APPENDIX C 2

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

WATER CONSUMPTION CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: FEMALE

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	14.7	16.0	15.9	17.2	18.8	19.8	18.8		
150ppm	12.8	12.3	12.2	13.0	13.0	12.8	12.3		
300ppm	10.2	9.8	9.5	9.3	9.0	9.1	8.7		
600ppm	7.5	8.2	8.3	8.1	7.8	8.9	8.3		

WATER CONSUMPTION CHANGES (SUMMARY)

PAGE: 2

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: FEMALE

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	18.3	17.8	17.7	19.4	19.7	19.3	17.5		
150ppm	11.6	12.7	12.6	12.4	12.9	13.0	12.5		
300ppm	8.2	8.4	8.2	8.5	8.5	8.7	9.1		
6,00ppm	7.5	7.4	7.1	7.4	7.3	7.7	8.4		

WATER CONSUMPTION CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: FEMALE

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	15.8	16.4	16.2	15.9	14.9	15.9	16.1		
150ppm	12.2	11.8	12.2	12.3	14.6	13.1	12.6		
300ppm	8.9	8.5	13.0	10.1	10.3	11.4	9.9		
600ppm	10.1	11.9	8.3	8.6	8.6	8.9	8.6		

WATER CONSUMPTION CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: FEMALE

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	15.4	17.4	15.9	16.2	16.2	17.3	16.3		
150ppm	13.1	13.0	13.4	12.8	15.2	14.1	14.3		
300ppm	_	10.3	10.2	10.8	12.2	13.1	11.0		
600ppm	_	9.4	9.3	9.4	10.2	10.5	11.3		

WATER CONSUMPTION CHANGES (SUMMARY)

PAGE: 5

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: FEMALE

Group Name	Administration week-day(effective)								
	74-7(7)	78-7(7)	82-7(7)	86-7(7)	90-7(7)	94-7(7)	96-7(7)		
Control	20.1	19.0	22.2	19.9	18.5	19.1	17.8		
150ppm	14.1	14.4	13.4	14.4	15.1	16.1	16.0		
300ppm	11.7	12.7	13.2	14.4	14.2	16.7	15.5		
600ppm	11.7	11.7	8.4	9.7					

WATER CONSUMPTION CHANGES (SUMMARY)

PAGE: 6

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: g

SEX

: FEMALE

Group Name	Administration week-day(effective)				
	98-7(7)	102-7(7)	104-7(7)		
Control	20.6	20.8	21.2		
150ppm	16.4	16.7	21.7		
300ppm	12.7	14.3	15.8		
600ppm					

APPENDIX D 1

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

PAGE: 1

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 96 SEX : MALE

Group Name	Administration week-da 1–7 (7)	y(effectiv <u>e)</u> 2-7 (7)	3-7 (7)	4-7 (7)	5-7 (7)	6-7 (7)	7–7 (7)
Control	13. 3 ± 0. 9	14.8 ± 0.9	16. 1 ± 1. 0	16.3 ± 1.0	15.9 ± 1.2	16.0 ± 1.1	15.4 ± 1.1
200 ppm	12. 9 ± 0. 6	14. 4 ± 0. 9	15.5 ± 0.8**	15.9 ± 1.0	15. 7 ± 0. 9	15. 4 ± 0. 8**	15. 2 ± 0. 9
400 ppm	12. 2 ± 0. 7**	13.8 ± 0.9**	14.8 ± 1.0**	15. 2 ± 0. 9**	15. 2 ± 1. 0**	15. 1 ± 0. 9**	14.7 ± 1.0**
800 ppm	10. 1 ± 1. 1**	12. 6 ± 0. 9**	14. 0 ± 0. 8**	14.7 ± 0.8**	14.6 ± 0.9**	14.6 ± 1.0**	14. 3 ± 1. 0**
Significant difference;	* : P≤ 0.05 ** : P≤0.01 * : P≤ 0.05 ** : P≤0.01		nnett (0-86 weeks) (90-96 weeks)				

PAGE: 2

STUDY NO. : 0303 ANIMAL : RAT F344/DuCri UNIT : g REPORT TYPE : A1 96

SEX	2 : A1 96 : MALE	•			

Group Name	Administration week-da	y(effective)	10.77/7	11 77 (77)	10 7 /7)	10 77 /7	14.77.77
	8-7 (7)	9-7 (7)	10-7 (7)	11-7 (7)	12-7 (7)	13-7 (7)	14-7 (7)
Control	15.8 ± 1.2	15.9 ± 1.1	15.9 ± 1.2	15. 8 ± 1. 1	15.6 ± 1.1	15. 2 ± 1. 0	15.3 ± 1.0
200 ppm	. 15.8 ± 1.0	15.8 ± 0.9	15.8 ± 0.9	15. 6 ± 0. 9	15.7 ± 1.0	15. 2 ± 0. 9	15. 3 ± 0. 9
400 ppm	15.0 ± 1.1**	15.3 ± 1.0*	15.4 ± 1.0*	15. 1 ± 1. 1**	15. 2 ± 1. 0	14.7 ± 0.9*	14.8 ± 0.9*
800 ppm	14. 3 ± 1. 1**	14.6 ± 0.9**	14.5 ± 1.0**	14.6 ± 1.0**	14.9 ± 1.0**	14.6 ± 1.0**	14.5 ± 1.1**
Significant difference;	* : P≤ 0.05 ** : P≤0.01 * : P≤ 0.05 ** : P≤0.01		innett (0-86 weeks) (90-96 weeks)				

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 96 SEX : MALE

Group Name	Administration week-da 18-7 (7)	y(effectiv <u>e)</u> 22-7 (7)	26-7 (7)	30-7 (7)	34-7 (7)	38-7 (7)	42-7 (7)
Control	15. 3 ± 1. 0	15. 0 ± 0. 9	15. 3 ± 1. 0	15. 3 ± 0. 9	15. 2 ± 1. 0	15.,9 ± 1.0	16.3 ± 1.1
200 ppm	15. 3 ± 1. 0	14.9 ± 0.9	15. 2 ± 1. 0	15. 3 ± 1. 0	15. 1 ± 0. 9	15. 7 ± 0. 9	16.0 ± 0.8
400 ppm	15. 0 ± 1. 1	14.9 ± 1.0	15.0 ± 1.1	15.0 ± 1.2	14.8 ± 1.1	15.8 ± 1.2	15.9 ± 1.6
800 ppm	14.6 ± 1.0**	14. 3 ± 1. 0**	14.4 ± 1.3**	14.7 ± 1.0**	14.6 ± 1.1**	14.9 ± 1.3**	15.0 ± 1.5**
Significant difference;	* : P≤ 0.05 ** : P≤0.01 * : P≤ 0.05 ** : P≤0.01		innett (0-86 weeks) (90-96 weeks)				

STUDY NO. : 0303 ANIMAL : RAT F344/DuCri UNIT : g REPORT TYPE : A1 96 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 4

Group Name	Administration week- 46-7 (7)	day(effective) 50-7 (7)	54-7 (7)	58-7 (7)	62-7 (7)	66-7 (7)	70-7 (7)
Control	15. 9 ± 1. 0	16. 2 ± 0. 9	16.7 ± 1.4	16. 2 ± 0. 9	15.7 ± 0.9	16.3 ± 1.0	16. 4 ± 1. 0
200 ppm	15. 9 ± 1. 0	16. 1 ± 1. 0	15.7 ± 1.2**	16. 1 ± 0. 9	15. 4 ± 1. 6	16. 2 ± 1. 2	15.9 ± 1.0*
400 ppm	15.6 ± 1.1	15. 8 ± 1. 1	15. 1 ± 1. 7**	15.7 ± 1.2**	14. 5 ± 2. 7**	15.8 ± 1.3	14. 7 ± 2. 2**
800 ppm	14.7 ± 2.0**	15. 0 ± 1. 4**	14.8 ± 1.4**	14.3 ± 2.6**	14.3 ± 1.0*	15.6 ± 1.2	15.5 ± 0.0 ?

Significant difference;

* : P≤ 0.05 ** : P≤0.01

Test of Dunnett (0-86 weeks)

Significant difference;

* : P≤ 0.05 ** : P≤0.01

Test of t (90-96 weeks)

^{?:} Siginificant test is not applied, because NO. of data in this group is less than 3.

: 0303 : RAT F344/DuCri

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

STUDY NO. : 0303 ANIMAL : RAT F34 UNIT : g REPORT TYPE : A1 96 SEX : MALE

SEX : MALI	90 E					P	AGE: 5
Group Name	Administration week-d 74–7 (7)	lay(effective) 78-7 (7)	82-7 (7)	86-7 (7)	90-7 (7)	94-7 (7)	96-7 (7)
Control	16.3 ± 1.2	16.6 ± 1.1	16. 0 ± 2. 2	15.9 ± 1.4	16. 4 ± 1. 6	16.3 ± 1.3	16.0 ± 1.7
200 ppm	15.5 ± 1.4*	16.0 ± 1.4*	15. 4 ± 2. 0	14.7 ± 2.0**	14.9 ± 2.4**	14. 9 ± 2. 0**	15. 1 ± 1. 6
400 ppm	13. 6 ± 3. 2**	14.5 ± 2.1**	14. 0 ± 1. 8	11.0 ± 3.6**	14. 4 ± 0. 6	4.7 ± 3.3 ?	-
800 ppm	13.9 ± 0.0 ?	-	-	-	-	-	_

Significant difference;

* : P≤ 0.05 ** : P≤0.01

Test of Dunnett (0-86 weeks)

Significant difference;

* : P≤ 0.05 ** : P≤0.01

Test of t (90-96 weeks)

APPENDIX D 2

FOOD CONSUMPTION CHANGES: SUMMARY, RAT: FEMALE

(2-YEAR STUDY)

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A2 104 SEX : FEMALE

Group Name	Administration week-da						
	1-7 (7)	2-7 (7)	3-7 (7)	4-7 (7)	5-7 (7)	6-7 (7)	7–7 (7)
Control	10.7 ± 0.6	10.5 ± 0.8	10.6 ± 0.6	10.9 ± 0.7	10.3 ± 0.6	10.4 ± 1.1	10.0 ± 0.7
15 0 ppm	10. 2 ± 0. 7**	10. 0 ± 0. 7**	10. 2 ± 0. 7**	10. 2 ± 0. 7**	9.8 ± 0.7**	10.0 ± 0.8	9. 5 ± 0. 8**
300 ppm	9.9 ± 0.6**	9.9 ± 0.6**	9.9 ± 0.6**	10.0 ± 0.7**	9.6 ± 0.7**	10.5 ± 1.5	9.4 ± 0.8**
600 ppm	8.6 ± 0.6**	9.6 ± 0.7**	9.9 ± 0.7**	9.8 ± 0.8**	9. 4 ± 0. 7**	9.6 ± 0.8**	9. 3 ± 0. 8**
Significant difference;	* : P≤ 0.05 ** : P≤0.01 * : P≤ 0.05 ** : P≤0.01		innett (0–102 weeks	s)			

PAGE: 2

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A2 104 SEX : FEMALE

Group Name	Administration week-da 8–7 (7)	y(effectiv <u>e)</u> 9-7 (7)	10-7 (7)	11-7 (7)	12-7 (7)	13-7 (7)	14-7 (7)
Control	10. 1 \pm 0. 7	10.1 ± 0.7	10. 2 ± 0. 8	10. 1 ± 0. 7	10. 3 ± 0. 7	10.0 ± 0.7	10.1 ± 0.7
150 ppm	9.6 ± 0.8**	9.8 ± 0.7	9. 9 ± 0. 7	9.8 ± 0.6	9.8 ± 0.8**	9. 7 ± 0. 7	9.8 ± 0.7
300 ppm	9.5 ± 0.8**	9.6 ± 0.8**	9.6 ± 0.8**	9.5 ± 0.8**	9.6 ± 0.8**	9.4 ± 0.8**	9.7 ± 0.8*
600 ppm	9. 2 ± 0. 8**	9.4 ± 0.8**	9. 2 ± 0. 8**	9.1 ± 0.9**	9. 3 ± 0. 8**	9.3 ± 0.8**	9.7 ± 0.8*
Significant difference;	* : P\leq 0.05 ** : P\leq 0.01 * : P\leq 0.05 ** : P\leq 0.01		nnett (0–102 weeks)			

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A2 104 SEX : FEMALE

Group Name	Administration week-da			1-1			
	18–7 (7)	22-7 (7)	26-7 (7)	30-7 (7)	34-7 (7)	38-7 (7)	42-7 (7)
Control	9.6 ± 0.7	10.0 ± 0.7	10. 1 ± 0. 8	10. 2 ± 0. 6	10. 1 ± 0. 8	10.7 ± 0.9	10.9 ± 0.9
150 ppm	9. 4 ± 0. 7	9.6 ± 0.7	9.6 ± 0.7*	9.9 ± 0.7	9.0 ± 1.5**	10.5 ± 0.8	10.7 ± 0.8
300 ppm	9. 7 ± 0. 7	9. 4 ± 0. 8**	9.6 ± 0.8*	9.7 ± 0.7**	9.9 ± 0.7	10. 2 ± 0. 9*	10.3 ± 0.8**
600 ppm	9. 4 ± 0. 7	9. 4 ± 0. 7**	9. 4 ± 0. 8**	9.5 ± 0.8**	9.8 ± 0.7	10.1 ± 1.0**	10. 1 ± 0. 9**
Significant difference;	* : P≤ 0.05 ** : P≤0.01 * : P≤ 0.05 ** : P≤0.01		nnett (0–102 weeks	s)			

STUDY NO. ANIMAL

: 0303 : RAT F344/DuCri

FOOD CONSUMPTION CHANGES (SUMMARY) **ALL ANIMALS**

UNIT

REPORT TYPE: A2 104 SEX : FEMALE

Group Name Administration week-day(effective) 54-7 (7) 46-7(7)50-7(7)58-7 (7) 62-7(7)66-7 (7) 70-7 (7) Control 10.9 \pm 1. 0 11. 2 ± 0.9 10.8 \pm 1.0 11. 3 \pm 1. 4 11.1 \pm 0.9 11. 7 ± 1.0 11.5 ± 1.0 150 ppm 10. 7 ± 0.8 10.8 \pm 0.8 10. 6 \pm 0. 8 10.8 ± 1.0 11. 1 \pm 0. 9 11.6 \pm 1.0 11. 3 \pm 1. 0 10. 3 ± 0. 9* 10.7 \pm 10. 5 \pm 1. 7 300 ppm 1.0* 10.8 \pm 1. 0 10.7 \pm 1. 0** 11. 3 \pm 1. 2 10.6 ± 1.6** 10.3 ± 1.1** 600 ppm 9.9 ± 1.0** 10. 3 \pm 0. 9 10. 2 ± 1. 1** 10.1 ± 1.1** 9.9 ± 2.2** 9.8 ± 1.3**

PAGE: 4

Significant difference;

* : P≤ 0.05 ** : P≤0.01

Test of Dunnett (0-102 weeks)

Significant difference;

* : P≤ 0.05 ** : P≤0.01

Test of t (104 weeks)

PAGE: 5

STUDY NO. : 0303 ANIMAL : RAT F344/DuCri UNIT : g REPORT TYPE : A2 104 SEX : FEMALE

Group Name	Administration week-74-7 (7)	day(effective) 78-7 (7)	82-7 (7)	86-7 (7)	90-7 (7)	94-7 (7)	96-7 (7)
$\operatorname{Control}$	11.8 ± 1.5	12. 0 ± 1. 1	11.6 ± 0.9	11.8 ± 1.2	12. 1 ± 1. 4	11.7 ± 1.5	_
150 ppm	11. 2 ± 2. 1	11.7 ± 1.2	10.8 ± 1.7*	11. 0 ± 2. 5	11.7 ± 2.0	11.8 ± 1.4	-
3 00 ppm	10.6 ± 1.6**	11.3 ± 1.2*	10.8 ± 1.7*	10.3 ± 1.5**	11.2 ± 1.1*	11.0 ± 0.6	_
600 ppm	9.8 ± 1.9*	10. 7 ± 0. 8	10.1 ± 0.0 ?	9.7 ± 0.0 ?	-	_	-

Significant difference;

* : P≤ 0.05 ** : P≤0.01

Test of Dunnett (0-102 weeks)

Significant difference;

* : P≤ 0.05 ** : P≤0.01

Test of t (104 weeks)

: 0303 : RAT F344/DuCri

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

PAGE: 6

STUDY NO. : 0303 ANIMAL : RAT F344 UNIT : g REPORT TYPE : A2 104 SEX : FEMALE

Group Name Administration week-day(effective) 98-7 (7) 102 - 7(7)104-7 (7) Control 11. 7 ± 2.0 11.9 \pm 1.8 12. 0 \pm 2. 2 150 ppm 11. 5 ± 2.2 10. $7 \pm 2.4*$ 10. 8 \pm 2. 7 $300 \; \mathrm{ppm}$ $9.3 \pm 1.7*$ 8.8 ± 1.3** $8.7 \pm 3.3 ?$ 600 ppm Significant difference; * : P≤ 0.05 ** : P≤0.01 Test of Dunnett (0-102 weeks) Significant difference; * : P≤ 0.05 ** : P≤0.01 Test of t (104 weeks)

APPENDIX E 1

CHEMICAL INTAKE CHANGES: SUMMARY, RAT: MALE

(2-YEAR STUDY)

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

UNIT

: mg/kgBW/day

SEX

: MALE

PAGE: 1

Group Name	Administration week								
	1	2	3	4	5	6	7		
Control	0	0	0	0	0	0	0		
200ppm	21	17	16	15	14	13	12		
400ppm	34	30	27	25	24	22	21		
800ppm	60	58	54	50	47	44	41		

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

UNIT

: mg/kgBW/day

SEX

: MALE

PAGE: 2

Group Name	Administration week								
	8	9	10	11	12	13	14		
Control	0	0	0	0	0	0	0		
200ppm	12	12	11	11	11	11	11		
400ppm	21	21	19	19	19	18	18		
800ppm	40	40	38	37	41	42	35		

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

UNIT

: mg/kgBW/day

SEX

: MALE

PAGE: 3

Group Name	Administration week								
	18	22	26	30	34	38	42		
Control	0	0	0	0	0	0	0		
200ppm	9	9	9	8	8	8	8		
400ppm	16	16	15	15	14	15	14		
800ppm	31	30	29	29	28	29	28		

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

UNIT

: mg/kgBW/day

SEX

: MALE

PAGE: 4

Group Name	Administration week									
	46	50	54	58	62	66	70			
Control	0	0	0	0	0	0	0			
200ppm	8	8	8	8	7	8	7			
400ppm	14	14	15	15	14	14	13			
800ppm	28	27	26	24	25	25	25			

STUDY NO.

: 0303

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

UNIT

: mg/kgBW/day

SEX

: MALE

PAGE: 5

Administration week								
74	78	82	86	90	94	96		
0	0	0	0	0	0	0		
7	7	7	8	7	8	8		
13	13	13	16	15	10			
26								
	74 0 7 13	74 78 0 0 7 7 13 13	74 78 82 0 0 0 7 7 7 13 13 13	74 78 82 86 0 0 0 0 7 7 7 8 13 13 13 16	74 78 82 86 90 0 0 0 0 0 7 7 7 8 7 13 13 13 16 15	74 78 82 86 90 94 0 0 0 0 0 0 7 7 7 8 7 8 13 13 13 16 15 10		

APPENDIX E 2

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

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

UNIT

: mg/kgBW/day

SEX

: FEMALE

PAGE: 1

Group Name	Administration week								
	1	2	3	4	5	6	7		
Control	0	0	0	0	0	0	0		
150ppm	18	15	14	14	13	13	12		
300ppm	29	25	23	20	19	19	17		
600ppm	45	44	41	37	35	38	35		

STUDY NO.

: 0303

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

UNIT

: mg/kgBW/day

SEX

: FEMALE

PAGE: 2

Administration week								
8	9	10	11	12	13	14		
0	0	0	0	0	0	0		
11	12	11	11	11	11	11		
16	16	16	16	16	16	16		
31	30	28	29	28	30	31		
	8 0 11 16	8 9 0 0 11 12 16 16	8 9 10 0 0 0 11 12 11 16 16 16	8 9 10 11 0 0 0 0 11 12 11 11 16 16 16 16	8 9 10 11 12 0 0 0 0 0 11 12 11 11 11 16 16 16 16 16	8 9 10 11 12 13 0 0 0 0 0 0 11 12 11 11 11 11 16 16 16 16 16 16		

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

UNIT

: mg/kgBW/day

SEX

: FEMALE

PAGE: 3

Group Name	Administrati	on week					•
	18	22	26	30	34	38	42
Control	0	0	0	0	0	0	0
150ppm	10	9	9	9	11	10	9
300ppm	15	14	21	16	16	18	15
600ppm	37	42	29	29	29	29	28

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

ALL ANIMALS

UNIT

: mg/kgBW/day

SEX

: FEMALE

Group Name	Administrati	on week		_	_		
	46	50	54	58	62	66	70
Control	0	0	0	0	0	0	0
150ppm	9	9	9	8	10	9	9
300ppm	_	15	15	15	17	18	15
600ppm	_	29	28	29	31	33	38

STUDY NO.

: 0303

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

: RAT F344/DuCrj

UNIT

: mg/kgBW/day

SEX

: FEMALE

PAGE: 5

	on week					
74	78	82	86	90	94	96
0	0	0	0	0	0	0
8	8	8	9	9	9	9
16	17	18	20	20	23	22
37	39	28	33			
	0 8 16	0 0 8 8 16 17	0 0 0 8 8 8 16 17 18	0 0 0 0 8 8 8 9 16 17 18 20	0 0 0 0 0 8 8 8 9 9 16 17 18 20 20	0 0 0 0 0 0 8 8 8 9 9 9 16 17 18 20 20 23

CHEMICAL INTAKE CHANGES (SUMMARY)

ANIMAL

 $: RAT\ F344/DuCrj$

ALL ANIMALS

UNIT SEX

: mg/kgBW/day

: FEMALE

Group Name	Administrati	on week	
	98	102	104
Control	0	0	0
150ppm	10	10	14
300ppm	19	22	26
600ppm			

APPENDIX F 1

HEMATOLOGY: SUMMARY, RAT: MALE

(2-YEAR STUDY)

ANIMAL : RAT F344/DuCrj

HEMATOLOGY (SUMMARY) ALL ANIMALS (97W)

MEASURE. TIME: 1

SEX : MALE

REPORT TYPE : A1

PAGE: 1

roup Name	NO. of Animals	RED BLOOD CELL 1 O ^s /µl	HEMOGLOBIN g/dl	HEMATOCRIT %	MCV f 2	MCH pg	MCHC g∕dl	PLATELET 1 0³/µl
Control	49	8.24± 1.43	14.2± 2.1	42.8± 5.2	53.3± 9.7	17.5± 2.0	33.0± 1.8	800± 170
200 ppm	16	8.09± 1.40	12.5± 2.6**	38.8± 6.7*	48.0± 2.5**	15.3± 1.4**	31.8± 1.9*	960± 223**
400 ppm	0	-		-	-	-	-	-
800 ppm	0	_	_	_	_	_	_	_

(HCL070)

ANIMAL : RAT F344/DuCrj

HEMATOLOGY (SUMMARY) ALL ANIMALS (97W)

MEASURE. TIME: 1

SEX : MALE

REPORT TYPE : A1

PAGE: 2

up Name	NO. of Animals	WBC 1 O³∕µl	Di: N-BAND	fferentia	. WBC (% N-SEG	S)	EOSINO		BASO		MONO		LYMPHO		OTHERS	
Control	49	6.04± 5.04	2±	3	53±	10	1±	1	0±	0	4±	2	32±	9	8±	11
200 ppm	16	6.09± 2.59	4±	3	49±	8	1±	1	0±	0	4±	2	33±	8	10±	5
400 ppm	0	-	-		-		-		-		<u></u>		-		-	
800 ppm	0	-			-		-		-		-		-		-	

(HCL070)

APPENDIX F 2

HEMATOLOGY: SUMMARY, RAT: FEMALE

ANIMAL : RAT F344/DuCrj

HEMATOLOGY (SUMMARY) ALL ANIMALS (105W)

MEASURE, TIME: 2

SEX: FEMALE

REPORT TYPE : A2

PAGE: 1

roup Name	NO. of Animals	RED BLOOD CELL 1 O⁵∕µl	HEMOGLOBIN g/dl	HEMATOCRIT %	MCV f l	MCH pg	MCHC g/dl	PLATELET 1 0³/ul
Control	41	7.91± 1.16	14.2± 2.0	42.8± 5.4	54.3± 3.1	17.9± 0.8	33.1± 1.1	710± 207
150 ppm	17	6. 14± 2. 34**	11.1± 3.6**	34.9± 9.3**	62.0± 16.6	19.1± 3.6	31.3± 2.6*	674± 333
300 ppm	! 2	7.73± 0.33	12.2± 0.3	38.7± 1.0	50.1± 0.8	15.8± 0.3	31.5± 0.0	853± 178
600 ppm	0	44-	-	-	-	-	-	***

! : Significant test is not applied to this group.

(HCL070)

ANIMAL : RAT F344/DuCrj

HEMATOLOGY (SUMMARY) ALL ANIMALS (105W)

MEASURE. TIME: 2

SEX : FEMALE

REPORT TYPE : A2

PAGE: 2

roup Name	NO. of Animals	WBC 1 O³∕µl	Dif N-BAND	fferentia	1 WBC (9 N-SEG	6)	EOSINO		BASO		MONO	White the	LYMPHO		OTHERS	
Control	41	2.62± 2.13	2±	2	46±	12	1±	1	0±	0	4 ±	2	36±	12	10±	12
150 ppm	17	18. 19± 57. 85	5±	5*	44±	18	1±	1	0±	0	3±	2	26±	11**	20±	22
300 ррш	! 2	6. 27 ± 5. 35	5±	2	29±	20	2±	2	0±	0	1 ±	1	30±	2	35±	23
600 ppm	0	-	-		-		-		-		-		_		_	

^{! :} Significant test is not applied to this group.

(HCL070)

APPENDIX G 1

BIOCHEMISTRY: SUMMARY, RAT: MALE

ANIMAL : RAT F344/DuCrj

BIOCHEMISTRY (SUMMARY) ALL ANIMALS (97W)

MEASURE. TIME: 1

SEX : MALE

REPORT TYPE : A1

PAGE: 1

roup Name	NO. of Animals	TOTAL PROTEIN g/dl	ALBUMIN g∕d£	A/G RATIO	T-BILIRUBIN mg∕dl	GLUCOSE mg/dl	T-CHOLESTEROL mg/dl	TRIGLYCERIDE mg/dl
Control	49	6.8± 0.3	3.5± 0.2	1.1± 0.1	0.19± 0.22	147± 19	186± 54	102± 76
200 ррт	16	6.8± 0.4	3.6± 0.2	1.1± 0.1	0.18± 0.04	133± 20*	217± 79	117± 100
400 ppm	0		-	-	-	-	-	-
800 ppm	0	-	-	-	-	_	_	www.

(HCL074)

ANIMAL : RAT F344/DuCrj

BIOCHEMISTRY (SUMMARY) ALL ANIMALS (97W)

MEASURE. TIME: 1

SEX : MALE

REPORT TYPE : A1

PAGE: 2

oup Name	NO. of Animals	PHOSPHOLIPID mg/dl	GOT IU/2	GPT I U / £	LDH IU∕ ℓ	ALP IU/ l	G-GTP IU/L	CPK IU/ 2
Control	49	258± 70	79± 53	38± 12	205± 300	202± 55	9± 4	87± 44
200 ppm	16	309± 114	1370± 3692	495± 1165	391± 494	304± 158*	47± 79	102± 33
400 ppm	0	~		-	-	-		alec
800 ppm	0	-	-		_	_		_

(HCL074)

ANIMAL : RAT F344/DuCrj

BIOCHEMISTRY (SUMMARY) ALL ANIMALS (97%)

MEASURE. TIME: 1

SEX : MALE

REPORT TYPE : A1

PAGE: 3

oup Name	NO. of Animals	UREA NITROGEN mg∕dl	CREATININE mg/dl	SODIUM m Eq / l	POTASSIUM mEq/l	CHLORIDE m Eq / l	CALCIUM mg/dl	INORGANIC PHOSPHORUS mg/dl
Control	49	18.2± 4.4	0.6± 0.1	143± 2	3.8± 0.3	108± 2	10.6± 0.3	4.0± 0.8
200 ррт	16	17.7± 2.4	0.5± 0.1	143± 2	3.9± 0.3	108士 2	10.7± 0.3	4.3± 0.6
400 ppm	0	-		-	-	-	-	
800 ppm	0	-	-	- -		-	-	_

(HCL074)

APPENDIX G 2

BIOCHEMISTRY: SUMMARY, RAT: FEMALE

ANIMAL : RAT F344/DuCrj

BIOCHEMISTRY (SUMMARY) ALL ANIMALS (105W)

MEASURE. TIME: 2

SEX: FEMALE

REPORT TYPE : A2

PAGE: 1

roup Name	NO. of Animals	TOTAL P g/dl	ROTEIN	ALBUMIN g/dl		A/G RAT	10	T-BILI mg/dl		GLUCOSE mg/dl		T-CHOLE mg/dl	STEROL	TRIGLYC mg/dl	ERIDE
Control	41	7.0±	0.5	4.0±	0.3	1.4±	0. 1	0.16±	0. 13	144±	18	137±	32	66±	56
150 ppm	17	6.8±	0.7	3.7±	0. 4**	1.2±	0. 2**	0.67±	1. 21	115±	24**	185±	55**	132±	79**
300 ррш	! 2	7.5±	0. 4	4.2±	0.3	1.3±	0. 0	0.49±	0.30	114±	24	269±	74	345±	333
600 ppm	0	_		_		_		_		_		-		_	

! : Significant test is not applied to this group.

(HCL074)

ANIMAL : RAT F344/DuCrj

BIOCHEMISTRY (SUMMARY) ALL ANIMALS (105W)

MEASURE. TIME: 2

SEX : FEMALE

REPORT TYPE : A2

PAGE: 2

roup Name	NO. of Animals	PHOSPHO mg/dl	LIPID	GOT IU/A	2	GPT IU/s	2	LDH IU/	ę	ALP IU/.	2	G-GTP I U/l	!	CPK IU/.	e
Control	41	245±	51	127±	118	52±	26	212±	96	117±	71	4±	3	92±	39
150 ppm	17	329±	87**	678±	683**	238±	252**	735±	773*	274±	183**	43±	49**	155±	118*
300 ppm	! 2	470±	166	3174±	423	1108±	425	956±	308	597±	382	264±	62	135±	25
600 ppm	0	-		_		=		_				_			

^{! :} Significant test is not applied to this group.

(HCL074)

ANIMAL : RAT F344/DuCrj

BIOCHEMISTRY (SUMMARY) ALL ANIMALS (105W)

MEASURE. TIME: 2

SEX : FEMALE

REPORT TYPE: A2

PAGE: 3

roup Name	NO. of Animals	UREA NITROGEN mg/dl	CREATININE mg/d2	SODIUM mEq/l	POTASSIUM mEq/2	CHLORIDE m Eq / L	CALCIUM mg/dl	INORGANIC PHOSPHORU
Control	41	16.4± 2.7	0.5± 0.1	141± 2	3.4± 0.3	105± 2	10.5± 0.3	3.9± 0.6
150 ppm	17	17.4± 3.6	0.5± 0.1	142± 2	3.6± 0.5	105± 5	10.4± 0.5	4.2± 1.1
300 ppm	! 2	24. 2± 0. 4	0.5± 0.0	142± 1	4.1± 0.4	107± 4	11.2± 0.4	4.1± 0.4
600 ppm	0	-	-	-	-	-	-	-

^{! :} Significant test is not applied to this group.

(HCL074)

APPENDIX H 1

URINALYSIS: SUMMARY, RAT: MALE

URINALYSIS

ANIMAL : RAT F344/DuCrj

MEASURE. TIME: 1

SEX : MALE

REPORT TYPE : A1

PAGE: 1

oup Name	NO. of	рН		Protein	Glucose	Ketone body	Bilirubin
	Animals	5.0 6.0 6.5 7.0 7.5	8.0 8.5 CHI	- ± + 2+ 3+ 4+ CIII	- ± + 2+ 3+ 4+ CIII	- ± + 2+ 3+ 4+ CHI	- + 2+ 3+ CHI
Control	49	0 0 1 12 20	13 3	0 0 0 18 30 1	49 0 0 0 0 0	49 0 0 0 0 0	47 2 0 0
200 ррш	19	0 0 4 6 4	4 1	0 0 0 2 14 3 *	19 0 0 0 0 0	14 5 0 0 0 0 **	16 3 0 0
400 ppm	0						
800 ppm	0			= = = = =	-		

(HCL101)

ANIMAL : RAT F344/DuCrj

MEASURE. TIME: 1

SEX : MALE	REPORT	TYPE: A1			PAGE: 2
Group Name	NO. of Animals	Occult blood - ± + 2+ 3+ CIII	Urobilinogen ± + 2+3+4+ CHI		
Control	49	48 0 1 0 0	49 0 0 0 0		
200 ррт	19	18 0 1 0 0	19 0 0 0 0		
400 ppm	0				
800 ppm	0				
Significan	t difference	; *: P ≤ 0.05 **	: P ≤ 0.01	Test of CHI SQUARE	
(HCL101)					BAIS 3

URINALYSIS

APPENDIX H 2

URINALYSIS : SUMMARY, RAT : FEMALE

URINALYSIS

ANIMAL : RAT F344/DuCrj MEASURE. TIME: 2

SEX : FEMALE

REPORT TYPE : A2

PAGE: 1

4 7	pH								Prote	in_					Glu	cose					Ket	one	body				Bi	liruk	oin	
Animals	5. 0	6.0	6.5	7.0	7. 5	8.0	8.5	CHI	±	+	2+	3+ 4	/F	CIII	_	± -	+ 2+	3+	4+	CIII				3+ 4	1+	CIII			2+ 3+	CHI
41	0	1	2	9	9	19	1		0 1	. 11	14	9	6		41	0	0 (0	0		24	15	2 0	0	0		41	0	0 0	
17	0	4	9	1	2	1	0	**	0 0) 3	6	7	1		17	0	0 (0	0		10	6	1 0	0	0		15	0	1 1	
2	0	1	1	0	0	0	0	?	0 0) (0	1	1	?	2	0	0 (0	0	?	2	0	0 0	0	0	?	2	0	0 0	?
0	-	-	-	-	~		-				-	-	-		-	-		-	-		-	-		-	_			-		
	17 2	17 0 2 0	17 0 4 2 0 1	17 0 4 9 2 0 1 1	17 0 4 9 1 2 0 1 1 0	17 0 4 9 1 2 2 0 1 1 0 0	17 0 4 9 1 2 1 2 0 1 1 0 0 0	17 0 4 9 1 2 1 0 2 0 1 1 0 0 0 0	17	17 0 4 9 1 2 1 0 ** 0 0 2 0 1 1 0 0 0 0 ? 0 0	17 0 4 9 1 2 1 0 ** 0 0 3 2 0 1 1 0 0 0 0 ? 0 0 0	17	17 0 4 9 1 2 1 0 ** 0 0 3 6 7 2 0 1 1 0 0 0 0 ? 0 0 0 1	17	17	17 0 4 9 1 2 1 0 *** 0 0 3 6 7 1 17 2 0 1 1 0 0 0 0 ? 0 0 0 1 1 ? 2	17	17 0 4 9 1 2 1 0 ** 0 0 3 6 7 1 17 0 0 0 2 0 1 1 0 0 0 0 ? 0 0 0 0 1 1 ? 2 0 0 0 0	17	17 0 4 9 1 2 1 0 ** 0 0 0 0 1 1 7 0 0 0 0 0 0 0 0 0 0 0 0 0	17	17	17 0 4 9 1 2 1 0 ** 0 0 3 6 7 1 17 0 0 0 0 10 6 2 0 1 1 0 0 0 ? 0 0 0 1 1 ? 2 0 0 0 ? 2 0 0 -	17	17	17	17	17	17	17

(HCL101)

ANIMAL : RAT F344/DuCrj

MEASURE. TIME: 2

SEX : FEMALE	REPORT	TYPE : A2			PAGE: 2
Group Name	NO. of Animals	0ccult blood - ± + 2+ 3+ CHI	Urobilinogen ± + 2+ 3+ 4+ CHI		
Control	41	40 1 0 0 0	41 0 0 0 0		
150 ррт	17	17 0 0 0 0	16 1 0 0 0		
300 ppm	2	0 0 0 0 2 ?	2 0 0 0 0 ?		
600 ppm	0	-			
Significant	difference	; *: P ≤ 0.05 **	: P ≤ 0.01	Test of CHI SQUARE	
? : Signifi	cant test is	not applied, because No. of	data in this group is less than 3.		
(HCL101)					BAIS 3

URINALYSIS

APPENDIX I 1

GROSS FINDINGS: SUMMARY, RAT: MALE ALL ANIMALS

ANIMAL : RAT F344/DuCrj

GROSS FINDINGS (SUMMARY) ALL ANIMALS (0 97W)

REPORT TYPE : A1 SEX : MALE

PAGE: 1

Organ	Findings	Group Name Control NO. of Animals 50 (%)	200 ppm 50 (%)	400 ppm 50 (%)	800 ppm 50 (%)
1,100					
skin/app	nodule	5 (10)	2 (4)	0 (0)	0 (0)
subcutis	jaundice	0 (0)	0 (0)	1 (2)	0 (0)
	moss	3 (6)	3 (6)	2 (4)	1 (2)
nasal cavit	hemorrhage	0 (0)	0 (0)	1 (2)	0 (0)
lung	red	0 (0)	2 (4)	3 (6)	5 (10)
	red zone	0 (0)	9 (18)	17 (34)	16 (32)
	brown zone	1 (2)	1 (2)	0 (0)	0 (0)
	edema	0 (0)	1 (2)	0 (0)	0 (0)
	nodule	3 (6)	6 (12)	8 (16)	5 (10)
	voluminus	0 (0)	1 (2)	0 (0)	0 (0)
lymph node	enlarged	0 (0)	0 (0)	0 (0)	1 (2)
spleen	enlarged	3 (6)	8 (16)	9 (18)	4 (8)
	black zone	0 (0)	1 (2)	0 (0)	0 (0)
	nedule	0 (0)	1 (2)	0 (0)	0 (0)
	deformed	0 (0)	1 (2)	0 (0)	0 (0)
salivary gl	enlarged	1 (2)	0 (0)	0 (0)	0 (0)
esophagus	nodule	0 (0)	0 (0)	0 (0)	1 (2)
; stomach	red zone	0 (0)	1 (2)	0 (0)	0 (0)
	ulcer	0 (0)	0 (0)	2 (4)	0 (0)
tomach	nodule	0 (0)	0 (0)	0 (0)	1 (2)
	gas	0 (0)	0 (0)	2 (4)	
mall intes	nodule				0 (0)
maii iures	Monte	0 (0)	0 (0)	1 (2)	0 (0)

(11000000)

DITOO

STUDY NO. : 0303 ANIMAL : RAT F344/DuGrj

GROSS FINDINGS (SUMMARY) ALL ANIMALS (0 97W)

REPORT TYPE : A1 SEX : MALE

rgati	Findings	Group Name NO. of Animals	Control 50 (%)	200 ppm 50 (%)	400 ppm 50 (%)	800 ppm 50 (%)
iver	pale		0 (0)	0 (0)	1 (2)	0 (0)
	white		0 (0)	0 (0)	1 (2)	0 (0)
	brown		0 (0)	0 (0)	1 (2)	0 (0)
	red zone		0 (0)	3 (6)	0 (0)	1 (2)
	nodule		1 (2)	42 (84)	45 (90)	47 (94)
	cyst		0 (0)	1 (2)	2 (4)	0 (0)
	rough		1 (2)	1 (2)	0 (0)	0 (0)
	nodular		0 (0)	0 (0)	0 (0)	1 (2)
	adhesion		0 (0)	0 (0)	0 (0)	1 (2)
	herniation		2 (4)	5 (10)	3 (6)	0 (0)
ncreas	nodule		0 (0)	2 (4)	1 (2)	2 (4)
idney	white patch/zone		0 (0)	1 (2)	0 (0)	0 (0)
	deformed		0 (0)	0 (0)	1 (2)	0 (0)
	granular		14 (28)	4 (8)	0 (0)	0 (0)
	compressed		1 (2)	0 (0)	0 (0)	0 (0)
rin bladd	hemorrhage		0 (0)	0 (0)	1 (2)	0 (0)
	urine:marked retention		0 (0)	0 (0)	0 (0)	1 (2)
i tui tary	enlarged		4 (8)	4 (8)	2 (4)	0 (0)
	red		1 (2)	0 (0)	0 (0)	0 (0)
	red zone		2 (4)	0 (0)	2 (4)	0 (0)
	black zone		2 (4)	1 (2)	0 (0)	0 (0)
	nodule		2 (4)	2 (4)	2 (4)	0 (0)

ANIMAL : RAT F344/DuCrj

GROSS FINDINGS (SUMMARY) ALL ANIMALS (O 97W)

REPORT TYPE : A1 SEX : MALE

Group Name Control 200 ppm 400 ppm 800 ppm Organ____ Findings_ NO. of Animals 50 (%) 50 (%) 50 (%) 50 (%) thyroid enlarged 2 (4) 3 (6) 0 (0) 0 (0) nodule 0 (0) 0 (0) 1 (2) 0 (0) adrenal enlarged 1 (2) 0 (0) 1 (2) 0 (0) testis atrophic 1 (2) 1 (2) 2 (4) 2 (4) red zone 0 (0) 1 (2) 0 (0) 0 (0) nodule 30 (60) 22 (44) 9 (18) 0 (0) prostate 0 (0) brown zone 0 (0) 1 (2) 0 (0) prep/cli gl nodule 0 (0) 2 (4) 0 (0) 0 (0) brain red zone 0 (0) 0 (0) 0 (0) 1 (2) nodule 0 (0) 0 (0) 0 (0) 1 (2) spinal cord red zone 0 (0) 0 (0) 0 (0) 1 (2) turbid eye 1 (2) 0 (0) 0 (0) 0 (0) white 4 (8) 5 (10) 2 (4) 1 (2) Zymbal gl nodule 1 (2) 0 (0) 1 (2) 0 (0) pleura hemorrhage 0 (0) 0 (0) 1 (2) 0 (0) mediastinum mass 0 (0) 1 (2) 0 (0) 1 (2) peritoneum nodule 0 (0) 1 (2) 1 (2) 0 (0) mass 0 (0) 0 (0) 2 (4) 3 (6) abdominal c hemorrhage 0 (0) 12 (24) 20 (40) 31 (62) mass 0 (0) 0 (0) 1 (2) 1 (2) ascites 0 (0) 2 (4) 2 (4) 6 (12) mesenterium 0 (0) mass 0 (0) 2 (4) 3 (6)

(1107000)

DITOO

ANIMAL : RAT F344/DuCrj

GROSS FINDINGS (SUMMARY) ALL ANIMALS (O 97W)

REPORT TYPE : A1

SEX : MALE

adipose nodule thoracic ca hemorr mass pleura	9			,	
thoracic ca hemorr	6				
mass	•	0 (0)	1 (2)	0 (0)	0 (0)
	rhage	0 (0)	9 (18)	9 (18)	7 (14)
pleura		0 (0)	0 (0)	1 (2)	0 (0)
	al fluid	1 (2)	4 (8)	3 (6)	7 (14)
other nose:e	elevated	0 (0)	1 (2)	0 (0)	0 (0)
nose:ne	nodule	2 (4)	0 (0)	0 (0)	0 (0)

(HPT080)

BAIS 3

APPENDIX I 2

GROSS FINDINGS : SUMMARY, RAT : FEMALE ALL ANIMALS

ANIMAL : RAT F344/DuCrj

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

REPORT TYPE : A2 SEX : FEMAL

FEMALE PAGE: 1

gan	Findings	Group Name NO. of Animals	Control 50 (%)	150 ppm 50 (%)	300 ppm 50 (%)	600 ppm 50 (%)
in/app	nodule		0 (0)	1 (2)	0 (0)	0 (0)
bcutis	jaundice		0 (0)	0 (0)	1 (2)	0 (0)
	mass		11 (22)	8 (16)	5 (10)	3 (6)
ng	white		0 (0)	1 (2)	0 (0)	0 (0)
	red		0 (0)	2 (4)	3 (6)	3 (6)
	yellow patch/zone		0 (0)	0 (0)	1 (2)	0 (0)
	white zone		0 (0)	0 (0)	1 (2)	0 (0)
	red zone		. 0 (0)	7 (14)	12 (24)	12 (24)
	black zone		0 (0)	1 (2)	0 (0)	0 (0)
	red patch		0 (0)	1 (2)	0 (0)	0 (0)
	edema		0 (0)	1 (2)	0 (0)	0 (0)
	nodule		0 (0)	3 (6)	4 (8)	9 (18)
	voluminus		0 (0)	1 (2)	0 (0)	0 (0)
ph node	enlarged		0 (0)	3 (6)	2 (4)	1 (2)
een	enlarged		4 (8)	15 (30)	8 (16)	3 (6)
	black zone		0 (0)	1 (2)	0 (0)	0 (0)
estomach	ulcer		1 (2)	0 (0)	2 (4)	0 (0)
stomach	hemorrhage		1 (2)	0 (0)	0 (0)	0 (0)
	ulcer		1 (2)	1 (2)	0 (0)	0 (0)
	erosion		0 (0)	0 (0)	1 (2)	0 (0)
er	enlarged		0 (0)	0 (0)	0 (0)	1 (2)
	brown		0 (0)	0 (0)	1 (2)	0 (0)

(11170000)

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

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2

SEX : FEMALE

gan	Findings	Group Name Control NO. of Animals 50 (%)	150 ppm 50 (%)	300 ppm 50 (%)	600 ppm 50 (%)
ver	white zone	1 (2)	1 (2)	1 (2)	0 (0)
	red zone	0 (0)	2 (4)	0 (0)	2 (4)
	black zone	0 (0)	1 (2)	0 (0)	0 (0)
	nodule	1 (2)	40 (80)	38 (76)	44 (88)
	cyst	0 (0)	1 (2)	0 (0)	0 (0)
	deformed	0 (0)	0 (0)	1 (2)	1 (2)
	rough	1 (2)	7 (14)	1 (2)	0 (0)
	nodular	0 (0)	0 (0)	3 (6)	1 (2)
	adhesion	0 (0)	0 (0)	0 (0)	1 (2)
	herniation	11 (22)	3 (6)	2 (4)	4 (8)
icreas	nodule	0 (0)	2 (4)	2 (4)	2 (4)
dney	white zone	0 (0)	0 (0)	1 (2)	0 (0)
	cyst	0 (0)	0 (0)	0 (0)	1 (2)
	granular	2 (4)	0 (0)	0 (0)	0 (0)
	hydronephrosis	0 (0)	0 (0)	1 (2)	0 (0)
in bladd	nodule	0 (0)	1 (2)	0 (0)	0 (0)
tuitary	enlarged	12 (24)	10 (20)	0 (0)	1 (2)
	red zone	7 (14)	5 (10)	7 (14)	0 (0)
	brown zone	1 (2)	0 (0)	0 (0)	0 (0)
	red patch	0 (0)	1 (2)	0 (0)	0 (0)
	nodu l e	2 (4)	8 (16)	4 (8)	1 (2)
	cyst	5 (10)	1 (2)	0 (0)	0 (0)

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ANIMAL : RAT F344/DuCrj

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

REPORT TYPE : A2

SEX

: FEMALE PAGE: 3

0rgan	Findings	Group Name Control NO. of Animals 50 (%)	150 ppm 50 (%)	300 ppm 50 (%)	600 ppm 50 (%)
thyroid	enlarged	1 (2)	0 (0)	1 (2)	0 (0)
	nodule	1 (2)	1 (2)	0 (0)	0 (0)
adrenal	enlarged	0 (0)	2 (4)	1 (2)	0 (0)
ovary	enlarged	0 (0)	2 (4)	0 (0)	0 (0)
	cyst	0 (0)	1 (2)	1 (2)	1 (2)
uterus	enlarged	0 (0)	1 (2)	0 (0)	0 (0)
	nodule	5. (10)	3 (6)	2 (4)	2 (4)
prep/cli gl	nodule	0 (0)	0 (0)	1 (2)	0 (0)
brain	red zone	0 (0)	3 (6)	2 (4)	0 (0)
spinal cord	red zone	0 (0)	1 (2)	0 (0)	0 (0)
	nodule	0 (0)	0 (0)	1 (2)	0 (0)
eye	turbid	1 (2)	0 (0)	1 (2)	0 (0)
	white	4 (8)	4 (8)	3 (6)	1 (2)
Zymbal gl	nodule	0 (0)	1 (2)	0 (0)	0 (0)
muscle	nodule	0 (0)	1 (2)	0 (0)	0 (0)
mediastinum	mass	0 (0)	0 (0)	1 (2)	0 (0)
peritoneum	mass	0 (0)	0 (0)	2 (4)	0 (0)
retroperit	mass	0 (0)	0 (0)	0 (0)	1 (2)
abdominal c	hemorrhage	0 (0)	6 (12)	19 (38)	25 (50)
	ascites	0 (0)	2 (4)	2 (4)	3 (6)
adipose	nodu l e	0 (0)	0 (0)	1 (2)	0 (0)
thoracic ca	hemorrhage	0 (0)	5 (10)	5 (10)	2 (4)
	<u>-</u>	· , •,	· · · · · · · · · · · · · · · · · · ·		2 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

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ANIMAL : RAT F344/DuCrj

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

REPORT TYPE : A2

SEX : FEMALE

0 (0)	1 (2)	6 (12)	6 (12)
0 (0)	1 (2)	0 (0)	0 (0)

APPENDIX I 3

GROSS FINDINGS: SUMMARY, RAT: MALE

DEAD AND MORIBUND ANIMALS

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1

GROSS FINDINGS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

SEX : MALE PAGE: 1

gan	Findings	Group Name NO. of Animals	Control 1 (%)	200 ppm 31 (%)	400 ppm 50 (%)	800 ppm 50 (%)
bcutis	jaundice		0 (0)	0 (0)	1 (2)	0 (0)
	mass		0 (0)	2 (6)	2 (4)	1 (2)
sal cavit	hemorrhage		0 (0)	0 (0)	1 (2)	0 (0)
mg	red		0 (0)	2 (6)	3 (6)	5 (10)
	red zone		0 (0)	8 (26)	17 (34)	16 (32)
	edema		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		0 (0)	6 (19)	8 (16)	5 (10)
	voluminus		0 (0)	1 (3)	0 (0)	0 (0)
mplı node	enlarged		0 (0)	0 (0)	0 (0)	1 (2)
leen	enlarged		1 (100)	5 (16)	9 (18)	4 (8)
	black zone		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		0 (0)	1 (3)	0 (0)	0 (0)
	deformed		0 (0)	1 (3)	0 (0)	0 (0)
sophagus	nodule		0 (0)	0 (0)	0 (0)	1 (2)
stomach	red zone		0 (0)	1 (3)	0 (0)	0 (0)
	ulcer		0 (0)	0 (0)	2 (4)	0 (0)
omach	nodule		0 (0)	0 (0),	0 (0)	1 (2)
	gas		0 (0)	0 (0)	2 (4)	0 (0)
all intes	nodule		0 (0)	0 (0)	1 (2)	0 (0)
ver	pale		0 (0)	0 (0)	1 (2)	0 (0)
	white		0 (0)	0 (0)	1 (2)	0 (0)
	brown		0 (0)	0 (0)	1 (2)	0 (0)

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 SEX : MALE GROSS FINDINGS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

rga1ı	Findings	Group Name NO. of Animals	Control 1 (%)	200 ppm 31 (%)	400 ppm 50 (%)	800 ppm 50 (%)
iver	red zone		0 (0)	1 (3)	0 (0)	1 (2)
	nodu1e		0 (0)	25 (81)	45 (90)	47 (94)
	cyst		0 (0)	1 (3)	2 (4)	0 (0)
	rough		0 (0)	1 (3)	0 (0)	0 (0)
	nodular		0 (0)	0 (0)	0 (0)	1 (2)
	adhesion		0 (0)	0 (0)	0 (0)	1 (2)
	herniation		0 (0)	4 (13)	3 (6)	0 (0)
ncreas	nodule		0 (0)	2 (6)	1 (2)	2 (4)
lney	white patch/zone		0 (0)	1 (3)	0 (0)	0 (0)
	deformed		0 (0)	0 (0)	1 (2)	0 (0)
	granular		1 (100)	1 (3)	0 (0)	0 (0)
in bladd	hemorrhage		0 (0)	0 (0)	1 (2)	0 (0)
	urine:marked retention		0 (0)	0 (0)	0 (0)	1 (2)
tuitary	enlarged		0 (0)	2 (6)	2 (4)	0 (0)
	red zone		0 (0)	0 (0)	2 (4)	0 (0)
	nodule		0 (0)	1 (3)	2 (4)	0 (0)
yroid	enlarged		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (2)	0 (0)
rena1	enlarged		0 (0)	0 (0)	1 (2)	0 (0)
tis	atrophic		0 (0)	1 (3)	2 (4)	2 (4)
	nodule		0 (0)	11 (35)	9 (18)	0 (0)
state	brown zone		0 (0)	0 (0)	1 (2)	0 (0)

ANIMAL : RAT F344/DuCrj

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0- 97W)

REPORT TYPE : A1 SEX : MALE

0rgan	Findings	Group Name NO. of Animals	Control 1 (%)	200 ppm 31 (%)	400 ppm 50 (%)	800 ppm 50 (%)
brain	red zone		0 (0)	0 (0)	0 (0)	1 (2)
	nodule		0 (0)	0 (0)	0 (0)	1 (2)
spinal cord	red zone		0 (0)	0 (0)	0 (0)	1 (2)
еуе	white		0 (0)	1 (3)	2 (4)	1 (2)
Zymbal gl	nodule		0 (0)	0 (0)	1 (2)	0 (0)
pleura	hemorrhage		0 (0)	0 (0)	1 (2)	0 (0)
mediastinum	mass		0 (0)	1 (3)	0 (0)	1 (2)
peritoneum	nodule		0 (0)	1 (3)	1 (2)	0 (0)
	mass		0 (0)	0 (0)	2 (4)	3 (6)
abdominal c	hemorrhage		0 (0)	9 (29)	20 (40)	31 (62)
	mass		0 (0)	0 (0)	1 (2)	1 (2)
	ascites		0 (0)	2 (6)	2 (4)	6 (12)
mesenterium	mass		0 (0)	0 (0)	2 (4)	3 (6)
adipose	nodule		0 (0)	1 (3)	0 (0)	0 (0)
thoracic ca	hemorrhage		0 (0)	9 (29)	9 (18)	7 (14)
	mass		0 (0)	0 (0)	1 (2)	0 (0)
	pleural fluid		0 (0)	4 (13)	3 (6)	7 (14)
other	nose:elevated		0 (0)	1 (3)	0 (0)	0 (0)

APPENDIX I 4

GROSS FINDINGS : SUMMARY, RAT : FEMALE

DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

ANIMAL : RAT F344/DuCrj GROSS FINDINGS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2 SEX : FEMALE

gan	Findings	Group Name NO. of Animals	Control 9 (%)	150 ppm 33 (%)	300 ppm 48 (%)	600 ppm 50 (%)
	· · · · · · · · · · · · · · · · · · ·					
subcutis	jaundice		0 (0)	0 (0)	1 (2)	0 (0)
	mass		3 (33)	5 (15)	5 (10)	3 (6)
lung	red		0 (0)	2 (6)	3 (6)	3 (6)
	yellow patch/zone		0 (0)	0 (0)	1 (2)	0 (0)
	white zone		0 (0)	0 (0)	1 (2)	0 (0)
	red zone		0 (0)	5 (15)	12 (25)	12 (24)
	red patch		0 (0)	1 (3)	0 (0)	0 (0)
	edema		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		0 (0)	1 (3)	4 (8)	9 (18)
	voluminus		0 (0)	1 (3)	0 (0)	0 (0)
mph node	enlarged		0 (0)	2 (6)	2 (4)	1 (2)
leen	enlarged		1 (11)	10 (30)	8 (17)	3 (6)
	black zone		0 (0)	1 (3)	0 (0)	0 (0)
restomach	u1cer		1 (11)	0 (0)	2 (4)	0 (0)
stomach	hemorrhage		1 (11)	0 (0)	0 (0)	0 (0)
	ulcer		0 (0)	1 (3)	0 (0)	0 (0)
	erosion		0 (0)	0 (0)	1 (2)	0 (0)
ver	enlarged		0 (0)	0 (0)	0 (0)	1 (2)
	brown		0 (0)	0 (0)	1 (2)	0 (0)
	white zone		0 (0)	0 (0)	1 (2)	0 (0)
	red zone		0 (0)	1 (3)	0 (0)	2 (4)
	black zone		0 (0)	1 (3)	0 (0)	0 (0)

ANIMAL : RAT F344/DuCrj

GROSS FINDINGS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2 SEX : FEMALE

		Group Name	Control	150 ppm	300 ррт	600 ppm
Organ	Findings	NO. of Animals	9 (%)	33 (%)	48 (%)	50 (%)
liver	nodule		0 (0)	24 (73)	36 (75)	44 (88)
	deformed		0 (0)	0 (0)	1 (2)	1 (2)
	rough		0 (0)	6 (18)	1 (2)	0 (0)
	nodular		0 (0)	0 (0)	3 (6)	1 (2)
	adhesion		0 (0)	0 (0)	0 (0)	1 (2)
	herniation		2 (22)	2 (6)	2 (4)	4 (8)
ancreas	nodule		0 (0)	1 (3)	2 (4)	2 (4)
ki dney	white zone	•	0 (0)	0 (0)	1 (2)	0 (0)
	cyst		0 (0)	0 (0)	0 (0)	1 (2)
	hydronephrosis		0 (0)	0 (0)	1 (2)	0 (0)
pituitary	enlarged		3 (33)	6 (18)	0 (0)	1 (2)
	red zone		0 (0)	3 (9)	7 (15)	0 (0)
	red patch		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		0 (0)	5 (15)	4 (8)	1 (2)
thyroid	enlarged		0 (0)	0 (0)	1 (2)	0 (0)
	nodule		1 (11)	1 (3)	0 (0)	0 (0)
drenal	enlarged		0 (0)	1 (3)	1 (2)	0 (0)
vary	cyst		0 (0)	1 (3)	1 (2)	1 (2)
nterus	enlarged		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		2 (22)	3 (9)	2 (4)	2 (4)
rep/cli gl	nodule		0 (0)	0 (0)	1 (2)	0 (0)

(1100000)

brain

red zone

D 4 T C C

0 (0) 2 (6) 2 (4) 0 (0)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

GROSS FINDINGS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

SEX : FEMALE

Organ	Findings	Group Name NO. of Animals	Control 9 (%)	150 ppm 33 (%)	300 ppm 48 (%)	600 ppm 50 (%)
	,		0 (0)	1 (0)	0 (0)	0 (0)
spinal cord	red zone		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (2)	0 (0)
еуе	turbid		0 (0)	0 (0)	1 (2)	0 (0)
	white		1 (11)	2 (6)	3 (6)	1 (2)
Zymbal gl	nodule		0 (0)	1 (3)	0 (0)	0 (0)
muscle	nodule		0 (0)	1 (3)	0 (0)	0 (0)
mediastinum	mass		0 (0)	0 (0)	1 (2)	0 (0)
peritoneum	mass		0 (0)	0 (0)	2 (4)	0 (0)
retroperit	mass		0 (0)	0 (0)	0 (0)	1 (2)
abdominal c	hemorrhage		0 (0)	5 (15)	19 (40)	25 (50)
	ascites		0 (0)	2 (6)	2 (4)	3 (6)
adipose	nodule		0 (0)	0 (0)	1 (2)	0 (0)
thoracic ca	hemorrhage		0 (0)	4 (12)	5 (10)	2 (4)
	pleural fluid		0 (0)	1 (3)	6 (13)	6 (12)
other	lower jaw nodule		0 (0)	1 (3)	0 (0)	0 (0)

(HPT080)

BAIS 3

APPENDIX I 5

GROSS FINDINGS: SUMMARY, RAT: MALE

SACRIFICED ANIMALS

(2-YEAR STUDY)

ANIMAL : RAT F344/DuCrj

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (97W)

REPORT TYPE : A1 SEX : MALE

Organ	Findings	Group Name Control NO. of Animals 49 (%)	200 ppm 19 (%)	400 ррт 0 (%)	800 ppm 0 (%)
skin/app	nodule	5 (10)	2 (11)	- (-)	- (-)
ubcutis	mass	3 (6)	1 (5)	- (-)	- (-)
ung	red zone	0 (0)	1 (5)	- (-)	- ()
	brown zone	1 (2)	1 (5)	- (-)	- (-)
	nodule	3 (6)	0 (0)	- (-)	- (-)
spleen	enlarged	2 (4)	3 (16)	- (-)	- (-)
salivary gl	enlarged	1 (2)	0 (0)	- (-)	- (-)
iver	red zone	0 (0)	2 (11)	- (-)	- (-)
	nodule	i (2)	17 (89)	- ()	- (-)
	rough	1 (2)	0 (0)	(-)	- (-)
	herniation	2 (4)	1 (5)	- (-)	- (-)
ridney	granular	13 (27)	3 (16)	- (-)	- (-)
	compressed	1 (2)	0 (0)	- ()	- (-)
oituitary	enlarged	4 (8)	2 (11)	- (-)	- (-)
	red	1 (2)	0 (0)	- (-)	- (-)
	red zone	2 (1)	0 (0)	- (-)	- (-)
	black zone	2 (4)	1 (5)	- (-)	- (-)
	nodule	2 (4)	1 (5)	- (-)	- •(-)
thyroid	enlarged	2 (4)	2 (11)	- (-)	- (-)
drenal	enlarged	1 (2)	0 (0)	- (-)	~ (-)
testis	atrophic	1 (2)	0 (0)	()	()
	red zone	0 (0)	1 (5)	- (-)	- (-)

innavov)

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ANIMAL : RAT F344/DuCrj

REPORT TYPE : AI

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (97W)

SEX : MALE

Organ	Findings	Group Name Control NO. of Animals 49 (%)	200 ppm 19 (%)	400 ppm 0 (%)	800 ppm 0 (%)
testis	nodule	30 (61)	11 (58)	- (-)	- (-)
orep/cli gl	nodule	0 (0)	2 (11)	- (-)	- (-)
eye	turbid	1 (2)	0 (0)	- (-)	- ()
	white	4 (8)	4 (21)	- (-)	- (-)
ymbal gl	nodule	1 (2)	0 (0)	- (-)	- (-)
bdominal c	hemorrhage	0 (0)	3 (16)	- (-)	- (-)
horacic ca	pleural fluid	1 (2)	0 (0)	- (-)	- (-)
ther	nose:nodule	2 (4)	0 (0)	- (-)	- (-)

(HPT080)

APPENDIX I 6

GROSS FINDINGS : SUMMARY, RAT : FEMALE

SACRIFICED ANIMALS

(2-YEAR STUDY)

ANIMAL : RAT F344/DuCrj

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (105W)

REPORT TYPE : A2

(100000)

SEX : FEMALE

PAGE: 1

D. T.C.O.

gan	Findings	Group Name Control NO. of Animals 41 (%)	150 ррш 17 (%)	300 ррш 2 (%)	600 ppm 0 (%)
in/app	nodule	0 (0)	1 (6)	0 (0)	- (-)
ocutis	mass	8 (20)	3 (18)	0 (0)	- (-)
ng	white	0 (0)	1 (6)	0 (0)	- (-)
	red zone	0 (0)	2 (12)	0 (0)	- (-)
	black zone	0 (0)	1 (6)	0 (0)	- (-)
	nodule	0 (0)	2 (12)	0 (0)	- (-)
nph node	enlarged	0 (0)	1 (6)	0 (0)	- (-)
leen	enlarged	3 (7)	5 (29)	0 (0)	- (-)
stomach	ulcer	1 (2)	0 (0)	0 (0)	- (-)
er	white zone	1 (2)	1 (6)	0 (0)	- (-)
	red zone	0 (0)	1 (6)	0 (0)	- (-)
	nodule	1 (2)	16 (94)	2 (100)	- (-)
	cyst	0 (0)	1 (6)	0 (0)	- (-)
	rough	1 (2)	1 (6)	0 (0)	- (-)
	herniation	9 (22)	1 (6)	0 (0)	- (-)
ncreas	nodule	0 (0)	1 (6)	0 (0)	- (-)
пеу	granular	2 (5)	0 (0)	0 (0)	- (-)
n bladd	nodule	0 (0)	1 (6)	0 (0)	- (-)
uitary	enlarged	9 (22)	4 (24)	0 (0)	- (-)
	red zone	7 (17)	2 (12)	0 (0)	- (-)
	brown zone	1 (2)	0 (0)	0 (0)	()
	nodule	2 (5)	3 (18)	0 (0)	- (-)

ANIMAL : RAT F344/DuCrj

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (105W)

REPORT TYPE : A2

SEX : FEMALE

)rgan	Findings	Group Name Control NO. of Animals 41 (%)	150 ррш 17 (%)	300 ррн 2 (%)	600 ppm 0 (%)
oituitary	cyst	. 5 (12)	1 (6)	0 (0)	- (-)
hyroid	enlarged	1 (2)	0 (0)	0 (0)	- (-)
drenal	enlarged	0 (0)	1 (6)	0 (0)	- (-)
ary	enlarged	0 (0)	2 (12)	0 (0)	- (-)
erus	nodule	3 (7)	0 (0)	0 (0)	- (-)
ain	red zone	0 (0)	1 (6)	0 (0)	- (-)
е	turbid	1 (2)	0 (0)	0 (0)	- (-)
	white	3 (7)	2 (12)	0 (0)	- (-)
dominal c	hemorrhage	0 (0)	1 (6)	0 (0)	- (-)
horacic ca	hemorrhage	0 (0)	1 (6)	0 (0)	- ()

(HPT080)

BAIS 3

APPENDIX J 1

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

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1

SEX : MALE UNIT: g

ORGAN WEIGHT: ABSOLUTE (SUMMARY) SURVIVAL ANIMALS (97W)

PAGE: 1

roup Name	NO. of Animals	Body Weight	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	49	413± 33	0.111± 0.264	3. 283± 1. 781	1.284± 0.108	1.482± 0.241	2.704± 0.271
200 ppm	19	357± 52**	0.067± 0.008	2.734± 1.021	1.274± 0.168	1.695± 0.576	2.913± 0.222 **
400 ррш	0	-	w	-	-	-	-
800 ppm	0		-	_	_	_	_

(IICL040)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX : MALE UNIT: g

ORGAN WEIGHT: ABSOLUTE (SUMMARY)

SURVIVAL ANIMALS (97W)

roup Name	NO, of Animals	SPLEEN	LIVER	BRAIN	
Control	49	1.291± 1.848	11.252± 1.345	2.029± 0.053	
200 ppm	19	1.192± 0.599	15.558± 4.833**	2.034± 0.051	
400 ppm	0	-	-	-	
800 ppm	0	-	-	-	

(IICL040)

BAIS 3

APPENDIX J 2

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

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 SEX : FEMALE UNIT: g

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

PAGE: 1

roup Name	NO. of Animals	Body Weight	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	41	266± 44	0.092± 0.017	0.143± 0.022	0.881± 0.090	1.073± 0.126	1.762± 0.166
150 ppm	17	218± 33**	0.286± 0.762	0.280± 0.444	0.955± 0.114*	1.510± 0.791*	2.013± 0.154**
300 ррт	! 2	169± 15	0.075± 0.007	0.098± 0.018	0.778± 0.023	1.124± 0.156	1.786± 0.097
600 ppm	0	-	-	-	-	-	-

^{! :} Significant test is not applied to this group.

(HCL040)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 SEX : FEMALE UNIT: g ORGAN WEIGHT: ABSOLUTE (SUMMARY) SURVIVAL ANIMALS (105W)

roup Name	NO. of Animals	SPLEEN	LIVER	BRAIN	
Control	41	0.806± 1.052	7.014± 1.556	1.832± 0.058	
150 ppm	17	1.959± 2.778	11. 427± 6. 684*	1.846± 0.036	
300 ppm	! 2	0.903± 0.646	13. 972± 1. 694	1.838± 0.006	
600 ppm	0	-	-	-	
Significan	t difference;	*: P ≤ 0.05 **	: P ≤ 0.01	Test of t	

(HCL040)

APPENDIX K 1

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

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 SEX : MALE UNIT: %

ORGAN WEIGHT: RELATIVE (SUMMARY) SURVIVAL ANIMALS (97W)

PAGE: 1

roup Name	NO. of Animals	Body Weight (g)	ADRENALS	TESTES	BEART	LUNGS	KIDNEYS
Control	49	413± 33	0.028± 0.069	0.792± 0.393	0.312± 0.029	0.360± 0.057	0.656± 0.064
200 ррт	19	357± 52**	0.019± 0.004	0.751± 0.250	0.362± 0.056**	0.501± 0.266*	0.837± 0.184**
400 ррт	0	-	-	-	-	-	-
800 ppm	0		_		_	_	_

(IICL042)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1

SEX : MALE UNIT: %

ORGAN WEIGHT: RELATIVE (SUMMARY)
SURVIVAL ANIMALS (97W)

oup Name	NO. of Animals	SPLEEN	LIVER	BRAIN	
Control	49	0.314± 0.454	2. 726± 0. 281	0.494± 0.037	
200 ppm	19	0.325± 0.137	4.421± 1.406**	0.588± 0.143*	
400 ррт	0	-	-	- -	
800 ppm	0		-	-	

(HCL042)

BAIS 3

APPENDIX K 2

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

ANIMAL : RAT F344/DuCrj

! : Significant test is not applied to this group.

REPORT TYPE : A2 SEX : FEMALE UNIT: %

(HCL042)

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

PAGE: 1

roup Name	NO. of Animals	Body Weight (g)	ADRENALS	OVARIES	IIEART	LUNGS	KIDNEYS
Control	41	266± 44	0.035± 0.007	0.055± 0.011	0.337± 0.043	0.414± 0.090	0.678± 0.129
150 ppm	17	218± 33**	0.155± 0.446	0.140± 0.236	0.448± 0.090**	0.725± 0.425**	0.945± 0.177**
300 ррт	! 2	169± 15	0.045± 0.001	0.058± 0.005	0.464± 0.055	0.674± 0.152	1.062± 0.036
600 ppm	0		-		-	-	-

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 SEX : FEMALE UNIT: % ORGAN WEIGHT: RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105W)

oup Name	NO, of Animals	SPLEEN	LIVER	BRAIN	
Control	41	0.313± 0.429	2.654± 0.490	0.708± 0.128	
150 ppm	17	1.027± 1.613	5. 426± 3. 474**	0.865± 0.136**	
300 ppm	! 2	0.555± 0.432	8.280± 0.276	1.095± 0.093	
600 ppm	0	-	-	-	
Significan	t difference ;	* : P ≤ 0,05 **:	P ≤ 0.01	Test of t	
! : Signi	ficant test is n	not applied to this group.	3 9 5 4 - Maritim		
CI 042)	-	···			DAT

(HCL042)

BAIS 3

APPENDIX L 1

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS: SUMMARY

RAT: MALE: ALL ANIMALS

(2-YEAR STUDY)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX : MALE

		Group Name No. of Animals on Study Grade 1		ntrol 50 3	4	1		200 50 2		4		1	4	100 р 50	pm 3	4		t		00 ppi 50	m 3	4
Organ	Findings	(%)	(%)		(%)	(%)		(%)	(%)	(%)		(%)	(%		(%)	(%)		(%)	(%)		%)	(%)
{Integumentar	y system/appandage)																					
skin/app	inflammation	1 (2)	0		0	0 (0)		<50 0 0) (0	0	(0	0)		0	0 (0)	(0	0	(50>	0 0) (0 ()
	hyperplasia:epidermis	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)
	epidermal cyst	(0)	0 (0)	(0	0	(0)	(1 2) (0	0 (0)	(0 0)	(0		0 0)	0 (0)	(0	0	()	0 0) (0 0)
{Respiratory	system)																					
nasal cavit	hemorrhage	0 (0)	0		0 0)	1 (2)		<50 0 0) (0	0 (0)	(0 0)	0 (0		0	0 (0)	(0	0	(50>	0 0) (0 0)
	mineralization	0 (0)	0 (0)	0)	0	12 (24)		0 0) (0 0)	0 ** (0)	(7 14)	0		0	0 *		13 26)	2 (4)	((0 0) (0 *
	eosinophilic change:olfactory epitheli	21 (42)	13 (26)	2 (4	0 0)	17 (34)	(1 2) (0 0)	0 ** (0)	(8 16)	3 (6		0	0 ** (0)	(2 4)	0	((0 0) (0 * 0)
	eosinophilic change:respiratory epithe	1ium 6 (12)	0 (0)	0 (0	0	8 (16)		0 0) (0	0	(6 12)	0		0 0)	0 (0)	(2 4)	0	((0 0) (0
Grade <a>> b (c)	1: Slight 2: Moderate 3 a: Number of animals examined at the si b: Number of animals with lesion c: b/a * 100	: Marked 4 : Severe te	;																			

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

ALL ANIMALS (0- 97W)

REPORT TYPE : A1

SEX : MALE

Organ		Group Name No. of Animals on Study Grade 1 (%)		3	<u>4</u> (%)	<u>1</u> (%)	200 5 2 (%)	ppm) 3 (%)	<u>4</u> (%)	<u>1</u> (%)	400 5 2 (%)	ppm 0 3 (%)	<u>4</u> (%)	1 (%)	800 50 2 (%)	ppm) 3 (%)	<u>4</u> (%)
{Respiratory	system}																
nasal cavit	inflammation:foreign body	5 (10)	<50> 2 (4) (0 0) (0	15 (30) ((5) 0 (0)	0	0 * (0)	10 (20)	<5 0 (0)	0	0 (0)	3 (6)	(5) (0)	0	0 (0)
	inflammation:respiratory epithelium	0 (0)	0 (0) (0 0) (0 0)	1 (2) (0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	respiratory metaplasia:olfactory epith		0 (0) (0 0) (0 0)	8 (16) (0 (0)	0 (0)	0 (0)	8 (16)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 *
	respiratory metaplasia:gland	46 (92)	0 (0) (0 0) (0 0)	47 (94) (1 2)	0 (0)	0 (0)	33 (66)	4 (8)	0 (0)	0 ** (0)	32 (64)	3 (6)	0 (0)	0 **
	basal cell hyperplasia:olfactory epith		0 (0) (0 0) (0 0)	0 (0) (0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	6 (12)	4 (8)	0 (0)	0 ** (0)
	atrophy:olfactory epithelium	0 (0)	0 (0) (0 0) (0	2 (4) (0	0 (0)	0 (0)	6 (12)	0 (0)	0 (0)	0 *	19 (38)	2 (4)	0 (0)	0 **
	hyperplasia:respiratory epithelium	0 (0)	0 (0) (0 0) (0 0)	0 (0) (0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	1 (2)	1 (2)	0 (0)	0 (0)
	atypical dilatation:olfactory gland	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)
Grade <a>> b (c) Significant d	1: Slight 2: Moderate 3 a: Number of animals examined at the si b: Number of animals with lesion c: b / a * 100 lifference; *: $P \le 0.05$ **: $P \le 0.05$																

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

REPORT TYPE : A1

SEX : MALE

Organ	Findings	Group Name No. of Animals on Study Grade 1 (%)	Control 50 2 3 4 (%) (%) (%)	200 ppm 50 1 2 3 4 (%) (%) (%) (%)	400 ppm 50 1 2 3 4 (%) (%) (%) (%)	800 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Respiratory	y system)					
larynx	mineralization	0 (0)	<50> 0 0 0 (0) (0) (0)	<50> 1 0 0 0 (2) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
	inflammation	0 (0)	0 0 0 (0) (0)	0 1 0 0 (0) (2) (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 0 (0) (0)
trachea	mineralization	0 (0)	<50> 0 0 0 (0) (0) (0)	<50> 0 1 0 0 (0) (2) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
lung	congestion	. 0 (0)	<50> 0 0 0 (0) (0) (0)	<50> 0 2 0 0 (0) (4) (0) (0)	<50> 0 2 0 0 (0) (4) (0) (0)	<50> 0 2 0 0 (0) (4) (0) (0)
	hemorrhage	0 (0)	0 0 0 0 (0) (0)	8 5 3 0 *** (16) (10) (6) (0)	13 7 0 0 ** (26) (14) (0) (0)	7 5 2 0 ** (14) (10) (4) (0)
	inflammatory infiltration	. 0 (0)	0 1 0 (0) (2) (0)	1 1 0 0 (2) (2) (0) (0)	1 1 0 0 (2) (2) (0) (0)	6 2 0 0 * (12) (4) (0) (0)
	osseous metaplasia	1 (2)	0 0 0 0 (0) (0)	1 0 0 0 0 (2) (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

ь

b: Number of animals with lesion

(c)

c:b/a * 100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

(HPT150)

BAIS3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE: A1

SEX : MALE

PAGE: 4

Organ	Findings	Group Name No. of Animals on Study Grade(%)	2	ntrol 50 3 (%)	<u>4</u> (%)	<u>1</u> (%)		ppm 0 3 (%)	4 (%)	1 (%)	400 50 2 (%)		<u>4</u> (%)	<u>1</u> (%		800 p 50 2 (%)	3 (%)	<u>4</u> (%)
{Respiratory	system)																	
lung	bronchiolar—alveolar cell hyperplasia		1	50> 1 (2)	0 (0)	2 (4)	0	0 (0)	0 (0)	0 (0) (<50 0 0	0	0 (0)	1 (2) (<50> 0 0) (0	0 (0)
{Hematopoieti	c system)																	
bone marrow	granulation	1 (2)	0	50> 0 (0)	0 (0)	0 (0)	1	0 (0)	0 (0)	0 (0) 1	<50 0 0)	0	0 (0)	1 (2		<50> 0 0) (0	0
	increased hematopoiesis	4 (8)		0 (0)	0 (0)	25 (50)	0 (0)	0 (0)	0 ** (0)	38 (76)	0 (0)	0 (0)	0 ** (0)	38 (76		0 (0	0 ** (0)
	granulopoiesis:increased	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)
lymph node	lymphadenitis	0 (0)	0	50> 0 (0)	0 (0)	1 (2)	0	0 (0)	0 (0)	0 (0) (<50 0 0	0	0) (<50> 0 0) (0	0
spleen	atrophy	0 (0)	0	50> 0 (0)	0 (0)	1 (2)	3	0 (0)	0 (0)	4 (8) (<50 0 0)	0	0	0 (0		(50) 0 0) (0	0
Grade (a) b (c) Significant d	1: Slight 2: Moderate 3 a: Number of animals examined at the 3 b: Number of animals with lesion c: b / a * 100 ifference; *: P ≤ 0.05 **: P																	

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE: A1

SEX : MALE

PAGE: 5 Group Name 200 ppm 400 ppm Control 800 ppm No. of Animals on Study 50 50 50 50 Grade 3 3 3 3 (%) (%) (%) Organ Findings (%) (%) (%) (%) (%) (%) (%) {Hematopoietic system} spleen <50> <50> <50> ⟨50⟩ 0 0 0 0 congestion 1 0 2 0 0 0 0 0 (0)(2)(0)(0) (2)(4)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) deposit of hemosiderin 0 0 0 0 0 0 0 0 0 0 0 0 (0)(0)(0)(0) (4)(0)(0)(0) (2)(0)(0)(0) (0)(0)(0)(0) inflammatory infiltration 2 1 0 0 (0)(0)(0)(0) (6)(2)(0)(0) (10) (0) (0) (0) (4)(2)(0)(0) 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) extramedullary hematopoiesis 2 0 0 0 9 12 0 0 ** 29 11 0 0 ** 13 20 0 0 ** (4)(0)(0)(0) (18) (24) (0) (0) (58) (22) (0) (0) (26) (40) (0) (0) {Circulatory system) heart <50> <50> <50> <50> mineralization 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) inflammatory cell nest 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) 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

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

: MALE

400 ppm Group Name Control 200 ppm 800 ppm No. of Animals on Study 50 50 50 50 Grade 3 3 2 3 (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) Findings_ Organ___ {Circulatory system} heart <50> <50> <50> (50) 13 5 0 0 9 0 0 0 * myocardial fibrosis 0 11 1 0 0 (40) (2) (0) (0) (26) (10) (0) (0) (22) (2) (0) (0) (18) (0) (0) (0) {Digestive system} tooth <50> <50> <50> ⟨50⟩ 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 inflammation (0)(2)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) 0 0 0 1 0 0 0 0 0 0 0 0 0 0 dysplasia 0 (2)(0)(0)(0) (2)(0)(0)(0) (0) (0) (0) (0) (0)(0)(0)(0) <50> <50> salivary gl <50> lymphocytic infiltration 0 0 0 4 1 0 0 0 0 0 0 0 0 0 0 (0)(0)(0)(0) (8)(2)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) stomach <50> <50> <50> <50> 0 0 0 0 mineralization 0 1 0 0 1 0 0 (0)(0)(0)(0) (0)(2)(0)(0) (0)(2)(0)(0) (0)(0)(0)(0) ulcer:forestomach 0 0 0 3 0 0 0 0 0 0 0 0 0 0 (0)(0)(0)(0) (0) (0) (0) (0) (0)(6)(0)(0) (0)(0)(0)(0)

Grade (a) 1 : Slight

2 : Moderate

3 : Marked

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

4 : Severe

(HPT150)

BAIS3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

REPORT TYPE : A1
SEX : MALE

		oup Name of Animals on Study		Cont:						200 50						•	100 p 50) ppm 50	ı	
rgan	Gr Findings	(%		2 (%)	(%)	<u>4</u> (%		(%)		<u>2</u> %)	(%)		<u>4</u> (%)		<u>1</u> (%)	()	8 6)	(%)	(%)		(%))	2 (%)	(%		(%)
(Digestive sy	ystem)																									
stomach	hyperplasia:forestomach))) (<50 0 0) (0	0 (0	(0 0)		<50 1 2) (0		0	(1 2)		<50)))) (0	0 (0)	1	0		0	50> (0		0
	erosion:glandular stomach)) (0 0) (0	0)	(0 0)		0 0) (0 0)		0 0)	(2 4)	(1))) (0	0 (0)	(2 (4)) (0	(0) (0
	ulcer:glandular stomach		o) (0 0) (0	(0	(0 0)		1 2) (0 0)	(0	(1 2)))) (0	0 (0)	(0 (0)		0	(0		0
	hyperplasia:glandular stomach		2) (I	0 0) (0 0)	(0	(0 0)		0 0) (0 0)		0 0)	(1 2)))) (0	0 (0)	(0 (0)		0	(0		0
	hemorrhage:glandular stomach))) (0 0) (0 0)	(0	(1 2)		0 0) (0 0)		0	(0))) (0	0 (0)	(0 (0)		0	(0		0
small intes	hemorrhage))) (<50 0 0) (0	0)	(0 0)		<50 0 0) (0		0 0)	(1 2)		<50) O) (0	0 (0)	(0 (0)		0	50> (0		0
liver	herniation		2 4) (<50 0 0) (0	0 (0	(5 10)		<50 0 0) (0		0 0)	(3 6)		<50)) () (0	0 (0)	ŧ	0 (0)		0	50> ((0
Grade (a >	1: Slight 2: Moderate 3: a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100	Marked 4 : Sevo	ere				 																		<u> </u>	

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1

SEX : MALE

PAGE: 8

Organ	Findings	Group Name Control No. of Animals on Study 50 Grade 1 2 3 4 (%) (%) (%) (%)	200 ppm 50 1 2 3 4 (%) (%) (%) (%)	400 ppm 50 1 2 3 4 (%) (%) (%) (%)	800 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Digestive	system)				
liver	congestion	<50> 0 0 0 0 (0) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)	0 1 0 0 (0) (2) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)
	angiectasis	0 0 0 0 0 (0) (0)	3 2 0 0 (6) (4) (0) (0)	1 0 0 0 0 (2) (0) (0) (0)	0 1 0 0 (0) (2) (0) (0)
	thrombus	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 1 0 0 (0) (0) (0)	0 1 0 0 (0) (0)
	necrosis:central	0 0 0 0 0 (0) (0)	7 3 0 0 ** (14) (6) (0) (0)	10 11 1 0 *** (20) (22) (2) (0)	5 4 2 0 *** (10) (8) (4) (0)
	necrosis: focal	0 0 0 0 0 (0) (0)	1 5 1 0 (2) (10) (2) (0)	6 10 1 0 ** (12) (20) (2) (0)	5 7 4 0 ** (10) (14) (8) (0)
	fatty change	1 1 0 0 (2) (2) (0) (0)	0 0 0 0 0 (0) (0)	1 0 0 0 (2) (0) (0) (0)	0 0 0 0 0 (0) (0)
	fatty change:central	0 0 0 0 0 (0) (0)	0 1 0 0 (0) (0)	0 1 0 0 (0) (2) (0) (0)	0 0 0 0 0 (0) (0)
	inflammatory infiltration	0 1 0 0 (0) (2) (0) (0)	1 2 0 0 (2) (4) (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)
Grade <a>> b (c) Significant	1: Slight 2: Moderate a: Number of animals examined at the b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P				

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : AI

SEX : MALE

PAGE: 9

0rgan	Group No. o Grade Findings	f Animals on Study 50	200 ppm 50 1 2 3 4 (%) (%) (%) (%)	400 ppm 50 1 2 3 4 (%) (%) (%) (%)	800 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Digestive	system)		,		
liver	granulation	(50) 1 7 0 0 (2) (14) (0) (0)	(50) 1 0 0 0 * (2) (0) (0) (0)	(50) 0 1 0 0 * (0) (2) (0) (0)	<50> 1 0 0 0 * (2) (0) (0) (0)
	hyperplasia:vascular	0 0 0 0 0 (0) (0)	1 1 0 0 (2) (2) (0) (0)	1 0 0 0 (2) (0) (0) (0)	0 0 0 0 0 (0) (0)
	clear cell focus	2 1 0 0 (4) (2) (0) (0)	4 9 2 0 * (8) (18) (4) (0)	1 3 0 0 (2) (6) (0) (0)	0 0 0 0 0 (0) (0)
	acidophilic cell focus	4 2 0 0 (8) (4) (0) (0)	6 4 4 0 (12) (8) (8) (0)	2 2 0 0 (4) (4) (0) (0)	0 0 1 0 (0) (2) (0)
	basophilic cell focus	4 3 0 1 (8) (6) (0) (2)	8 14 1 1 * (16) (28) (2) (2)	2 10 0 0 (4) (20) (0) (0)	5 3 1 0 (10) (6) (2) (0)
	vacuolated cell focus	2 1 0 0 (4) (2) (0) (0)	2 0 0 0 0 (4) (0) (0) (0)	0 0 0 0 0 (0) (0)	1 0 0 0 0 (2) (0) (0) (0)
	spongiosis hepatis	4 0 0 0 0 (8) (0) (0) (0)	12 5 0 0 ** (24) (10) (0) (0)	0 1 0 0 (0) (2) (0) (0)	2 3 0 0 (4) (6) (0) (0)
	bile duct hyperplasia	0 30 20 0 (0) (60) (40) (0)	11 30 4 0 ** (22) (60) (8) (0)	10 23 1 0 ** (20) (46) (2) (0)	6 3 0 0 *** (12) (6) (0) (0)
Grade <a> b (c) Significant	1 : Slight 2 : Moderate 3 : Mar a : Number of animals examined at the site b : Number of animals with lesion c : b / a * 100 difference; * : $P \le 0.05$ ** : $P \le 0.01$				

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX

: MALE

PAGE: 10

Organ	Group Nar No. of Au Grade Findings	Control	200 ppm 50 1 2 3 4 (%) (%) (%) (%)	400 ppm 50 1 2 3 4 (%) (%) (%) (%)	800 ppm 50 1 2 3 4 (%) (%) (%)
{Digestive s	system}				
liver	biliary cyst	<50> 1 0 0 0 (2) (0) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)
	regenerative hyperplasia	0 0 0 0 0 0 (0)	0 0 0 0 0 (0) (0)	1 3 0 0 (2) (6) (0) (0)	0 0 0 0 0 (0) (0)
pancreas	atrophy	<50> 6 4 0 0 (12) (8) (0) (0)	(50) 6 2 1 0 (12) (4) (2) (0)	3 2 0 0 (6) (4) (0) (0)	(0) (0) (0) (0)
	išlet cell hyperplasia	1 0 0 0 0 (2) (0) (0) (0)	0 1 0 0 (0) (2) (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)
{Urinary sys	stem}				
kidney	cyst	<50> 0 1 0 0 (0) (2) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)
	basophilic change	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 1 0 0 (0) (2) (0) (0)
Grade <a>> b (c) Significant	1: Slight 2: Moderate 3: Marked a: Number of animals examined at the site b: Number of animals with lesion c: h / a * 100 difference; *: $P \le 0.05$ **: $P \le 0.01$				·

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX : MALE

PAGE: 11

Organ	Group No. of Grade Findings	Name Control Animals on Study 50 1 2 3 4 (%) (%) (%) (%)	200 ppm 50 1 2 3 4 (%) (%) (%) (%)	400 ppm 50 1 2 3 4 (%) (%) (%) (%)	800 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Urinary sy	vstem)				
kidney	deposit of hemosiderin	<50> 1 0 0 0 (2) (0) (0) (0)	(50) 4 2 0 0 (8) (4) (0) (0)	<50> 6 7 0 0 ** (12) (14) (0) (0)	3 4 0 0 (6) (8) (0) (0)
	chronic nephropathy	23 16 7 1 (46) (32) (14) (2)	15 8 2 0 *** (30) (16) (4) (0)	5 3 0 0 *** (10) (6) (0) (0)	5 0 0 0 ** (10) (0) (0) (0)
	pyelonephritis	0 0 0 0 0 (0) (0)	0 1 0 0 (0) (2) (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)
	tubular necrosis	0 1 0 0 (0) (0)	5 10 3 0 *** (10) (20) (6) (0)	7 9 7 0 *** (14) (18) (14) (0)	2 14 4 0 *** (4) (28) (8) (0)
	papillary necrosis	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 1 0 0 (0) (2) (0) (0)
	mineralization:cortico-medullary junction	0 0 0 0 0 (0) (0)	1 0 1 0 (2) (3)	0 0 0 0 0 (0) (0)	0 2 0 0 (0) (4) (0) (0)
	mineralization:papilla	3 0 0 0 0 (6) (6) (7)	7 0 0 0 (14) (0) (0) (0)	4 0 0 0 0 (8) (0) (0)	5 2 0 0 (10) (4) (0) (0)
	mineralization:pelvis	0 1 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	2 0 0 0 0 (4) (0) (0) (0)
Grade (a) b (c) Significan	1: Slight 2: Moderate 3: Mark a: Number of animals examined at the site b: Number of animals with lesion c: b/a * 100 t difference; *: $P \le 0.05$ **: $P \le 0.01$	ed 4: Severe Test of Chi Square			

(HPT150)

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 SEX : MALE

PAGE: 12

Organ		up Name of Animals on Study de(%)	Contr 50 2 (%)	3 (%)	<u>4</u> (%)	1 (%)	200 50 2 (%)		<u>4</u> (%)	<u> </u>	1 6)	400 50 2 (%)		<u>4</u> (%)		<u>1</u> (%)			3 (%)	<u>1</u> (%)
{Urinary syst	.em)																			
kidney	mineralization:cortex	0 (0)	<50> 0 (0) (0	0 0)	0 (0) (<50 0 0) (0	0 (0)		1	<50 0 0) (1	0 (0)	(0	1		0	0 (0)
	urothelial hyperplasia:pelvis	1 (2)	0 (0 (0	0 (0) (0	0 (0 (0)	((0	0 (0)	0 (0)	(0	0		0	0 (0)
urin bladd	simple hyperplasia:transitional epitheliu		<50> 0 (0) (0	0 0)	0 (0) (<50 0 0) (0	0 (0)	1		<50 0 0) (0	0 (0)	(0	0		0	0 (0)
{Endocrine sy	vstem)																			
pituitary	angiectasis	1 (2)	<50> 0 (0) (0	0	0 (0) (<50 0 0) (0	0 (0)))) (<5(0 0)	0	0 (0)	(0	0		0	0 (0)
	cyst	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)
	hyperplasia	4 (8)	9 (18) (0	0	6 (12) (5 10) (0 (0)	0 (0)		2 4) (2 4)	0 (0)	0 *	(1 2)	1 (2)) (0	0 **
Grade (a) b (c) Significant d	1: Slight 2: Moderate 3: Was a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 lifference: $*: P \le 0.05$ **: $P \le 0.05$	larked 4: Severe												WANAGO - J.						

(HPT150)

ANIMAL : RAT F344/DuCrj

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

REPORT TYPE : A1 SEX : MALE

PAGE: 13

Organ	N	roup Name Control to. of Animals on Study 50 rade 1 2 3 4 (%) (%) (%) (%)	200 ppm 50 1 2 3 4 (%) (%) (%) (%)	400 ppm 50 1 2 3 4 (%) (%) (%) (%)	800 ppm 50 1 2 3 4 (%) (%) (%) (%)
Endocrine s	system}				
ituitary	Rathke pouch	(50) 0 0 0 0 (0) (0) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)	<pre></pre>
hyroid	ultimibranchial body remanet	(50) 0 0 0 0 (0)(0)(0)(0)	(50) 0 0 0 0 (0) (0) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)	<50> 0 0 0 0 0 0 0 0 0 0
	C-cell hyperplasia	7 2 0 0 (14) (4) (0) (0)	1 1 0 0 (2) (2) (0) (0)	1 0 0 0 * (2) (0) (0) (0)	1 0 0 0 *
lrenal	cyst	\(\langle 50 \rangle \) 1	<50> 0 0 0 0 (0) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)	<50> 0 0 0 0 0 0 0 0 0 0 0
	hyperplasia:cortical cell	0 0 0 0 0 (0) (0)	1 0 0 0 0 (2) (3) (6) (7)	0 0 0 0 0 (0) (0)	0 0 0 0 0
	hyperplasia:medulla	0 1 0 0 (0) (2) (0) (0)	4 0 0 0 0 (8) (0) (0) (0)	2 1 0 0 (4) (2) (0) (0)	0 0 0 0 0 (0) (0)
	focal fatty change:cortex	2 0 0 0 0 (4) (0) (0) (0)	2 0 0 0 0 (4) (0) (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)
rade (a > b	1: Slight 2: Moderate 3: a: Number of animals examined at the sit b: Number of animals with lesion c: b/a * 100	Marked 4: Severe e			

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 SEX : MALE

PAGE: 14

		Group Name No. of Animals on Study	Control 50		200 ppm 50			4 00 ppm 50					800 ppm 50									
Organ	Findings	Grade <u>1</u> (%)	2 (%)	3 (%)	<u>4</u> (%)	<u>1</u> (%)	(%)	(%)		<u>4</u> (%)	G	1 6)	2 (%)	(9		(%)		<u>1</u> (%)	(9	2 %)	(%)	(%)
{Reproductive	system)																					
testis	atrophy	11 (22)	<50 5 (10) (0	0 (0)	7 (14)	4	5 0> 0 (0)		0 0)))) (i0> (4		0 ** 0)	(<50) 1 2) (1	0 *
	arteritis	16 (32)	1 (2) (0 (0)	0 (0)	8 (16)	0 (0)	0 (0)		0 0)		5 D) (0 0)))) (0 * 0)	(2 4)	((0 0)	0 *¤
	interstitial cell hyperplasia	26 (52)	2 (4) (0 (0)	0 (0)	35 (70)	3 (6)	(0)) (0 0)	2° (5	7 1) (1 2)	(())) (0 0)		7 14)		0 0) (0 0)	0 ** (0)
epididymis	coll debris	5 (10)	<50 1 (2) (0	0 (0)	1 (2)	0			0 0)))) (<5 0 0)			0 * 0)	(0		<50: 0 0) (0	0 *
prostate	hemorrhage	(0)	<50 0 (0) (0	0 (0)	0 (0)	0	50> 0 (0)		0 0)	(:		0 0 0)	i0> (0	(0 0>	(<50: 0 0) (0	0 (0)
	inflammation	9 (18)	1 (2) (0 (0)	0 (0)	3 (6)	0 (0)	0 (0)		0 0)		6 2) (1 2)	((0 0)	(3 6)		0 0) (0 0)	0 (0)
	hyperplasia	4 (8)	0 (0) (0 (0)	0 (0)	1 (2)	2 (4)	0 (0)		0))) (0 0)			0 0)	(0 0)		0 0) (0	0 (0)

< a >

a: Number of animals examined at the site

ь

b: Number of animals with lesion

(c)

c:b/a*100

Significant difference; $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX

: MALE

Organ	Group N No. of Grade Findings	Animals on Study 50 1 2 3 4 (%) (%) (%)	200 ppm 50 1 2 3 4 (%) (%) (%) (%)	400 ppm 50 1 2 3 4 (%) (%) (%) (%)	800 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Reproductiv	e system)				
mammary gl	galactocele	(50) 0 1 0 0 (0) (2) (0) (0)	(0) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
{Nervous sys	tem}				
brain	hemorrhage	(50) (0)(0)(0)(0)	(50) 1 0 0 0 (2) (0) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)	<pre></pre>
	gliosis	0 0 0 0 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)
{Special sen	ise organs/appendage)				
eye	cataract	3 1 0 0 (6) (2) (0) (0)	(50) 6 0 0 0 (12) (0) (0) (0)	<50> 4 0 0 0 (8) (0) (0) (0)	<50> 1 0 0 0 (2) (0) (0) (0)
	retinal atrophy	18 4 0 0 (36) (8) (0) (0)	10 4 0 0 (20) (8) (0) (0)	4 3 0 0 *** (8) (6) (0) (0)	1 0 0 0 ***
Grade <a>> b (c) Significant	1: Slight 2: Moderate 3: Marke a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P ≤ 0.01	ed 4: Severe Test of Chi Square			

(HPT150)

BAIS3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX : MALE

V OGUMITAL GGI

Organ		Name Control	200 ppm 50 1 2 3 4 (%) (%) (%) (%)	400 ppm 50 1 2 3 4 (%) (%) (%) (%)	800 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Special sense	e organs/appendage)				
Harder gl	lymphocytic infiltration	<50> 0 0 0 0 0 0 0 0 0 0 0	<pre></pre>	(50) 0 1 0 0 (0) (2) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
	hyperplasia	1 0 0 0 0 (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)
(Musculoskelet	tal system)				
bone	osteosclerosis	<50> 0 0 0 0 (0) (0) (0) (0)	<pre></pre>	<50> 0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)
{Body cavities	s)				
oleura	hemorrhage	<50> 0 0 0 0 0 0 0 0 0 0 0	<pre></pre>	<50> 0 1 0 0 (0) (2) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
mediastinum	hemorrhage	<50> 0 0 0 0 0 0 0 0 0 0 0	<50> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(50) 0 1 0 0 (0) (2) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
<pre></pre>	1: Slight 2: Moderate 3: Ma a: Number of animals examined at the site b: Number of animals with lesion c: b $/$ a * 100 ifference: *: $P \le 0.05$ **: $P \le 0.0$				

(HPT150)

BAIS3

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0- 97W)

REPORT TYPE : A1

SEX : MALE

PAGE : 17

	Group No. o	Name f Animals on Study	Conta 50					200 50	ppm					ppm 0				800 5	ppm 0	
Organ	Grade Findings	-	2 (%)	3 (%)	<u>4</u> (%)	(<u>1</u> %)	2 (%)	3 (%)	(%)	-	(%)	2 (%)	3 (%)	(%)	-	<u>1</u> (%)	2 (%)	(%)	<u>4</u> (%
Body cavitie	es}																			
peritoneum	hemorrhage	0 (0)	<500 0 (0) (0	0 (0)		0 0) (0	0 (0)		0	0	0 (0)	0 (0)		0	<50 1 2)	0 (0)	0
	thrombus	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
adipose	thrombus	0 (0)	<50) 0 (0) (0		(0 0) (<50 2 4)		0 (0)			0		0 (0)		0	0	0 (0)	0 (0
Grade (a) b (c)	1: Slight 2: Moderate 3: Mar a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P ≤ 0.01																			

(HPT150)

APPENDIX L 2

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS: SUMMARY

RAT: FEMALE: ALL ANIMALS

(2-YEAR STUDY)

ANIMAL : RAT F344/DuCrj

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0-105W)

REPORT TYPE: A2 SEX : FEMALE

Organ		Group Name No. of Animals on Study Grade	Cont 50 2 (%)		<u>4</u> (%)	1 (%)		ppm 0 3 (%)	4 (%)	<u>_1</u> (%)	300 ; 50 2 (%)		<u>4</u> (%)	<u>1</u> (%)	600 j 50 2 (%)		<u>4</u> (%)
{Integumentar	ry system/appandage}																	
skin/app	inflammation	0 (0)	<50 0 (0) (0	0 (0)	1 (2)	0	0> (0)	0 (0)	0		<500 0 0) () 0 0) (0 (0)	0 (0)	<500 0 0) (0	0 (0)
{Respiratory	system)																	
nasal cavit	mineralization	(8)	<50 0 (0) (0	0 (0)	2 (4)	0	0 (0)	0 (0)	7 (14		<50° 0 0) () 0 0)	0 (0)	2 (4)	<500 0 0) (0	0 (0)
	eosinophilic change:olfactory epithel		29 (58) (8 16)	0 (0)	16 (32)	19 (38)	0 (0)	0 ** (0)	12 (24		10 20) (0	0 ** (0)	13 (26)	18 36) (0 0)	0 ** (0)
	eosinophilic change:respiratory epithe		2 (4) (0 0)	0 (0)	6 (12)	0 (0)	0 (0)	0 ** (0)	3 (6		0 (0	0 ** (0)	12 (24)	0 0) (0 0)	0 * *
	inflammation:foreign body	2 (4)	0 (0) (0 (0)	0 (0)	1 (2)	0	0 (0)	0	3 (6		0 (0	0 (0)	0 (0)	0 0) (0	0 (0)
	inflammation:olfactory epithelium	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)
	respiratory metaplasia:olfactory epith		0 (0) (0 0)	0 (0)	(2)	0 (0)	0 (0)	0 (0)	0 (0		0 (0	0	0 (0)	1 2) (0 0)	0 (0)
Grade <a> b (c) Significant of	1: Slight 2: Moderate 3 a: Number of animals examined at the si b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P ≤																	

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

: RAT F344/DuCrj

REPORT TYPE: A2

ANIMAL

SEX : FEMALE

ALL ANIMALS (0-105W)

Group Name Control 150 ppm 300 ppm 600 ppm No. of Animals on Study 50 50 50 50 2. 3 3 Findings (%) (%) (%) (%) (%) (%) (%) (%) (%) (Respiratory system) nasal cavit <50> <50> <50> <50> 0 respiratory metaplasia:gland 0 0 0 0 0 * 39 0 0 (88) (0) (0) (0) (80) (8) (0) (0) (70) (0) (0) (0) (78) (0) (0) (0) basal cell hyperplasia:olfactory epithelium 0 0 0 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) (2)(2)(0)(0) atrophy:olfactory epithelium 0 0 0 0 0 12 6 2 0 ** (0)(0)(0)(0) (0)(0)(0)(0) (8)(2)(0)(0) (24) (12) (4) (0) atypical dilatation:olfactory gland 0 0 3 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) (6)(0)(0)(0) atypical hyperplasia:olfactory gland 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) larynx <50> <50> <49> inflammation 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) trachea <50> <50> <49> ⟨50⟩ inflammatory infiltration 0 0 0 0 0 0 0 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: Number of animals examined at the site < a > 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

(HPT150)

ANIMAL : RAT F344/DuCrj

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

REPORT TYPE : A2

SEX : FEMALE PAGE: 3

Organ		Group Name No. of Animals on Study Grade 1 (%)	Control 50 2 3 (%) (%)	4 <u>1</u> (%)	150 ppm 50 2 3 (%) (%)	<u>4</u> (%)	<u>1</u> (%)	300 ppm 50 2 3 (%) (%)	4 (%)		500 ppm 50 2 3 (%) (%)	4(%)
{Respiratory	system)											
trachea	xanthogranuloma	0 (0) (<50> 0 0 0) (0) (0 0	<50> 0 0 (0) (0)	0 (0)	0 (0) (<49> 1 0 2) (0)	0 (0)		<50> 0 0 (0) (0) (0	0
lung	congestion	1 (2) (<50> 0 0 0) (0) (0 2 0) (4)	<50> 1 0 (2) (0)	0 (0)	1 (2) (<50> 1 0 2) (0)	0 (0)	-	<50> 1 0 (2) (0) ((0
	hemorrhage	0 (0) (0 0 0 0 0 (0 3	6 0 (12) (0)	0 **	13 (26) (4 0 8) (0)	0 **	14 (28) (8	4 0 (8) (0) (0 **
	thrombus	0 (0) (0 0 0 0 0 (0 0	0 0	0 (0)	1 (2) (0 0	0 (0)		0 0 0	0 0)
	inflammatory infiltration	0 (0) (1 0 2) (0) (0 4 0) (8)	0 0	0 (0)	1 (2) (2 0 4) (0)	0 (0)	1 (2) (2	1 0 (0 0)
	accumulation of foamy cells	1 (2) (0 0 0 0 (0 1 (2)	0 0	0 (0)	0 (0) (1 0 2) (0)	0 (0)		0 0 0	0
	bronchiolar-alveolar cell hyperplasia	2 (4) (0 0 0 0 (0 0	0 0	0 (0)	0 (0) (0 0	0 (0)		0 0 0	0
{Hematopoieti	c system}											
bone marrow	granulation	2 (4) (<50> 0 0 0) (0) (0 0	<50> 0 0 (0) (0)	0 (0)	1 (2) (<50> 2 0 4) (0)	0 (0)		<50> 1 0 (2) (0) ((o 0)

Grade 1 : Slight

< a >

2 : Moderate

3 : Marked

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

^{4 :} Severe

a : Number of animals examined at the site

ь b: Number of animals with lesion

⁽c) c:b/a * 100

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0-105W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

: FEMALE

u.p.

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

.	Findings	Group Name No. of Animals on Study Grade	Cont 50 2 (%)		<u>4</u> (%)	1 (%)) ppm 50 3 (%)	<u>4</u> (%)	1 (%)) ppm 50 3 (%)	<u>4</u> (%)	1 (%)	2		3	<u>4</u> (%)
)rgan	ringings	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)		(%)	(%)	(%)	(%)		6) ((%)	
{Hematopoieti	c system)																	
oone marrow	increased hematopoiesis	7 (14)	<50 0 (0)	0	0 (0)	18 (36)	0	50> 0 (0)	0 *	29 (58) (0	0 (0)	0 ** (0)	40 (80)			0 (0 ** 1
	decreased hematopoiesis	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)
	myelofibrosis	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)
	granulopoiesis:increased	1 (2)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	(0)	0 (0)	0 (0)	0	0 (0)			0 0) (0 0)
ymph node	lymphadenitis	0 (0)	<56 0 (0)	0	0 (0)	0 (0)	0	50> 0 (0)	0 (0)	1 (2)	0	50> 0 (0)	0 (0)	0 (0)			0 0) (0
pleen	atrophy	0 (0)	<5(0 (0)	0	0 (0)	0 (0)	0		0 (0)	0 (0)	0		0 (0)	1 (2)			0 0) (0 0)
	congestion	4 (8)	0	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	0 (0)			0 (0

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0-105W)

: RAT F344/DuCrj ANIMAL REPORT TYPE: A2

: FEMALE

Group Name Control 150 ppm 300 ppm 600 ppm No. of Animals on Study 50 50 50 50 Grade 3 2 3 (%) (%) (%) (%) Findings_ (%) (%) (%) (%) (%) Organ_ {Hematopoietic system} <50> <50> spleen <50> <50> 0 1 0 0 0 0 0 necrosis: focal 0 0 0 0 0 0 0 (0)(0)(0)(0) (0)(2)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) deposit of hemosiderin 18 15 0 0 16 2 0 * 0 * 18 4 2 13 7 0 0 * (36) (30) (0) (0) (32) (10) (4) (0) (26) (14) (0) (0) (36) (8) (4) (0) inflammatory infiltration 1 0 0 0 1 1 0 0 1 0 (2)(0)(0)(0) (2)(2)(0)(0) (6)(2)(0)(0) (2)(0)(0)(0) extramedullary hematopoiesis 7 1 0 0 28 8 0 ** (14) (2) (0) (0) (16) (16) (0) (0) (40) (14) (0) (0) (56) (16) (0) (0) (Circulatory system) heart <50> <50> <50> <50> inflammatory cell nest 0 0 0 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) myocardial fibrosis 0 10 0 (10) (0) (0) (0) (20) (2) (0) (0) (8) (0) (0) (0) (10) (0) (0) (0) {Digestive system} tooth <50> <50> <50> <50> 0 0 0 dysplasia 0 0 0 0 1 0 0 0 0 0 0 0 0 (0)(0)(0)(0) (2) (0) (0) (0) (0)(0)(0)(0) (0)(0)(0)(0) 1 : Slight 2 : Moderate 3 : Marked Grade 4 : Severe <a>> a: Number of animals examined at the site b b: Number of animals with lesion (c) c : b / a * 100Significant difference: $*: P \leq 0.05$ **: $P \leq 0.01$ Test of Chi Square

DATOO

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj ALL ANIMALS (0-105W)

REPORT TYPE: A2 SEX : FEMALE

PAGE: 6

Organ	Findings	Group Name No. of Animals on Study Grade 1 (%)	Contr 50 2 (%)	3 (%)	<u>4</u> (%)	<u>1</u> (%)		0 ppm 50 3 (%	l	<u>4</u> (%)	- (<u>1</u> (%)	300 5 2 (%)		(%)		1 (%)			3	<u>4</u> (%)
Digestive s	system)																				
tomach	mineralization	0 (0)	<50> 0 (0) (0	0 (0)	0 (0)	0	50> ((0		0 0) (<50 0 0)	0	0 (0)	(1 2)	0	(50> (0 0) (0
	erosion:forestomach	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
	ulcer:forestomach	0 (0)	1 (2) (1 2) (0 (0)	3 (6)	0 (0)	((0 0)		1 2) (2 4)	0 (0)	0 (0)	(1 2)	2 (4)	((0 0) (0
	hyperplasia:forestomach	0 (0)	0 (0) (0	0 (0)	2 (4)	0 (0)	((0 0)		3 6) (1 2)	0 (0)	0 (0)	(2 4)	1 (2)	((0 0) (0
	erosion:glandular stomach	2 (4)	0 (0) (0	0 (0)	3	0 (0)			0 0)		1 2) (0	0 (0)	0 (0)	(2 4)	0 (0)	((0 0) (0
	ulcer:glandular stomach	0 (0)	0 (0	0 (0)	5 (10)	0 (0)	((0 0)		4 8) (0	0 (0)	0 (0)	(1 2)	0 (0)	((0 0) (0
iver	herniation	11 (22)	<500 0 (0) (0	0 (0)	4 (8)	0	50> (0		2 4) (<5 0 0)	0	0 *	(4 8)	0	(50> (0 0) (0
	congestion	1 (2)	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

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

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANTWALS (O-

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

SEX : FEMALE

ALL ANIMALS (0-105W)

gan	Findings	Group Name No. of Animals on Study Grade 1 (%)		3 (%)	<u>4</u> (%)	<u>(</u>	<u>1</u> %)	150 50 2 (%)	ppm 0 3 (%)		<u>4</u> (%)	(<u>1</u> %)			n 3 6)	<u>4</u> (%)	 <u>1</u> (%)		0 ppr 50 (%	3	<u>4</u> (%)
digestive sy	stem)																					
ver	angioctasis	(0)	<50> 0 (0) (0	0 0)		2 4) (<50 2 4)	0		0		0 0) (2 4)))) (0	1 2) (0		0 0) (0 (0)
	thrombus	(2)	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)
	peliosis-like lesion	0 (0)	0 (0) (0 0) (0		0 0) (0 0)	0 (0)		0 0)	(2 4) (0 0)))) (0 0)	1 2) (0 (0)	((0 (0)
	necrosis:central	0 (0)	1 (2) (0 0) (0 0)	(:	4 8) (6 12)	0 (0)	(0 * 0)		9 8) (5 10)))) (0 ** 0)	7 14) (4 8)		0 0) (0 (0)
	necrosis:focal	0 (0)	0 (0) (0 0) (0		7 4) (11 22)	0 (0)		0 ** 0)		9 8) (5 10)	(:		0 ** 0)	8 16) (9 (18)	(1))) (0 (0)
	fatty change	0 (0)	0 (0) (0 0) (0		I 2) (0	1 (2)		0		3 6) (0))) (0	0 0) (1 2)		0 0) (0 (0)
	fatty change:central	0 (0)	0 (0) (0 0) (0 0)		0 0) (2 4)	1 (2)	(0 0)		1 2) (1 2)))) (0 0)	0 0) (0 (0)		0 0) (0 (0)
	inflammatory infiltration	0 (0)	1 (2) (0 0)		2 4) (1 2)			0 0)		0 0) (3 6)))) (0	0 0) (0 (0)		0 0) (0 (0)

(HPT150)

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

BAIS3

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj ALL ANIMALS (0-105W)

REPORT TYPE : A2 SEX : FEMALE

PAGE: 8

Organ	Findings	Group Name Control No. of Animals on Study 50 Grade 1 2 3 4 (%) (%) (%) (%)	150 ppm 50 1 2 3 4 (%) (%) (%) (%)	300 ppm 50 1 2 3 4 (%) (%) (%) (%)	600 ppm 50 1 2 3 4 (%) (%) (%)
{Digestive	system}				
liver	granulation	\(\frac{50}{15} \) \(\frac{15}{30} \) (\(\frac{10}{4} \) (\(\frac{0}{10} \)	<50> 3 0 0 0 *** (6) (0) (0) (0)	(50) 0 2 0 0 ** (0) (4) (0) (0)	3 0 0 0 *** (6) (0) (0) (0)
	hyperplasia:vascular	0 0 0 0 0 (0) (0)	5 0 0 0 (10) (0) (0) (0)	1 0 0 0 0 (2) (0) (0)	8 1 0 0 ** (16) (2) (0) (0)
	clear cell focus	0 1 0 0 (0) (2) (0) (0)	1 3 1 0 (2) (6) (2) (0)	1 5 0 0 (2) (10) (0) (0)	2 5 0 0 (4) (10) (0) (0)
	acidophilic cell focus	1 0 0 0 (2) (0) (0) (0)	2 4 0 0 (4) (8) (0) (0)	0 6 3 0 * (0) (12) (6) (0)	1 4 0 0 (2) (8) (0) (0)
	basophilic cell focus	19 2 0 0 (38) (4) (0) (0)	3 3 0 0 ***	3 4 0 0 ** (6) (8) (0) (0)	4 4 0 0 *** (8) (8) (0) (0)
	vacuolated cell focus	1 0 0 0 0 (2) (0) (0) (0)	3 1 0 0 (6) (6) (7) (7)	4 1 0 0 (8) (2) (0) (0)	1 0 0 0 0 (2) (0) (0) (0)
	spongiosis hepatis	0 0 0 0 0 (0) (0) (0)	0 0 0 0 0 (0) (0)	1 1 0 0 (2) (2) (0) (0)	0 0 0 0 0 (0) (0)
	bile duct hyperplasia	12 5 1 0 (24) (10) (2) (0)	8 1 0 0 (16) (2) (0) (0)	6 0 1 0 * (12) (0) (2) (0)	2 0 0 0 ***
Grade <a> b (c) Significant	1: Slight 2: Moderate a: Number of animals examined at the b: Number of animals with lesion c: b / a * 100 c difference; *: P ≤ 0.05 **: F				

(HPT150)

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0-105W)

ANIMAL : RAT F344/DuCrj REPORT TYPE: A2

SEX : FEMALE

PAGE: 9

)rgan	Findings	Group Name No. of Animals on Study Grade 1 (%)	Cont 50 2 (%)		<u>4</u> (%)		1(%)		0 ppm 50 <u>3</u> (%		<u>4</u> (%)		1 (%)		0 50 50 (9)	}	<u>4</u> (%)		1 (%)	2	500 1 50 2 %)		<u>4</u> (%)
{Digestive s	ystem)																						
iver	bile ductular proliferation	0 (0)	<50 0 0) (0	0 (0)		0	0	50> 0 (0		0			1 2)			0 0)	(0	1	<501 1 2) (0 0)	0 0)
	cholangiofibrosis	0 (0)		1 2)	0 (0)	(0 0) (0	0)))) (0	(0	0 (0)))) (0 (0)	(0 0)	((0 0)	0 0)
	biliary cyst	0 (0)	0 (0)	0 (0)	0 (0)	(0 0) (0 0)	(())) (0 0)	(0	0 (0)))) (0 (0)	(0 0)	(2		0 0)	0 0)
	regenerative hyperplasia	0 (0)	0 (0	0 (0)	0 (0)	(4 8) (1 2)	(())) (0 0)	(4 8)	0 (0)	(())) (0 (0)	(3 6)		2 4) (0 0)	0 0)
ancreas	atrophy	4 (8)	<50 1 2) (0	0 (0)		1 2) (0			0	(0	0 (0)			0 (0)	(0	(<50 0 0) (0 (0)	0 0)
	hemorrhage	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)
Urinary sys	tem)																						
idney	cyst	0 (0)	<50 0 0) (0	0 (0)	(0	0			0 0)	(0 0)	0 (0)		0 0) (0 (0)	(0 0)		<50 1 2) (0 (0)	0 0)

Grade

4 : Severe

< a > ь

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

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0-105W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

SEX : FEMALE

		Group Name	Control	150 ppm	300 ppm	600 ppm
Organ	Findings	No. of Animals on Study Grade(%)	50 2 3 4 (%) (%) (%)	50 1 2 3 4 (%) (%) (%) (%)	50 1 2 3 4 (%) (%) (%) (%)	50 1 2 3 4 (%) (%) (%) (%)
{Urinary sys	stem)					
kidney	hyaline droplet	1 (2)	<50> 0 0 0 (0) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)	(50) 0 1 0 0 (0) (2) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
	basophilic change	0 (0)	0 0 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)
	deposit of hemosiderin	0 (0)	0 0 0 0 (0) (0)	1 2 0 0 (2) (4) (0) (0)	3 1 0 0 (6) (2) (0) (0)	5 3 0 0 * (10) (6) (0) (0)
	chronic nephropathy	10 (20)	2 1 0 (4) (2) (0)	2 0 0 0 * (4) (0) (0) (0)	2 0 0 0 * (4) (0) (0) (0)	0 0 0 0 **
	hydronephrosis	0 (0)	0 0 0 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)
	pyelonephritis	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)
	tubular necrosis	1 (2)	1 1 0 (2) (2) (0)	5 7 1 0 * (10) (14) (2) (0)	7 11 1 0 ** (14) (22) (2) (0)	3 14 3 0 ** (6) (28) (6) (0)
	papillary necrosis	0 (0)	0 0 0 0 (0) (0)	18 0 0 0 *** (36) (0) (0) (0)	22 11 2 0 ** (44) (22) (4) (0)	17 12 0 0 ** (34) (24) (0) (0)
Grade <a> b (c) Significant	1: Slight 2: Moderate a: Number of animals examined at the b: Number of animals with lesion c: b / a * 100 difference; *: P \le 0.05 **: 1	$3:$ Marked $4:$ Severe e site $P \leq 0.01$ Test of Chi Squar				

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0-105W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

SEX : FEMALE

Organ	Findings_	Group Name No. of Animals on Study Grade 1 (%)	Control 50 2 3 4 (%) (%)	150 ppm 50 1 2 3 4 (%) (%) (%) (%)	300 ppm 50 1 2 3 4 (%) (%) (%)	600 ppm 50 1 2 3 4 (%) (%) (%)
{Urinary syst	tem)					
kidney	minoralization:papilla	8 (16)	<50> 0 0 0 (0) (0) (0)	<50> 11 1 0 0 (22) (2) (0) (0)	\(\lambda 50 \rangle \) 18 3 0 0 *** (36) (6) (0) (0)	<50> 21 7 0 0 *** (42) (14) (0) (0)
	mineralization:pelvis	8 (16)	2 0 0 (4) (0) (0)	3 1 0 0 (6) (2) (0) (0)	0 0 0 0 ***	1 0 0 0 *
	mineralization:cortex	1 (2)	0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	1 0 0 0 0 (2) (0) (0) (0)	2 1 0 0 (4) (2) (0) (0)
	urothelial hyperplasia:pelvis	0 (0)	0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	3 2 0 0 (6) (4) (0) (0)	2 0 0 0 0 (4) (0) (0) (0)
	eosinophilic droplet:proximal tubule		0 0 0 0 (0) (0)	4 2 0 0 (8) (4) (0) (0)	4 0 0 0 0 (8) (0) (0)	0 0 0 0 0 (0) (0)
{Endocrine sy	ystem]					
pituitary _.	angiectasis	4 (8)	<50> 0 0 0 (0) (0) (0)	6 1 0 0 (12) (2) (0) (0)	<50> 1 0 0 0 (2) (0) (0) (0)	<50> 2 0 0 0 (4) (0) (0) (0)
	cyst	15 (30)	2 0 0 (4) (0) (0)	7 1 0 0 (14) (2) (0) (0)	5 0 0 0 * (10) (0) (0)	3 0 0 0 *** (6) (0) (0) (0)
Grade (a) b (c) Significant	1: Slight 2: Moderate a: Number of animals examined at the b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P					

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0-105W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

SEX : FEMALE

		roup Name To. of Animals on Study	Con 50					150 50					3	1 00 50	pm				(1 006 5 0	majo	
Organ	Findings	1 (%)	(%)	(%)	(%)	<u>1</u> (%)	2 (%)	3 (%)	(%)		(%)	(9	3)	3 (%)	(%)		<u>1</u> (%)		2 %) 	3 (%)	(%)
Endocrine s	system)																					
oituitary	hyperplasia	3 (6)	<50 5 (10)	0	0 (0)	4 (8		<49 2 4) (0	0 (0)	(4 8)		<50)))) (0 0) (0	(3 6)		<50) 0 0) (0	0 (0)
	Rathke pouch	1 (2)	0 (0)	0 (0)	0 (0)	0)		0	0 (0)	0 (0)	(1 2)	((0	0 (0)	(1 2)		0 0) (0	0 (0)
thyroid	ultimibranchial body remanet	0 (0)	<50 0 (0)	0	0 (0)	0 (0		<50 0 0) (0	0 (0)	(2 4)		<48)))) (0 0)	0 (0)	(0		<5 0 3 0 0) (0	0 (0)
	C-cell hyperplasia	5 (10)	2 (4)	0 (0)	0 (0)	1		3 6) (0 (0)	0 (0)	(0 0)))) (0	0 *	(0 0)		0 0) (0	0 *
	focal follicular cell hyperplasia	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)
adrenal	peliosis-like lesion	10 (20)	2 (4)	0	0 (0)	1 (2		<50 1 2) (0	0 *		0 0)		<50) L 2) (0	0 ** (0)	(1 2)		<50: 0 0) (0	0 *
	hyperplasia:cortical cell	2 (4)	2 (4)	0 (0)	0 (0)	1 (2		0	0 (0)	0 (0)	(4 8)		2) (0	0	(0 0)		0 0) (0 0)	0 (0)
Grade (a) b (c)	1: Slight 2: Moderate 3 a: Number of animals examined at the si b: Number of animals with lesion c: b/a*100	Marked 4 : Sever	•		-															-		

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2

SEX : FEMALE

ALL ANIMALS (0-105W)

PAGE: 13

		up Name	150 ppm 50 1 2 3 4	300 ppm 50 1 2 3 4	600 ppm 50 1 2 3 4
)rgan	Findings	de <u>1 2 3 4</u> (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)
{Endocrine	system)				
adrenal	hyperplasia:medulla	\(\lambda 50 > \) \[1 0 0 0 \\ (2) (0) (0) (0) \]	3 1 0 0 (6) (2) (0) (0)	<pre></pre>	<50> 0 0 0 0 (0) (0) (0) (0)
	focal fatty change:cortex	9 2 0 0 (18) (4) (0) (0)	3 0 0 0 0 (6) (6) (7)	3 0 0 0 0 (6) (0) (0) (0)	1 1 0 0 0 (2) (2) (0) (0)
	cortical vacuolation:diffuse	0 0 0 0 0 (0)	0 0 0 0 0 (0) (0)	1 0 0 0 0 (2) (0) (0) (0)	0 0 0 0 0 (0) (0)
Reproducti	ive system}				
vary	cyst	<50> 0 0 0 0 (0) (0) (0) (0)	<pre></pre>	\(\lambda 50 \rangle \) 1	1 0 0 0 (2) (0) (0) (0)
terus	dilatation	<50> 0 1 0 0 (0) (2) (0) (0)	<50> 0 0 0 0 0 0 0 0 0 0 0	<50> 0 0 0 0 (0) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
	squamous cell metaplasia	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 0 1 0 (0) (2) (0)	0 0 0 0 0 (0)
Grade (a > b (c)	1: Slight 2: Moderate 3: W a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 t difference; *: P ≤ 0.05 **: P ≤ 0.				

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

: RAT F344/DuCrj

ALL ANIMALS (0-105W)

REPORT TYPE : A2

ANIMAL

SEX : FEMALE

Group Name 150 ppm 300 ppm 600 ppm Control No. of Animals on Study 50 50 50 50 Grade 2 3 4 Organ_ Findings (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) {Reproductive system} uterus <50> <50> <50> <50> 3 3 3 0 2 0 cystic endometrial hyperplasia 0 0 1 0 0 (2)(6)(0)(0) (6)(6)(0)(0) (2) (4) (0) (0) (0)(2)(0)(0) vagina <50> <50> <50> ⟨50⟩ squamous cell hyperplasia 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) mammary gl <50> <50> 0 2 0 0 hyperplasia 0 0 1 0 0 0 0 0 1 1 0 0 (0)(4)(0)(0) (0)(0)(2)(0) (0) (0) (0) (0) (2)(2)(0)(0) galactocele 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) (Nervous system) brain <50> hemorrhage 0 0 1 0 0 0 2 0 0 0 0 1 0 0 (0)(0)(0)(0) (2)(0)(0)(0) (4)(0)(0)(0) (0)(2)(0)(0) spinal cord <50> ⟨50⟩ <50> <50> hemorrhage 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 (0)(0)(0)(0) (2)(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 b: Number of animals with lesion

(c)

c : b / a * 100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

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

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 : FEMALE

PAGE: 15

		p Name Contr of Animals on Study 50 e 1 2	ol 3 4	150 ppm 50 1 2 3 4	300 ppm 50 1 2 3 4	600 ppm 50 1 2 3 4
)rgan	Findings		(%) (%)	(%) (%) (%)	(%) (%) (%) (%)	(%) (%) (%) (%)
Special sense	e organs/appendage}					
eye	cataract	3 1 (6) (2) (0 0	<pre></pre>	<50> 4	<50> 2 0 0 0 (4) (0) (0) (0)
	retinal atrophy	33 10 (66) (20) (1 0 2) (0)	32 3 0 0 * (64) (6) (0) (0)	11 2 0 0 *** (22) (4) (0) (0)	5 1 0 0 ** (10) (2) (0) (0)
	keratitis	0 0 (0) (0 0 0 0) (0)	1 0 1 0 (2) (0)	0 0 0 0 0 (0)	0 0 0 0 0 (0)
Harder gl	lymphocytic infiltration	(50) 4 0 (8) (0) (0 0	<50> 0 0 0 0 (0) (0) (0) (0)	(50) i 0 0 0 (2) (0) (0) (0)	<50> 0 0 0 0 0 0 0 0 0 0 0 0
masolacr d	inflammation	<50) 5 0 (10) (0) (0 0	<50> 2 0 0 0 (4) (0) (0) (0)	<50> 1 0 0 0 (2) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
{Musculoskelet	tal system)					
muscle	hemorrhage	(50) 0 0 (0)(0)(0 0	<pre></pre>	0 0 0 0 (0) (0) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)
(a) b	1: Slight 2: Moderate 3: Ma a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 ifference; *: P ≤ 0.05 **: P ≤ 0.05					<u> </u>
(IPT150)	ifference; *: P ≤ 0.05 **: P ≤ 0.0	1 Test of Chi Square				*

(HPT150)

SEX : FEMALE

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0-105W)

PAGE: 16

Organ	Group No. c Grade Findings	f Animals on Study 50	150 ppm 50 1 2 3 4 (%) (%) (%) (%)	300 ppm 50 1 2 3 4 (%) (%) (%) (%)	600 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Musculoske	eletal system)				
muscle	mineralization	(50) 0 0 0 0 (0) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)
bone	osteosclorosis	<50> 2 2 0 0 (4) (4) (0) (0)	3 1 0 0 (6) (2) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)	<50> 2 1 0 0 (4) (2) (0) (0)
{Body cavit	Lies}				
adipose	hemorrhage	(50) 0 0 0 0 (0) (0) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)	(50) 0 0 0 0 (0) (0) (0) (0)
Grade <a>> b (c) Significant	1: Slight 2: Moderate 3: Mar a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 difference; *: $P \le 0.05$ **: $P \le 0.01$				

(HPT150)

APPENDIX L 3

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS: SUMMARY

RAT: MALE: DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj DEAD AND MORIBUND ANI

REPORT TYPE : A1

SEX : MALE

DEAD AND MORIBUND ANIMALS (0- 97W)

	No	roup Name o. of Animals on Study rade <u>1</u>	Cont 1 2	3	4_	_1	2	00 ppm 31 3	4_	1	5 2	ррш 0 3	4_	1	5 2	3	4
rgan	Findings	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Respiratory :	system)																
asal cavit	hemorrhage	0 (0)	< 1 0 (0) (0	0 ? 0)	-	0	(0)	0 ** (0)	0 (0)	<5 0 (0)	0> (0) (0	0 (0)	(5) (0)	0	0 (0)
	mineralization	0 (0)	0 (0) (0	0 ? 0)			0 (0)	0 (0)	7 (14)	0 (0)	0 (0)	0 (0)	13 (26)	2 (4)	0 (0)	0 (0)
	eosinophilic change:olfactory epithelium		0 (0) (0	0 ? 0)		0 (0)	0 (0)	0 (0)	8 (16)	3 (6)	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	(0)
	eosinophilic change:respiratory epithel		0 (0) (0 (0 ? 0)			0 (0)	0 (0)	6 (12)	0 (0)	0 (0)	0	2 (4)	0 (0)	0 (0)	0 (0)
	inflammation:foreign body	0 (0)	0 (0) (0 (0 ? 0)			0 (0)	0 (0)	10 (20)	0 (0)	0 (0)	0	3 (6)	0 (0)	0 (0)	0 (0)
	inflammation:respiratory epithelium	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)
	respiratory metaplasia olfactory epithe		0 (0) (0 (0 ? 0)			0 (0)	0 (0)	8 (16)	0	0 (0)	0	0 (0)	0 (0)	0 (0)	0 (0)

Grade 1: Slight 2: Moderate 3: Marked 4: Severe

(HPT150)

BAIS3

< 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.

SEX

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A1

: MALE

DEAD AND MORIBUND ANIMALS (0- 97W)

	Group Name No. of Anima	le on Study	C	ontr	ol					200 3	ppm						0 pj 50	pm) ppm 50		
)rgan	Grade Findings_	1 (%)	(%		3 (%)	(%)		<u>1</u> (%	.)	2 (%)	3 (%		(%)		<u>1</u> (%)	2 (%)		3 (%)	(%)		(%))	2 (%)	3 (%		<u>4</u> (%)
Respiratory	system)																									
masal cavit	respiratory metaplasia:gland	1 (100)	0	< 1>	0		?	29 (94) ((3 0 0)	0		0		33 66) (4 8)		0 0)	0	1	32 (64)		3	50> 0 (0		0
	basal cell hyperplasia:olfactory epithelium	0 (0)	0 (0) (0		?	(() (0	0 (0)) (0	(0 0) (0 0)	(0	0 (0)	I	6 (12)) (4 8)	0)) (0
	atrophy:olfactory epithelium	0 (0)	0		0	0	?	(3) (0	0) (0 ** 0)	(1	6 (2) (0 0)	(0	0 (0)	ı	19 38) (2 4>	(0) (0
	hyperplasia:respiratory epithelium	0 (0)	0		0	0 (0)	?	(() (0	0) (0	(0 0) (1 2)	(0 0)	0 *= (0)	k	1 2		1 2)	0 (0) (0
	atypical dilatation:olfactory gland	0 (0)	0)) (0		?	(() (0 0)	0) (0	(0	0	(0	0 (0)	,	2 (4)		0	0) (0 * 0)
arynx	mineralization	0 (0)	0		0		?	(3			1> 0		0 ** 0)		0	0		0 0)	0		0 (0)		<5 0 0)	50> 0 (0) (0 0)

Grade (a)

(HPT150)

BAIS3

^{1 :} Slight

^{2 :} Moderate

^{3 :} Marked

^{4 :} Severe

a: Number of animals examined at the site

Ъ b: Number of animals with lesion

⁽c) c:b/a * 100

Significant difference; $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

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

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 SEX : MALE

		Group Name No. of Animals on Stud	v	Со	ntro I	1					2	00 p 31	pm						400 50						8	00 р 50		
Organ	Findings	0 1	1 (%)	2 (%)		3 (%)	<u>4</u> (%)			(%)	(%		3 (%)		<u>4</u> (%)		<u>1</u> (%)		2 %)	(%)	-	<u>4</u> (%)		(%)	<u>2</u> (%	<u> </u>	(%)	(%)
Respirator	y system)																											
arynx	inflammation	(0 0)	0 (0)		0 0) (?		0	1	<31>	0		0 ** 0)	(0		<50 0 0) (0 0)		0 0)	(0	0	<50>)) (0	0 (0)
rachea	mineralization	(0		(-		?			1	<31>	0		0 ** 0)	(0		<50 0 0) (0 0)	(0	0	<50>)) (0	0 (0)
ung	congestion	(0 0)		(?		0	2	<31>	0	(0 0)		<50 2 4) (0 * 0)		0	2	<50> ; ; ;) (0	(0)
	hemorrhage	(0 0)	0 (0)		0 0) (?	(8 26)		;			0 0)		13 26)		7 4) (0 0)		0 0)	(7 14)	5 (10		2 4)	0 (0)
	inflammatory infiltration	(0 0)	0 (0)	(10			?		1 3)					0) **	(0		0 **	(6 12) (2 (4		0 0)	(0)
	osseous metaplasia		1 00)	0 (0)				?		1 3)					0	(0	(0 0) (0 0)	(0 ** 0)	(0	0		0	(0)

Grade 1: Slight 2: Moderate 3: Marked 4: Severe

(HPT150)

BAIS3

<a> a: Number of animals examined at the site

b b: Number of animals with lesion

⁽c) c:b/a*100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

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

ANIMAL

: RAT F344/DuCrj

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 97W)

REPORT TYPE: A1 : MALE

Group Name Control 200 ppm 400 ppm 800 ppm No. of Animals on Study 1 31 50 50 Grade (%) (%) (%) (%) Findings. (%) (%) (%) (%) (%) {Respiratory system} lung ⟨50⟩ bronchiolar-alveolar cell hyperplasia 0 0 0 ** 0 0 0 0 0 0 ** (0)(0)(0)(0) (3)(0)(0)(0) (0)(0)(0)(0) (2)(0)(0)(0) {Homatopoietic system} bone marrow < 1> granulation 0 ? 0 0 0 ** (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) (2)(0)(0)(0) increased hematopoiesis 19 0 38 0 (100) (0) (0) (0) (61) (0) (0) (0) (76) (0) (0) (0) (76) (0) (0) (0) granulopoiesis: increased 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 **

(3) (0) (0) (0)

0

0

(0)(0)(0)(0)

0

0 0

0 0

(0)(0)(0)(0)

lymph node

lymphadenitis

(0)(0)(0)(0)

(HPT150)

BAIS3

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 : $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

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

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX : MALE

		Group Name No. of Animals on Study Grade	2	ontro 1	3	4		1		200 31 2		4	1	40	00 р 50	pm 3	4		1		00 ppr 50	m 3	4
Organ	Findings	(%)	(%) ((%)	(%)		(%))	(%)	(%)	(%)	(%)	(%))	(%)	(%)	((%)	(%)	(%	%)	(%)
{Hematopoiet	ic system}																						
spleen	atrophy	0 (0)	0		0 0) (0 (0)	?	1 (3)) (<31 2 6) (0 0)	0	4 (8)	0		0	0		0	0	(50> (0 0) (0
	congestion	0 (0)			0 0) (0 (0)	?	1 (3)) (0	0	0 ** (0)	0 (0)	0 (0)		0	0 ** 0)		0 0) (0 (0)) ((0 0) (0 ** 0)
	deposit of hemosiderin	0 (0)	0 (0		0 0) (0 (0)	?	2 (6)		0	0	0 (0)	1 (2)	0		0	0 **		0 0) (0 (0)) ()	0 0) (0
	inflammatory infiltration	0 (0)	(0		0 0) (0 (0)	?	2 (6)		1 3) (0	0 (0)	5 (10)	(0		0	0 0)		2 4) (1 (2)) (0 0) (0 0)
	fibrosis	1 (100)	(0		0 0) (0 (0)	?	0 (0)		0	0	0 ** (0)	0 (0)	(0)		0	0 **		0 0) (0 (0)) (0 0) (0 ** 0)
	extramedullary hematopoiesis	0 (0)	(0		0 0) (0 (0)	?	8 (26)) (12 39) (0	0 (0)	29 (58)	11 (22)		0	0 0)		13 26) (20 (40)) (0 0) (0 0)
{Circulatory	system)																						
heart	mineralization	0 (0)	0		0 0) (0 (0)	?	0 (0)		<31 0 0) () 0 0)	0 (0)	1 (2)	0		0	0 **		0 0) (0	(50> ((0 0) (0 0)
	1: Slight 2: Moderate a: Number of animals examined at the b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P ificant test is not applied, because No.	≤ 0.01 Test of Chi Squa	re	an 3.																			

(HPT150)

BAIS3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX

: MALE

		Group Name No. of Animals on Study	,	Con	trol I					200 31							0 pp 50	n					0 ppm 50	n	
rgan	Findings	Grade	<u>1</u> (%)	2 (%)	(%)			<u>(%)</u>		2 (%)	(%)		<u>4</u> (%)	((%)	<u>2</u> (%)		3 %)	(%)		<u>1</u> (%)	(%)	3	3 %)	(%)
Circulatory	system)																								
eart	inflammatory cell nest		0 (0)	0 0)	0	0	?) (<31 0 0) (0	(0 ** 0)	(50>	0 0) (0 **	(0	(0 (0)		0 0) (0 (0)
	myocardial fibrosis		0 0) (0	0 (0)	0 (0	?	12 (39)) (5 16) (0 (0)	(0 0)	1	11 22) (1 2)	(0 0) (0 0)	(9 18)	0 (0)	(1	0 0) (0 0)
Digestive s	ystem)	an,																							
ooth	dysplasia	(0 (0	0 0 0	1> 0 (0)	0 (0	?	1 (3)) (<31 0 0) (0 (0)	(0 ** 0)	(0 0) (o 0 0)	50>	0 0) (0 0)		0	0 (0)		0 0) (0 (0)
tomach	mineralization		0 (0)	(0 0)	0	0 (0	?	0) (<31 1 3) (0	(0 ** 0)	(0 (1	50>	0 0) (0 ** 0)	(0		50> (0 0) (0 (0)
	ulcer:forestomach		0 0) (0 0)	0 (0)	0 (0	?	0 (0)			0 (0)			(0 (0)	3 6)	(0 0) (0 0)		0 0)	0		0 0) (0

Grade 1: Slight 2: Moderate 3: Marked 4: Severe

(HPT150)

BAIS3

< 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.

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX : MALE

PAGE: 7

Organ	Findings	Group Name No. of Animals on Study Grade 1 (%)	2	1 1 3 (%)	4 (%)		<u>1</u> (%)		0 ppm 31 3 (%)		4(%)	- (1 %)	400 5 2 (%)	ppm) 3 (%)	<u>4</u> (%)		(<u>1</u> %)			3 (%)	4 (%)
{Digestive sy	stem}																						
stomach	hyperplasia:forestomach	0 (0)	0	1> 0 (0)	0 (0)		0 (0)	1			0 **		1 2) (0 0 0)	0	0 (0)			0 0) (0	(50>	0 0) (0
	erosion:glandular stomach	0 (0)	0 (0)	(0)	0 (0)	?	0 (0)	0 (0)	0 (0)		0 0)		2 4) (0 0)	0	0 (0)			2 4)	0) (0 0) (0 * 0)
	ulcer:glandular stomach	0 (0)	0 (0)	(0)		?	0 (0)	1 (3)	0 (0)	(0 ** 0)	(1 2) (0 0)	0 (0)	0 (0)	**		0 0) (0) (0 0) (0
	hyperplasia:glandular stomach	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)
	hemorrhage:glandular stomach	0 (0)	0 (0)	(0)		?	1 (3)	0 (0)	0 (0)	(0 ** 0)		0 0) (0 0)	0 (0)	0 (0)			0 0)	0) (0 0) (0
small intes	hemorrhage	0 (0)	0	1> 0 (0)	0 (0)	?	0 (0)	0	31> 0 (0)		0 0)		1 2) (<5 0 0)	0	0 (0)			0 0) (0	<50>) (0 0) (0

Grade 1: Slight 2: Moderate 3: Marked 4: Severe

(HPT150)

< a > a : Number of animals examined at the site

b : Number of animals with lesion

⁽c) c:b/a*100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Tost of Chi Square

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

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

DEAD AND MORIBUND ANIMALS (0- 97W)

REPORT TYPE : A1

X : MALE

		Group Name No. of Animals on Study Grade 1	:	Cont	3	4		1	2	ppm 1		4	1		400 50 2	3	4		_1		5 2	3	4
Organ	Findings	(%)	(%)	(%)	(%)		(%)	(%)	(%)		(%)	(%)		(%)	(%)	(%)		(%	,) 	(%)	 %)	(%)
{Digestive s	ystem)																						
liver	herniation	0 (0)	1	< 13 0 0) (0	0 0)	?	4 (13)	0		(0	3 (6)		<50 0 0) (0	0 (0)		0		<5 0 0)	0 0) (0
	congestion	0 (0)		0 0) (0 0) (0 0)	?	0 (0)	0 (0)	(0)		0 0)	0 (0)) (1 2) (0 (0)	0 ** (0)))) (0 0)	0 0) (0 0)
	angiectasis	0 (0)		0 0) (0 0) (0 0)	?	1 (3)		(0)		0 ** 0)	1 (2)		0) (0 (0)	0 ** (0)))) (1 2)	0 0) (0 ** 0)
	thrombus	0 (0)		0 0) (0	0 (0)	?	0 (0)	0 (0)	0 (0)	(0 0)	0 (0)) (1 2) (0 (0)	0 *** (0)	ķ.))) (1 2)	0 0) (0 ** 0)
	necrosis:central	0 (0)		0 0) (0	0 0)	?	6 (19)	3 (10)	0 (0)		0 0)	10 (20)		11 22) (1 (2)	0 (0)			5)) (4 8)	2 4) (0
	necrosis:focal	0 (0)		0 0) (0	0 0)	?	I (3)	5 (16)	(3)		0 0)	6 (12)		10 20) (1 (2)	0 (0)			5)) (7 14)	4 8) (0
	fatty change	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)

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 : $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

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

(HPT150)

BAIS3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

DEAD AND MORIBUND ANIMALS (0- 97W)

REPORT TYPE: A1 SEX

: MALE

		Group Name No. of Animals on Study		Cont	rol					0 ppi 31	m				400 5	ppm				800 j 50			
Organ	Findings	Grade <u>1</u> (%)	5)	2 (%)	(%)	(%)		<u>1</u> (%)	2 (%)		3 %)	<u>4</u> (%)	(1 %)	2 (%)	3 (%)	<u>4</u> (%)		<u>1</u> (%)	2	3 (%)	(%)	
{Digestive sy	estem)																						
liver	fatty change:central	0 (0)		< 1 0 0) (0 0)	0 (0)	?		1			0 ** 0)			<5 1 2)	0	0 ** (0)		0 0)	<50: 0 0) (0 -	0 (0)	
	inflammatory infiltration	0 (0)		1 00) (0 0)	0 (0)	?	1 (3)	2 (6)		0 0) (0 **		0 0) (0 0)	0 (0)	0 ** (0)		0 (0)	0 0) (0 0)	0 * (0)	
	granulation				0 0)	0 (0)	?	0 (0)	0 (0)	(0 0) (0 0)	(0 0) (1 2)	0 (0)	0 ** (0)	(1 2)	0 0) (0 0)	0 * (0)	
	hyperplasia:vascular			0 0) (0 ()	0 (0)		1 (3)	0 (0)	(0 0) (0 ** 0)		1 2) (0 0)	0 (0)	0 **		0 (0)	0 0) (0 0)	0 (0)	
	clear cell focus	0 (0)		0 0) (0 ()	0 (0)	?	3 (10)	3 (10)		0 0) (0 0)		1 2) (3 6)	0 (0)	0 (0)	(0 (0)	0 0) (0 0)	0 (0)	
	acidophilic cell focus			0 0) (0 (0)		4 (13)	(3)					2 4) (0 (0)	(0 (0)	0 0) (1 2)	(0)	
	basophilic cell focus	-		0 (0)	0 (0)	0 (0)		4 (13)	5 (16)		0 (10 20)	0 (0)	0 (0)	(5 (10)	3 6) (1 2)	0 (0)	

Grade 1 : Slight 2 : Moderate 3 : Marked

< a > a: Number of animals examined at the site

b : Number of animals with lesion b

⁽c) c:b/a*100

Significant difference : $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

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

STUDY NO. : 0303 ANIMAL : RAT F

: RAT F344/DuCrj

REPORT TYPE : A1 SEX : MALE HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

PAGE: 10

Organ	Findings	Group Name No. of Animals on Study Grade(%)	Control	(%)	200 ppm 31 1 2 3 4 (%) (%) (%) (%)	400 ppm 50 1 2 3 4 (%) (%) (%)	800 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Digestive sy	vstem)						
liver .	vacuolated cell focus	0 (0)	< 1> 0 0 (0) (0)		(31) i 0 0 0 ** (3) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)	\(\frac{\50\frac{50}{1}}{1} 0 0 0 \frac{***}{1} \text{(0) (0) (0)} \)
	spongiosis hepatis	0 (0)	0 0		7 2 0 0 (23) (6) (0) (0)	0 1 0 0 *** (0) (2) (0) (0)	2 3 0 0 (4) (6) (0) (0)
	bile duct hyperplasia	0 (0)	0 1 (0) (100)		9 16 2 0 * (29) (52) (6) (0)	10 23 1 0 *** (20) (46) (2) (0)	6 3 0 0 ** (12) (6) (0) (0)
	biliary cyst	0 (0)	0 0		0 0 0 0 0 (0) (0)	1 0 0 0 **** (2) (0) (0) (0)	1 0 0 0 *** (2) (0) (0) (0)
	regenerative hyperplasia	0 (0)	0 0		0 0 0 0 0 (0) (0)	1 3 0 0 (2) (6) (0) (0)	0 0 0 0 0 (0) (0)
pancreas	atrophy	1 (100)	<i><i><i> 0 0 0 (0)</i></i></i>		(31) 5 1 1 0 (16) (3) (3) (0)	3 2 0 0 ** (6) (4) (0) (0)	(0) (0) (0) (0)

Grade 1: Slight 2: Moderate 3: Marked 4: Severe

(HPT150)

< a > a : Number of animals examined at the site

b : Number of animals with lesion

⁽c) c:b/a*100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

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

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX : MALE

PAGE: 11

		Group Name No. of Animals on Study Grade1_	Cont 1 2	rol l 3	4		1	200 31 2		4	1		400 r 50	opm 3	4		. 1		7 ppm 3	4	
Organ	Findings	(%)	(%)	(%)	(%)	,	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)		(%)	(%)	(%)	(%)	
{Digestive s	system)																				
pancreas	islet cell hyperplasia	1 (100)	0 (0)	0	0 ? (0)				0	0 ** (0)	0 (0		<50) 0 0) (0	0 **		0 0) (0	0 (0)	0 (0)) **))
{Urinary sys	stem}																				
kidney	basophilic change	0 (0)	0 (0)	0	0 ? (0)		0 0) (<31 0 0) (0 0)	0 (0)) (<500 0 0) (0	0 0)			1		0 (0)) **))
	deposit of hemosiderin	(0)	0 (0)		0 ? (0)	(3 10) (1 3) (0 (0)	0 (0)	6 (12		7· 14) ((3 6) (0 (0)	0 (0)	
	chronic nephropathy	0 (0)	0 (0)	0 (0)	0 ?		4 13) (2 6) (1 3)	0 (0)	5 (10		3 6) (0		(5 10) (0	0 (0)	0 (0)	
	pyelonephritis	0 (0)	0 (0)	0				1 3) (0 0)	0 ** (0)	(0		0 (0	0			0 (0	0 (0)	0 (0)	
Grade (a) b (c)	1: Slight 2: Moderate a: Number of animals examined at t b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **:																				

(HPT150)

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

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

DEAD AND MORIBUND ANIMALS (0- 97W)

REPORT TYPE : A1

SEX : MALE

PAGE: 12

		Group Name No. of Animals on Study	Control	200 ppm 31	400 ppm 50	800 ppm 50						
Organ		Frade 1 (%)	2 3 4	1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%)						
{Urinary sys	tem}											
kidney	tubular necrosis	0 (0)	< 1> 1 0 0 ? (100) (0) (0)	<pre></pre>	(50) 7 9 7 0 (14) (18) (14) (0)	<50> 2 14 4 0 (4) (28) (8) (0)						
	papillary necrosis	0 (0)	0 0 0 ?	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 1 0 0 ** (0) (2) (0) (0)						
	mineralization:cortico-medullary junct		0 0 0 ?	1 0 1 0 (3) (3) (0)	0 0 0 0 0 (0) (0)	0 2 0 0*						
	mineralization:papilla	0 (0)	0 0 0 ?	5 0 0 0 (16) (0) (0) (0)	4 0 0 0 0 (8) (0) (0) (0)	5 2 0 0 (10) (4) (0) (0)						
	mineralization:pelvis	0 (0)	0 0 0 ?	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	2 0 0 0 * (4) (0) (0) (0)						
	mineralization:cortex	0 (0)	0 0 0 ?	0 0 0 0 0 (0) (0)	1 0 1 0 (2) (3)	0 1 0 0 **						
urin bladd	simple hyperplasia:transitional epithe		< 1> 0 0 0 ? (0) (0) (0)	<pre></pre>	<50> 1 0 0 0 ** (2) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)						
	1: Slight 2: Moderate 3 a: Number of animals examined at the si b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P ≤ ificant test is not applied, because No. of	0.01 Test of Chi Squa	are									

(HPT150)

ANIMAL

SEX

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

: RAT F344/DuCrj

REPORT TYPE: A1

: MALE

DEAD AND MORIBUND ANIMALS (0- 97W)

Group Name Control 200 ppm 400 ppm 800 ppm 31 50 50 No. of Animals on Study 1 3 3 (%) (%) (%) (%) Findings_ (%) (%) (%) (%) (%) (Endocrine system) pituitary < 1> 0 ? 0 0 0 cyst 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) hyperplasia 0 ? 2 2 (0)(0)(0)(0) (10) (6) (0) (0) (4)(4)(0)(0) (2)(2)(0)(0) Rathke pouch 0 ? 0 1 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (2)(0)(0)(0) (2)(0)(0)(0) thyroid < 1> <31> <50> <50> ultimibranchial body remanet 0 ? 0 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)(3)(0)(0)

<31>

(6)(0)(0)(0)

0 0 0

2

(2) (0) (0) (0)

<50>

(4)(2)(0)(0)

1 0 0

2

Grade

adrenal

1: Slight

C-cell hyperplasia

hyperplasia:medulla

2 : Moderate

3 : Marked

4 : Severe

(0)(0)(0)(0)

< 1>

(0)(0)(0)(0)

0 0 0 0 ?

< a >

a: Number of animals examined at the site

b

(c)

b: Number of animals with lesion c:b/a * 100

Significant difference; *: $P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

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

(HPT150)

BAIS3

(2) (0) (0) (0)

<50>

0 0 0 0

(0)(0)(0)(0)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1

SEX : MALE

PAGE: 14

Organ	Findings	Group Name No. of Animals on Stud Grade	y 1 (%)	Con:	trol l <u>3</u> (%)	<u>4</u> (%)		<u>1</u> (%)	200 3 2 (%)		<u>4</u> (%)	<u>(</u>	1 %)	400 50 2 (%)		<u>4</u> (%)	<u> </u>	()	800 50 2 (%)		<u>4</u> (%)
{Endocrine sys	stem}																				
adrenal	focal fatty change:cortex	(0 (0 (0)	0		?	1 (3) (<3 0 0)	1> 0 (0) (0 **	())) (<50 0 0) (0 (0)	0 (0)	(())) (<50 0 0)	0 (0)	0 (0)
{Reproductive	system)																				
testis	atrophy	(0 0) (0 (0)	0	0 (0)	?	3 (10) (<3 2 6)	1> 0 (0) (0 (0)	(!	0 0) (<50 2 4) (2 (4)	0 (0)	;	3 6) (<50 1 2))> 1 (2)	0 (0)
	arteritis	(1	1 00) (0 (0)	0 (0)		?	3 (10) (0 (0) ((1	5 0) (0	0 (0)	0 (0)		2 1) (0	0 (0)	0 (0)
	interstitial cell hyperplasia	(1	I .00) (0 (0)	0 (0)		?	22 (71) (1 3)	0 (0) (0 (0)	2' (5	7 4) (1 2)	0 (0)	0 (0)		7 4) (0	0 (0)	0 (0)
epididymis	cell debris	(0 0) (1 (100)	0 (0)	0 (0)	?	0 (0) (0) 0	i> 0 (0) (0 ** (0)	(1	0 0) (<50 0 0) (0 (0)	0 ** (0)	(())) (<50 0 0)	0	0 ** (0)

(HPT150)

< a > a : Number of animals examined at the site

b : Number of animals with lesion

⁽c) c:b/a*100

Significant difference : * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

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

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

: MALE

Group Name 200 ppm 400 ppm 800 ppm Control No. of Animals on Study 1 31 50 50 3 (%) (%) (%) (%) (%) Findings_ (%) (%) (%) (%) {Reproductive system} prostate < 1> <31> <50> <50> 0 0 0 0 ? 0 0 0 0 1 0 0 0 ** 0 0 0 0 hemorrhage (0)(0)(0)(0) (0)(0)(0)(0) (2)(0)(0)(0) (0)(0)(0)(0) 0 0 0 0 ? inflammation 2 0 0 0 6 1 0 0 3 0 0 0 (0)(0)(0)(0) (6)(0)(0)(0) (12) (2) (0) (0) (6)(0)(0)(0) hyperplasia 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) (0)(0)(0)(0) (Nervous system) brain <31> <50> 0 0 0 ? 1 0 0 0 ** 1 1 0 0 hemorrhage 1 0 0 0 ** (0)(0)(0)(0) (3)(0)(0)(0) (2) (0) (0) (0) (2)(2)(0)(0) gliosis 0 0 0 0 ? 0 0 0 0 0 1 0 0 ** 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0)(2)(0)(0) (0)(0)(0)(0)

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; $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

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

(HPT150)

BAIS3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE: A1

SEX : MALE

		Group Name No. of Animals on Stud	у	Control 1						200 31						0 ppm 50						ppm 0	
Organ	Findings	Grade	(%)	(%)	(%)	(%		(%)		<u>2</u> %)	(%)	(%)		<u>1</u> (%)	(%)	(%)		(%)		(%)	2 (%)	(%)	<u>4</u> (%)
{Special sem	se organs/appendage)																						
eye	cataract	(0 (0	0	1> 0 (0)	0 (0	?	2 (6)		<31 0 0) (0	0 (0)	(1 8)		50> 0 (0)		0 0)	(1 2) (<5 0 (0)	50> 0 (0)	0 **
	retinal atrophy	(0	0 0)	0 (0)	0	?	2 (6)	(1 3) (0 0)	0 (0)	(4 8)	3 (6)	(0)) (0	(1 2) (0 (0)	0 (0)	0) **
Harder gl	lymphocytic infiltration		0	0	1> 0 (0)		?	1 (3)	(<31 0 0) (0	0 **	(1	50> 0 (0		0 **	(0	<5 0 (0)	50> 0 (0)	0 0)
{Musculoskel	etal system)																						
ьопе	osteosclerosis	(0 0) (0	1> 0 (0)	0 (0	?	1 (3)	(<31 0 0) (0	0 **	(0 0)	0 (0)	50> 0 (0		0	(0	<5 0 (0)	50> 0 (0)	0
{Body caviti	es}																						
pleura	hemorrhage	(0 (0	1> 0 (0)	0	?	0		<31 0 0) (0	0 (0)	(0	1	50> 0 (0		0 **	(0 (0)	<5 0 (0)	50> 0 (0)	0
	1: Slight 2: Moderate a: Number of animals examined at b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 ** ifficant test is not applied, because	: $P \le 0.01$ Test of Chi S	quare																				

(HPT150)

SEX

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1

: MALE

DEAD AND MORIBUND ANIMALS (0- 97W)

	Group Name No. of Animals on Study							200 ppm 31						4 00 ppm 50							800 ppm 50						
Findings	Grade(<u>1</u> (%)	2 (%)	(%)	(%)		<u>1</u> (%)				(%)		(%)			(%)				<u>1</u> (%)					(9	<u>4</u> %)	
hemorrhage		0 0) (< 1 0 0) (0 (0)	0 (0)	?	0 (0)	0 (0)	(31>	0 0) (0 0)	(0	(<50 1 2) (0 0 0)	(0 ** 0)	(0	(0	0))) (((0 0)	
hemorrhage			0	0				0							0	0			(1	(0 ** 0)	
thrombus			0				0 (0)	0 (0)) (0 0) (0	(0	(0 0) (0	(0)	(((0 ** 0)	
thrombus		0	< 1 0	> 0	0	?	0	2	(31>	0	0		0					0		0			0> ()	1	0	
	hemorrhage hemorrhage thrombus	No. of Animals on Study Grade Findings hemorrhage (thrombus	No. of Animals on Study Grade 1 (%)	No. of Animals on Study 1 2	No. of Animals on Study																						

Grade 1: Slight 2: Moderate 3: Marked 4: Severe

(HPT150)

BAIS3

⁽a) a: Number of animals examined at the site

b b: Number of animals with lesion

⁽c) c:b/a*100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

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

APPENDIX L 4

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS: SUMMARY

RAT: FEMALE: DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2

DEAD AND MORIBUND ANIMALS (0-105W)

		Group Name No. of Animals on Study	Contr 9	ol			150 33	ppm			3	300 pp 48	m				0 ppm	
gan		Grade 1 (%)	2	(%)	<u>4</u> (%)	<u>1</u> (%)	2 (%)	3 (%)	<u>4</u> (%)	<u>1</u> (%)	<u>2</u> (%	2	3 (%)	(%)	(%)	(%)	50 3 (%)	(%)
espiratory	system)																	
sal cavit	mineralization	0 (0)	< 9> 0 (0) (0	0 0)	0 (0)	<33 0 (0)	0	0 (0)	6 (13)	0		0 0) (0 0)	2 (4)	0	50> 0 (0)	0 (0)
	eosinophilic change:olfactory epitheli		3 (33) (1 11) (0 0)	11 (33)	9 (27)	0 (0) (0 (0)	12 (25)	8 (17		0 0) (0 * 0)	13 (26)	18 (36)	0 (0)	0 (0)
	eosinophilic change:respiratory epithe		0 (0) (0 (0	2 (6)	0 0)	0 (0) (0 ** (0)	3 (6)	(0		0 0) (0 ** 0)	12 (24)	0 (0)	0 (0)	0 (0)
	inflammation:foreign body	(0)	0 (0) (0 0) (0	0 (0)	0 (0)	0 (0) (0 (0)	3 (6)	(0		0 0) (0 0)	0 (0)	0 (0)	0 (0)	(0)
	inflammation:olfactory epithelium	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)
	respiratory metaplasia:olfactory epith		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)
	respiratory metaplasia:gland	7 (78)	0 (0) (0 0)	24 (73)	3 9) (0 (0) (0 (0)	33 (69)	(0		0 0) (0 0)	39 (78)	0 (0)	0 (0)	0 (0)
	basal cell hyperplasia:olfactory epith		0 (0) (0 0)	0 (0) (0 0) (0 (0) (0 (0)	0 (0)	(0		0 0) (0 0)	1 (2)	1 (2)	0 (0)	0 (0)
ade a > o	1: Slight 2: Moderate 3: a: Number of animals examined at the sit b: Number of animals with losion	Marked 4 : Severe																

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2

DEAD AND MORIBUND ANIMALS (0-105W)

rgan	Findings	Group Name No. of Animals on Study Grade	2			<u>4</u> (%)		<u>1</u> (%)		150 33 <u>2</u> %)	ppm 3 (%)		4 (%)		1 (%)		300 48 2 (%)	ppm 3 3 (%)		(%)		<u>1</u> (%)		600 1 50 2 %)		(9	<u>4</u> %)
Respiratory :	system}																										
asal cavit	atrophy:olfactory epithelium	0 (0)		< 9)))) (0	0 0)	(0 0)			3> 0 (0)		0 0)	(3> 0 (0)				12 24)		<502 6 2) (2 4)	((
	atypical dilatation:olfactory gland	0 (0)	0) ())) (0	0	(0 0)	(0 0) (0 (0)) (0 0)	(0 0)	(0	0 (0)) (0 0)	(3 6)	()	0 0) (0 0)	((0 0)
	atypical hyperplasia:olfactory gland	0 (0)	(())) (0	(0 0)	(0 0) (0 (0)) (0 0)	(0 0)	(0	0 (0)) (0 0)	(3 6)	()))) (0 0)	((0 0)
тунх	inflammation	0 (0)		< 9>))) (0	0 0)	(3> 0 (0)			(7> 0 (0)				1 2)		<50) 0 0) (((_
achea	inflammatory infiltration	0 (0)		< 9>))) (0	0 0)	(0 0)			3> 0 (0)		0	(0			7> 0 (0)		0 0)	(1 2)		<50: 0 0) (((
ıg	congestion	1 (11)		< 9>))) (0	0 0)	(3> 0 (0)		0					3> 0 (0)			((2) 0 0)		0 0)
	hemorrhage	0 (0)	0 (0))) ((2 6)	(1	5 5) (0 (0)) (0 0)					0 (0)				14 28)		4 8) (0 0)		0 0)

Grade

1 : Slight

2 : Moderate

3 : Marked

4 : Severe

< a > ь

a: Number of animals examined at the site

b : Number of animals with lesion

(c) c:b/a*100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2

SEX : FEMALE

Organ		Group Name Control No. of Animals on Study 9 Grade 1 2 3 4 (%) (%) (%) (%) (%)	150 ppm 33 1 2 3 4 (%) (%) (%)	300 ppm 48 1 2 3 4 (%) (%) (%) (%)	600 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Respiratory	system}				
lung	thrombus	<pre></pre>	<pre></pre>	\(\lambda 48 \rangle \) 1	<50> 0 0 0 0 (0) (0) (0) (0)
	inflammatory infiltration	0 1 0 0 (0) (11) (0) (0)	4 0 0 0 (12) (0) (0) (0)	1 2 0 0 (2) (4) (0) (0)	1 1 0 0 (2) (2) (0) (0)
	accumulation of foamy cells	0 0 0 0 0 (0)	1 0 0 0 0 (3) (6)	0 1 0 0 (0) (0) (0)	0 0 0 0 0 (0)
	bronchiolar-alveolar cell hyperplasia	1 0 0 0 0 (11) (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)
{ lematopoieti	c system)				
bone marrow	granulation	0 0 0 0 (0) (0) (0) (0)	<pre></pre>	<pre></pre>	<50> 0 1 0 0 (0) (2) (0) (0)
	increased hematopoiesis	2 0 0 0 (22) (0) (0) (0)	12 0 0 0 (36) (0) (0) (0)	28 0 0 0 (58) (0) (0) (0)	40 0 0 0 ** (80) (0) (0) (0)
	decreased hematopoiesis	0 0 0 0 0 (0)	0 0 0 0 0 (0) (0)	1 0 0 0 0 (2) (0) (0) (0)	0 0 0 0 0 (0) (0)
Grade <a>> b (c) Significant d	1: Slight 2: Moderate 3 a: Number of animals examined at the sib: Number of animals with lesion c: b / a * 100 ifference; *: $P \le 0.05$ **: $P \le 0.05$				

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj DEAD AND MORIBUND ANIMALS (0-105W)

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

REPORT TYPE : A2 SEX : FEMALE

Organ	Findings	Group Name Co No. of Animals on Study Grade 1 2 (%) (%)	9 3 4 (%) (%)	150 ppm 33 1 2 3 4 (%) (%) (%) (%)	300 ppm 48 1 2 3 4 (%) (%) (%) (%)	600 ppm 50 1 2 3 4 (%) (%) (%) (%)
Hematopoieti	c system)					
one marrow	myelofibrosis	1 0	9> 0 0 (0) (0)	<33> 0 0 0 0 (0) (0) (0) (0)	<48> 0 0 0 0 0 0 0 0 0	<50> 0 0 0 0 (0) (0) (0) (0)
	granulopoiesis:increased	1 0 (11) (0)	0 0 (0) (0)	2 0 0 0 0 (6) (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 0 (0) (0) (0)
ymph node	lymphadenitis	0 0	0 0 (0) (0)	(0) (0) (0) (0)	48> 1 0 0 0 (2) (0) (0) (0)	<50> 0 0 0 0 0 0 0 0 0 0 0
pleen	atrophy	0 0	0 0 (0) (0)	<33> 0 0 0 0 (0) (0) (0) (0)	<48> 0 0 0 0 0 0 0 0 0 0 0	<50> 1 0 0 0 (2) (0) (0) (0
	congestion	0 0	0 0 (0)	2 0 0 0 0 (6) (6) (7) (7)	2 0 0 0 0 (4) (0) (0) (0)	0 0 0 0
	necrosis:focal	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
	deposit of hemosiderin	1 3 (11) (33)	0 0 (0) (0)	10 3 2 0 (30) (9) (6) (0)	13 7 0 0 (27) (15) (0) (0)	18 4 2 0 (36) (8) (4) (0

(IIPT150)

BAIS3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

SEX : FEMALE

PAGE: 5

Organ	Group No. oi Grade Findings	Name Control Animals on Study 9 1 2 3 4 (%) (%) (%) (%) (%)	150 ppm 33 1 2 3 4 (%) (%) (%) (%)	300 ppm 48 1 2 3 4 (%) (%) (%) (%)	600 ppm 50 1 2 3 4 (%) (%) (%) (%)
		(10) (10) (10)	(10) (10) (10)	(10) (10) (10)	(10) (10) (10)
(Hematopoie)	.ic system}				
spleen	inflammatory infiltration	(11) (0) (0) (0)	<pre></pre>	3 1 0 0 (6) (2) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)
	extramedullary hematopoiesis	2 1 0 0 (22) (11) (0) (0)	6 7 0 0 (18) (21) (0) (0)	20 7 0 0 (42) (15) (0) (0)	28 8 0 0 (56) (16) (0) (0)
{Circulatory	y system)				
eart	inflammatory cell nest	<pre></pre>	<pre></pre>	(48) 1 0 0 0 (2) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
	myocardial fibrosis	2 0 0 0 0 (22) (0) (0) (0)	9 1 0 0 (27) (3) (0) (0)	4 0 0 0 0 (8) (0) (0) (0)	5 0 0 0 (10) (0) (0) (0)
Digestive s	system)				
ooth	dysplasia	(0) (0) (0) (0)	(33) 1 0 0 0 (3) (0) (0) (0)	<48> 0 0 0 0 0 0 0 0 0 0 0 0	(50) 0 0 0 0 (0) (0) (0) (0)
Grade (a) b	1: Slight 2: Moderate 3: Mark a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P ≤ 0.01				

(HPT150)

SEX

: FEMALE

ANIMAL REPORT TYPE: A2

: RAT F344/DuCri

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

PAGE: 6 Group Name Control 150 ppm 300 ppm 600 ppm No. of Animals on Study 9 33 48 50 3 Grade 3 3 (%) (%) (%) Findings_ (%) (%) (%) (%) (%) (%) (Digestive system) stomach < 9> <33> <48> ⟨50⟩ mineralization 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)(0)(0)(0) erosion: forestomach 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0) (0) (0) (0) (2)(0)(0)(0) ulcer:forestomach 0 1 1 0 1 2 0 1 2 0 0 (0)(11)(11)(0) (9)(0)(0)(0) (2) (4) (0) (0) (2)(4)(0)(0) hyperplasia: for estomach 0 2 0 0 0 1 0 0 2 1 0 0 (0)(0)(0)(0) (6)(0)(0)(0) (6)(2)(0)(0) (4)(2)(0)(0) erosion:glandular stomach 1 0 0 0 3 0 0 0 0 0 2 0 0 0 0 (11) (0) (0) (0) (9)(0)(0)(0) (2)(0)(0)(0) (4)(0)(0)(0) ulcer:glandular stomach 0 0 0 0 5 0 0 0 4 0 0 0 1 0 0 0 (0)(0)(0)(0) (15) (0) (0) (0) (8) (0) (0) (0) (2)(0)(0)(0) liver < 9> <33> <48> <50> herniation 0 0 0 0 3 0 0 2 0 0 0 4 0 0 0 (22) (0) (0) (0) (9)(0)(0)(0) (4)(0)(0)(0) (8)(0)(0)(0) congestion 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 (11) (0) (0) (0) (0)(3)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe

< a >

b

(c)

a: Number of animals examined at the site

Significant difference ; $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

b: Number of animals with lesion

c:b/a*100

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2 SEX : FEMALE

	Group Name	Control als on Study 9	150 ppm 33	300 ppm	600 ppm
)rgan	No. of Anim Grade Findings	als on Study 9 1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)	50 1 2 3 4 (%) (%) (%) (%) (%)
{Digestive	system)				
liver	angiectasis	(0) (0) (0) (0)	(33) 0 2 0 0 (0) (6) (0) (0)	(48) 0 2 0 0 (0) (4) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)
	thrombus	1 0 0 0 0 (11) (0) (0) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	0 1 0 0 (0) (2) (0) (0)
	peliosis-like lesion	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	2 0 0 0 0 (4) (0) (0) (0)	1 0 0 0 0 (2) (0) (0) (0)
	necrosis:central	0 1 0 0 (0) (11) (0) (0)	4 6 0 0 (12) (18) (0) (0)	9 5 0 0 (19) (10) (0) (0)	7 4 0 0 (14) (8) (0) (0)
	necrosis:focal	0 0 0 0 0 (0) (0)	6 7 0 0 (18) (21) (0) (0)	8 5 1 0 (17) (10) (2) (0)	8 9 0 0 (16) (18) (0) (0)
	fatty change	0 0 0 0 0 (0)	1 0 1 0 (3) (3) (0)	3 0 0 0 0 (6) (6) (0) (0)	0 1 0 0 (0) (0)
	fatty change:central	0 0 0 0 0 (0) (0)	0 2 1 0 (0) (6) (3) (0)	1 1 0 0 (2) (2) (0) (0)	0 0 0 0 0 (0) (0)
	inflammatory infiltration	0 1 0 0 (0) (11) (0) (0)	2 i 0 0 (6) (3) (0) (0)	0 3 0 0 (0) (0) (0)	0 0 0 0 0 (0) (0)
Grade (a> b (c)	1: Slight 2: Moderate 3: Marked a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 t difference; *: P ≤ 0.05 **: P ≤ 0.01 Te	4 : Severe			

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2

SEX : FEMALE

PAGE: 8

Organ	Findings	Control No. of Animals on Study 9	150 ppm 33 1 2 3 4 (%) (%) (%) (%)	300 ppm 48 1 2 3 4 (%) (%) (%) (%)	600 ppm 50 1 2 3 4 (%) (%) (%)
{Digestive	system)				
liver	granulation	<pre></pre>	(33) 1 0 0 0 (3) (0) (0) (0)	(48) 0 2 0 0 (0) (4) (0) (0)	3 0 0 0 (6) (0) (0) (0)
	hyperplasia:vascular	0 0 0 0 0 (0) (0) (0)	5 0 0 0 (15) (0) (0) (0)	1 0 0 0 0 (2) (0) (0)	8 1 0 0 (16) (2) (0) (0)
	clear cell focus	0 0 0 0 0 (0) (0)	0 1 0 0 (0) (0)	1 3 0 0 (2) (6) (0) (0)	2 5 0 0 (4) (10) (0) (0)
	acidophilic cell focus	0 0 0 0 0 (0) (0)	1 0 0 0 0 (3) (3) (0) (0)	0 4 3 0 (0) (8) (6) (0)	1 4 0 0 (2) (8) (0) (0)
	basophilic cell focus	2 0 0 0 (22) (0) (0) (0)	1 0 0 0 0 (3) (3) (0) (0)	3 4 0 0 (6) (8) (0) (0)	4 4 0 0 (8) (8) (0) (0)
	vacuolated cell focus	0 0 0 0 0 (0) (0)	1 1 0 0 (3) (3) (0) (0)	4 1 0 0 (8) (2) (0) (0)	1 0 0 0 0 (2) (0) (0) (0)
	spongiosis hepatis	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0) (0)	1 I 0 0 (2) (2) (0) (0)	0 0 0 0 0
	bile duct hyperplasia	0 0 0 0 0 (0) (0)	3 0 0 0 0 (9) (0) (0)	5 0 1 0 (10) (0) (2) (0)	2 0 0 0 0 (4) (0) (0)
Grade <a>> b (c) Significant	1: Slight 2: Moderate 3: a: Number of animals examined at the s b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P:				

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2

: FEMALE

Group Name 150 ppm 300 ppm Control 600 ppm No. of Animals on Study 9 33 48 50 Grade 3 2 3 2 3 (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) Findings_ Organ__ {Digestive system} liver < 9> ⟨33⟩ <48> <50> bile ductular proliferation 0 0 0 0 0 1 0 0 0 1 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0)(2)(0)(0) (0)(2)(0)(0) biliary cyst 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0) (0) (0) (0) (0)(2)(0)(0) regenerative hyperplasia 0 0 0 0 3 1 0 0 4 0 0 0 3 2 0 0 (0)(0)(0)(0) (9)(3)(0)(0) (8)(0)(0)(0) (6) (4) (0) (0) < 9> ⟨33⟩ pancreas <48> <50> atrophy 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 (11) (0) (0) (0) (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) hemorrhage 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (2) (0) (0) (0) (0)(0)(0)(0) {Urinary system} kidney < 9> ⟨33⟩ 0 0 0 cyst 0 0 0 0 0 0 0 0 0 1 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0) (0) (0) (0) (0)(2)(0)(0) Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Sovere <a>> a : Number of animals examined at the site b: Number of animals with lesion

ь

c:b/a * 100

(c)

Significant difference ; * : P \leq 0.05 ** : P \leq 0.01 Test of Chi Square

(HPT150)

BAIS3

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 : FEMALE SEX

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

Group Name Control 150 ppm 300 ppm 600 ppm 50 No. of Animals on Study 9 33 48 Grade 3 3 3 3 (%) (%) (%) (%) (%) (%) (%) (%) (%) Findings_ {Urinary system} kidney < 9> <33> <50> <48> 0 hyaline droplet 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0)(2)(0)(0) (0)(0)(0)(0) basophilic change 0 0 0 0 0 0 0 - 1 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (2)(0)(0)(0) (0)(0)(0)(0) deposit of hemosiderin 0 0 0 5 3 0 0 (0)(0)(0)(0) (3)(3)(0)(0) (4)(2)(0)(0) (10) (6) (0) (0) 2 0 chronic nephropathy 0 1 0 0 0 0 0 0 * (22) (0) (0) (0) (3)(0)(0)(0) (4)(0)(0)(0) (0)(0)(0)(0) hydronephrosis 0 0 0 0 1 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0)(2)(0)(0) (0)(0)(0)(0) pvelonephritis 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) tubular necrosis 1 1 1 7 1 0 11 3 14 (11) (11) (11) (0) (12) (21) (3) (0) (15) (23) (2) (0) (6)(28)(6)(0) papillary necrosis 0 0 14 0 0 * 10 17 12 0 0 ** (0)(0)(0)(0) (42) (0) (0) (0) (44) (21) (4) (0) (34) (24) (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 b (c) c:b/a * 100 Significant difference; $*: P \le 0.05$ $**: P \le 0.01$ Test of Chi Square

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2 SEX : FEMALE

		Group Name No. of Animals on Study Grade 1	Contr 9 2	rol 3	4	1	1	50 pp 33	om 3	4	1			ppm 8	4	1) ppm 50 3	1
Organ	Findings	(%)	(%)	(%)	(%)	(%)	(%		(%)	(%)	(9	(j)	(%)	(%)		 (%)	<u>)</u>	(%)	(%	(%)
{Urinary sys	tom)																			
kidney	mineralization:papilla	1 (11)	< 90 0 (0) (0	0 (0)	8 (24)	I		0 0) (0 (0)	16 (35		<4 3 6)	0	0 (0)	21 (42		7	50> (0	0 * 0)
	mineralization:pelvis	2 (22)	1 (11) (0	0 (0)	2 (6)	0		0	0 *	((0 0)	(0)	0 × (0) •	1 (2		0 0)	((0 ** 0)
	mineralization:cortex	0 (0)	0 (0) (0	0 (0)	(0)	(0) (0 0) (0 (0)	(2		0 0)	(0)	0 (0)	2 (4) (1 2)	((0
	urothelial hyperplasia:pelvis	0 (0)	0 (0) (0	0 (0)	0 (0)	(0		0	0 (0)	((3 5) (2 4)	(0)	0 (0)	2		0 0)	((0 0)
	eosinophilic droplet:proximal tubule	0 (0)	0 (0) (0	0 (0)	3 (9)	(0) (0 0) (0		3 5) (0	(0)	0 (0)	0		0 0)	((0
{Endocrine s	ystom)																			
pituitary	angiectasis	1 (11)	< 9: 0 (0) (0	0 (0)	3 (9)	1		0	0		l 2) (0	(0)	0 (0)	2 (4		0	50> (0 0)
	cyst	3 (33)	0 (0) (0	0 (0)	5 (16)	(3		0	0	(8		0	(0)	0 (0)	3 (6		0 0)	((0 0)
Grade < a > b (c)	1: Slight 2: Moderate 3: a: Number of animals examined at the s b: Number of animals with losion c: b/a * 100	: Marked 4 : Severe ite	•																	

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2

SEX : FEMALE

		Group Name No. of Animals on Study		trol		i		33		,		•		ppm 8					00 ppr 50		,
Organ	Findings	Grade <u>1</u> (%)	(%)	(%)	(%)	(%)	(%)	3 (%		(%)	(<u>1</u> %)	(%)	(%)	(%)		(%)	(%)		<u>3</u> (%)	(%)
(Endocrine sy	vstem)																				
pituitary	hyperplasia	(11)	(11)	9> 0 (0)	0 (0)	3 (9)	2	(32> 0 (0		0 0)		4 8) (<4 0 0)	0	0 (0)	(3 6)	0		0 0) (0 *
	Rathke pouch	1 (11)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)			0		1 2) (0 0)	0 (0)	0 (0)	(1 2)	0 (0)		0 0) (0
thyroid	ultimibranchial body remanet	0 (0)	0	9> 0 (0)	0 (0)	0 (0)	0			0 0)		2 4) (0	6> 0 (0)	0 (0)	(0	0		0 (0)	0 0)
	C-cell hyperplasia	1 (11)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0) (0	(0 0) (0	0 (0)	0 (0)	(0	0 (0)		0 (0
	focal follicular cell hyperplasia	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)) (0 0)		0 0) (0 0)	0 (0)	0 (0)	(1 2)	0 (0)		0 0) (0 0)
adrenal	peliosis-like lesion	3 (33)	(0)	9> 0 (0)	0 (0)	1 (3)	1	(33> 0 (0		0 * 0)		0 0) (1	8> 0 (0)	0 **	(1 2)	0		0 0) (0 ** 0)
	hyperplasia:cortical cell	1 (11)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0)) (0	(4 8) (1 2)	0 (0)	0 (0)	(0 0)	0 (0)		0 (0 0)

(c) c:b/a*100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

SEX : FEMALE

PAGE: 13

Organ		n Name Control of Animals on Study 9 1 2 3 4 (%) (%) (%) (%)	150 ppm 33 1 2 3 4 (%) (%) (%) (%)	300 ppm 48 1 2 3 4 (%) (%) (%) (%)	600 ppm 50 1 2 3 4 (%) (%) (%) (%)
{Endocrine	system)				
adrenal	hyperplasia:modulla	<pre></pre>	<pre></pre>	0 0 0 0 (0) (0) (0) (0)	<pre></pre>
	focal fatty change:cortex	0 0 0 0 0 (0) (0)	2 0 0 0 0 (6) (6) (0) (0)	3 0 0 0 0 (6) (6) (0) (0)	1 1 0 0 (2) (2) (0) (0)
	cortical vacuolation:diffuse	0 0 0 0 0 (0) (0)	0 0 0 0 0 (0)	1 0 0 0 0 (2) (0) (0)	0 0 0 0 0 (0) (0)
{Reproducti	ve system)				
ovary	cyst	<pre></pre>	33> 1 0 0 0 (3) (0) (0) (0)	48> 1 0 0 0 (2) (0) (0) (0)	(50) 1 0 0 0 (2) (0) (0) (0)
uterus	squamous cell metaplasia	<pre></pre>	<33> 0 0 0 0 0 (0) (0) (0) (0)	<pre></pre>	<50> 0 0 0 0 (0) (0) (0) (0)
	cystic endometrial hyperplasia	0 1 0 0 (0) (11) (0) (0)	2 2 0 0 (6) (6) (6) (0)	1 2 0 0 (2) (4) (0) (0)	0 1 0 0 (0) (2) (0) (0)
Grade <a>a> b (c) Significant	1: Slight 2: Moderate 3: Ma a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 difference; *: $P \le 0.05$ **: $P \le 0.0$				

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2

ANIMAL

EX : FEMALE

: RAT F344/DuCrj

Group Name 150 ppm 300 ppm 600 ppm Control No. of Animals on Study 9 33 48 50 3 3 3 Findings_ (%) (%) (%) (%) (%) (%) (%) (%) (%) {Reproductive system} < 9> vagina ⟨33⟩ <48> ⟨50⟩ 0 0 0 squamous cell hyperplasia 0 1 0 0 0 0 0 0 (0)(0)(0)(0) (0)(0)(0)(0) (0)(2)(0)(0) (0)(0)(0)(0) mammary gl < 9> <33> <48> <50> 0 1 0 0 0 0 0 0 0 1 1 0 0 hyperplasia (0)(0)(0)(0) (0)(0)(3)(0) (0)(0)(0)(0) (2)(2)(0)(0) 0 1 galactocele 0 0 0 0 0 0 0 0 (0)(11)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) (0)(0)(0)(0) {Nervous system} brain < 9> ⟨33⟩ <48> <50> 0 0 0 0 0 2 0 0 0 hemorrhage 0 1 0 1 0 0 (0)(0)(0)(0) (3) (0) (0) (0) (4)(0)(0)(0) (0)(2)(0)(0) spinal cord < 9> ⟨33⟩ <48> <50> 0 0 0 hemorrhage 0 1 0 0 0 1 0 0 0 1 0 0 0 (0)(0)(0)(0) (3)(0)(0)(0) (2)(0)(0)(0) (2)(0)(0)(0) {Special sense organs/appendage} < 9> eye <48> <50> 0 0 0 cataract 1 1 0 0 0 0 0 0 (11) (0) (0) (0) (3)(3)(0)(0) (8)(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 ь b: Number of animals with lesion (c) c:b/a*100 Significant difference; *: $P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

(HPT150)

BAIS3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

SEX : FEMALE

PAGE: 15

Organ	Findings	Group Name Control No. of Animals on Study 9 Grade 1/2 2/3 (%) (%) (%)	150 ppm 33 4 1 2 3 (%) (%) (%)	300 ppm 48 48 (%) (%) (%) (%)	600 ppm 50 1 2 3 4 (%) (%) (%) (%)
Special sens	sc organs/appendage}				
уе	retinal atrophy	3 1 0 (33) (11) (0)	(0) (55) (3) (0) ((48) 0 9 2 0 0 (0) (19) (4) (0) (0)	50> 5 1 0 0 (10) (2) (0) (0)
	keratitis	0 0 0 0 (0) (0)	0 0 0 1 (0) (0) (3) (0 0 0 0 0 0 0 (0) (0) (0) (0)	0 0 0 0 0 (0) (0)
larder gl	lymphocytic infiltration	(11) (0) (0)	0 0 0 0 (0) (0) (0) (0) ((48) 0 1 0 0 0 (0) (2) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
asolacr d	inflammation	0 0 0 (0) (0) (0)	33> 0 2 0 0 (0) (6) (0) (0) (<48> 0 1 0 0 0 (0) (2) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
dusculoskele	etal system)				
uscle	hemorrhage	<pre></pre>	(0) (0) (3) (0) ((48) 0 0 0 0 0 (0) (0) (0) (0) (0)	<50> 0 0 0 0 (0) (0) (0) (0)
	mineralization	0 0 0 (0) (0)	0 0 0 0 0 (0) (0) (0) (0)	0 1 0 0 0 (0) (2) (0) (0) (0)	0 0 0 0 0 (0) (0)
Grade (a> b (c) Significant d	1 : Slight 2 : Moderate a : Number of animals examined at th b : Number of animals with lesion c : b / a * 100 lifference; * : P ≤ 0.05 **:				

(HPT150)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

DEAD AND MORIBUND ANIMALS (0-105W)

REPORT TYPE : A2

SEX : FEMALE

ANIMAL : RAT F344/DuCrj

		Group Name No. of Animals on Study	Cont 9				150 30	ppm 3			300 4	ppm 8				600 р 50	pm	
Organ	Findings	Grade <u>1</u> (%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	<u>1</u> (%)	2 (%)	(%)	<u>4</u> (%)	(7	(b)	2 (%)	3 (%)	(%)
Musculoskel	etal system)																	
oone	osteosclerosis	0 (0)	< 9 1 (11) (0	0 (0)	3 (9) (<3; 0 (0)	0	0	0 (0)	<4 0 (0)	0	0		2 4) (<50> 1 2) (0	0
Body caviti	es)																	
dipose	hemorrhage	0 (0)	< 9 0 (0) (0	0 (0)	0 (0) (<3: 0 (0)	0	0 (0)	1 (2)	<4 0 (0)		0 (0)))) (<50> 0 0) (0 (0
Grade (a > b (c)	1: Slight 2: Moderate 3 a: Number of animals examined at the si b: Number of animals with lesion c: b / a * 100 difference: *: P ≤ 0.05 **: P ≤																	

APPENDIX L 5

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS: SUMMARY

RAT: MALE: SACRIFICED ANIMALS

(2-YEAR STUDY)

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1
SEX : MALE

SACRIFICED ANIMALS (97W)

Organ	Group No. c Grade Findings	f Animals on Study 49	200 ppm 19 1 2 3 4 (%) (%) (%) (%)	400 ppm 0 1 2 3 4 (%) (%) (%) (%)	800 ppm 0 1 2 3 4 (%) (%) (%) (%)
Integumentar	ry system/appandage}				
kin/app	inflammation	49> 1 0 0 0 (2) (0) (0) (0)	(19) 0 0 0 0 (0) (0) (0) (0)	() () () ()	() () () ()
	hyperplasia:epidermis	2 0 0 0 0 (4) (0) (0) (0)	0 0 0 0 0 0 (0) (0)	(-) (-) (-) (-)	(-) (-) (-) (-)
	epidermal cyst	0 0 0 0 0 (0)	0 1 0 0 (0) (0)	(-) (-) (-)	(-) (-) (-) (-)
Respiratory	system)				
sal cavit	mineralization	(49) 0 0 0 0 (0) (0) (0) (0)	3 0 0 0 * (16) (0) (0) (0)	(-) (-) (-) (-)	(-) (-) (-)
	eosinophilic change:olfactory epithelium	20 13 2 0 (41) (27) (4) (0)	11 1 0 0 (58) (5) (0) (0)	(-) (-) (-)	(-) (-) (-) (-)
	eosinophilic change:respiratory epithelium	6 0 0 0 (12) (0) (0) (0)	3 0 0 0 (16) (0) (0) (0)	(-) (-) (-)	(-) (-) (-)
	inflammation:foreign body	5 2 0 0 (10) (4) (0) (0)	6 0 0 0 (32) (0) (0) (0)	(-) (-) (-)	(-) (-) (-) (-)
ade a > b c)	1: Slight 2: Moderate 3: Mar a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P ≤ 0.01				

ANIMAL

(HPT150)

SEX

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

PAGE: 2

BAIS3

: RAT F344/DuCrj

REPORT TYPE : A1

: MALE

SACRIFICED ANIMALS (97W)

Group Name Control 200 ppm 400 ppm 800 ppm No. of Animals on Study 49 19 0 0 3 3 (%) (%) (%) (%) (%) Findings_ (%) (%) (%) {Respiratory system} nasal cavit <49> <19> < 0> < 0> respiratory metaplasia: elfactory epithelium 0 0 0 0 0 (12) (0) (0) (0) () () () () ()()()() (32) (0) (0) (0) respiratory metaplasia:gland 0 0 1 0 0 (92) (0) (0) (0) (95) (5) (0) (0) (-) (-) (-) (-) (-) (-) atrophy:olfactory epithelium (-) (-) (-) (0)(0)(0)(0) (5)(0)(0)(0) (-) (-) (-) lung <49> <19> < 0> < 0> 0 hemorrhage 0 1 0 0 (0)(0)(0)(0) (0)(5)(0)(0) (-) (-) (-) (-) (-) (-) (-) bronchiolar-alveolar cell hyperplasia 0 1 1 (0)(2)(2)(0) (5)(0)(0)(0) (-) (-) (-) (--) (-) (-) (-) {Hematopoietic system} bone marrow <49> granulation 0 0 0 1 0 0 (2)(0)(0)(0) (0)(5)(0)(0) (--) (--) (--) (-) (-) (-) (-) Grade 1 : Slight 3 : Marked 2 : Moderate 4 : Severe < a > a : Number of animals examined at the site ь b: Number of animals with lesion (c) c:b/a*100 Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

SACRIFICED ANIMALS (97W)

REPORT TYPE : A1

SEX : MALE

Organ	N	roup Name	200 ppm 19 1 2 3 4 (%) (%) (%) (%)	400 ppm 0 1 2 3 4 (%) (%) (%) (%)	800 ppm 0 1 2 3 4 (%) (%) (%)
{Hematopoietic	system)				
bone marrow	increased hematopoiesis	3 0 0 0 (6)(0)(0)(0)	(19) 6 0 0 0 * (32) (0) (0) (0)	() () () ()	() () () ()
spleen	atrophy	0 0 0 0 (0) (0) (0) (0)	<19> 0 1 0 0 0 0 0 0 0 0 0 0 0	< 0> (-) (-) (-) (-)	< 0> (-) (-) (-) (-)
	congestion	0 0 0 0 0 (0) (0) (0)	0 2 0 0 (0) (11) (0) (0)	(-) (-) (-) (-)	(-) (-) (-) (-)
	inflammatory infiltration	0 0 0 0 0 (0) (0)	1 0 0 0 0 (5) (0) (0)	(-) (-) (-) (-)	(-) (-) (-) (-)
	extrameduliary hematopoiesis	2 0 0 0 0 (4) (0) (0) (0)	1 0 0 0 0 (5) (0) (0)	(-) (-) (-)	(-) (-) (-)
{Circulatory s	system)				
heart	myocardial fibrosis	<pre></pre>	(19) 1 0 0 0 * (5) (0) (0) (0)	< 0> (-) (-) (-) (-)	(-) (-) (-) (-)
(a) b (c)	1: Slight 2: Moderate 3: a: Number of animals examined at the sit b: Number of animals with lesion c: b/a*100 fference; *: P≤ 0.05 **: P≤				

(HPT150)

SEX

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (97W)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1

: MALE

PAGE: 4

Organ	Findings	Group Name Control No. of Animals on Study 49 Grade 1 2 3 4 (%) (%) (%) (%)	200 ppm 19 1 2 3 4 (%) (%) (%)	400 ppm 0 1 2 3 4 (%) (%) (%) (%)	800 ppm 0 1 2 3 4 (%) (%) (%)
{Digestive sys	stem}				
tooth	inflammation	<pre></pre>	0 0 0 0 (0) (0) (0) (0)	() () () ()	() () () ()
	dysplasia	1 0 0 0 0 (2) (3) (4) (4)	0 0 0 0 0 (0) (0)	(-) (-) (-) (-)	 (-) (-) (-) (-)
salivary gl	lymphocytic infiltration	<49> 0 0 0 0 0 0 0 0 0 0 0	4 1 0 0 ** (21) (5) (0) (0)	< 0> (-) (-) (-) (-)	< 0> (-) (-) (-) (-)
stomach	hyperplasia:glandular stomach	49> 1 0 0 0 (2) (0) (0) (0)	<19> 0 0 0 0 0 0 0 0 0 0 0 0	(-) (-) (-) (-)	< 0> (-) (-) (-) (-)
liver	herniation	2 0 0 0 0 (4) (0) (0) (0)	(19) 1 0 0 0 (5) (0) (0) (0)	< 0> () ()	< 0> (-) (-) (-) (-)
	angiectasis	0 0 0 0 0 (0) (0)	2 2 0 0 ** (11) (11) (0) (0)	(-) (-) (-)	(-) (-) (-)
	necrosis:central	0 0 0 0 0	1 0 0 0 0 (5) (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 ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

(HPT150)

ANIMAL

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

SACRIFICED ANIMALS (97W)

: RAT F344/DuCrj

REPORT TYPE: A1

: MALE

PAGE: 5 Group Name Control 200 ppm 400 ppm 800 ppm 49 19 No. of Animals on Study 0 0 3 (%) (%) Findings_ (%) (%) (%) (%) (%) (%) (%) (%) {Digestive system} liver <49> <19> < 0> < 0> fatty change 1 0 0 0 0 0 (2)(2)(0)(0) (0)(0)(0)(0) () () () () $(\)\ (\)\ (\)\ (\)$ granulation 1 7 0 0 (2) (14) (0) (0) (5)(0)(0)(0) (-) (-) (-) (-) (-) (-) hyperplasia: vascular 0 0 0 0 0 1 0 (0)(0)(0)(0) (0)(5)(0)(0) (-) (-) (-) (-) (-) (-) clear cell focus 2 1 6 2 (4)(2)(0)(0) (-) (-) (-) (-) (5) (32) (11) (0) (-) (-) (-) acidophilic cell focus 4 2 0 0 2 3 3 () ** (8) (4) (0) (0) (11) (16) (16) (0) (-) (-) (-) (-) (-) (-) basophilic cell focus 4 3 0 1 (8)(6)(0)(2) (21) (47) (5) (5) (-) (-) (-) (-) (-) (-) (-) vacuolated cell focus (4)(2)(0)(0) (5)(0)(0)(0) (-) (-) (-) (-) (-) (-) spongiosis hepatis 0 0 0 5 3 0 0 ** (8)(0)(0)(0) (26) (16) (0) (0) (-) (-) (-) (-) (-) (-) 1 : Slight 2 : Moderate 3 : Marked 4 : Severe (a) a: Number of animals examined at the site b: Number of animals with lesion

(HPT150)

Grade

ь

(c)

c:b/a*100

Significant difference ; * : P \leq 0.05 ** : P \leq 0.01 Test of Chi Square

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

: RAT F344/DuCrj

REP

ANIMAL

SACRIFICED ANIMALS (97W)

REPORT	TYPE: AI	
SEX	: MALE	

Organ		p Name	200 ppm 19 1 2 3 4 (%) (%) (%) (%)	400 ppm 0 1 2 3 4 (%) (%) (%) (%)	800 ppm 0 1 2 3 4 (%) (%) (%) (%)
{Digestive	system)				
liver	bile duct hyperplasia	<pre></pre>	<pre></pre>	() () () ()	() () () ()
	biliary cyst	1 0 0 0 0 (2) (0) (0) (0)	0 0 0 0 0 (0) (0)	(-) (-) (-)	(-) (-) (-)
pancreas	atrophy	5 4 0 0 (10) (8) (0) (0)	(19) 1 1 0 0 (5) (5) (0) (0)	(-) (-) (-)	< 0> (-) (-) (-) (-)
{Urinary sy	vstem)				
kidney	cyst	<pre></pre>	<pre></pre>	(-) (-) (-) (-)	(-) (-) (-)
	deposit of hemosiderin	1 0 0 0 0 (2) (0) (0) (0)	1 1 0 0 (5) (5) (0) (0)	(-) (-) (-)	(-) (-) (-)
	chronic nephropathy	23 16 7 1 (47) (33) (14) (2)	11 6 1 0 (58) (32) (5) (0)	(-) (-) (-) (-)	
Grade (a) b (c) Significant	1: Slight 2: Moderate 3: Ma a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P ≤ 0.0				The second secon

(HPT150)

BAIS3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (97W)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1

SEX : MALE

{Urinary system}		Group Name Control	200 ppm	400 ppm 0	800 ppm 0					
rgan	Findings	No. of Animals on Study 49 Grade 1 2 3 4 (%) (%) (%) (%)	19 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)					
Urinary sys	tem}									
kidney	tubular necrosis	(49) 0 0 0 0 (0) (0) (0) (0)	1 0 0 0 (5) (0) (0) (0)	() () () ()	() () () ()					
	mineralization:papilla	3 0 0 0 0 (6) (6) (0) (0)	2 0 0 0 0 (11) (0) (0) (0)	(-) (-) (-)	(-) (-) (-)					
	mineralization:pelvis	0 1 0 0 (0) (0)	0 0 0 0 0 (0) (0)	(-) (-) (-)	(-) (-) (-) (-)					
	urothelial hyperplasia pelvis	1 0 0 0 0 (2) (0) (0)	0 0 0 0 0 (0) (0)	(-) (-) (-)	(-) (-) (-) (-)					
{Endocrine s	ystem)									
oituitary	angiectasis	(49) 1 0 0 0 (2) (0) (0) (0)	<pre></pre>	< 0> (-) (-) (-) (-)	(-) (-) (-)					
	hyperplasia	4 9 0 0 (8) (18) (0) (0)	3 3 0 0 (16) (16) (0) (0)	(-) (-) (-)	(-) (-) (-)					
thyroid	C-cell hyperplasia	<49> 7 2 0 0 (14) (4) (0) (0)	(19) 1 0 0 0 (5) (0) (0) (0)	(-) (-) (-)	< 0> 					
Grade (a> b (c) Significant	1: Slight 2: Moderate 3 a: Number of animals examined at the s b: Number of animals with lesion c: b / a * 100 difference: *: P \leq 0.05 **: P \leq									

(HPT150)

BAIS3

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

SACRIFICED ANIMALS (97W)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : AI

SEX : MALE

Organ	Findings	Group Name Control No. of Animals on Study 49 Grade 1 2 3 4 (%) (%) (%) (%) (%)	200 ppm 19 1 2 3 4 (%) (%) (%) (%)	400 ppm 0 1 2 3 4 (%) (%) (%) (%)	800 ppm 0 1 2 3 4 (%) (%) (%) (%)
{Endocrine s	system)				
adrenal	cyst	449> 1 0 0 0 (2) (0) (0) (0)	(19) 0 0 0 0 (0) (0) (0) (0)	< 0> () () () ()	< 0>
	hyperplasia:cortical cell	0 0 0 0 0 (0) (0) (0)	1 0 0 0 (5) (0) (0) (0)	(-) (-) (-) (-)	(-) (-) (-)
	hyperplasia:medulla	0 1 0 0 (0) (0)	2 0 0 0 0 (11) (0) (0) (0)	(-) (-) (-) (-)	(-) (-) (-) (-)
	focal fatty change:cortex	2 0 0 0 0 (4) (6) (6)	1 0 0 0	(-) (-) (-)	(-) (-) (-) (-)
{Reproductiv	re system)				
testis	atrophy	<pre></pre>	4 2 0 0 (21) (11) (0) (0)	< 0> (-) (-) (-) (-)	<pre></pre>
	arteritis	15 1 0 0 (31) (2) (0) (0)	5 0 0 0 (26) (0) (0) (0)	(-) (-) (-) (-)	(-) (-) (-) (-)
	interstitial cell hyperplasia	25 2 0 0 (51) (4) (0) (0)	13 2 0 0 (68) (11) (0) (0)	(-) (-) (-)	(-) (-) (-)
Grade <a>> b (c) Significant	1: Slight 2: Moderate 3: Aumber of animals examined at the sb: Number of animals with lesion c: b / a * 100 difference; *: P ≤ 0.05 **: P:				

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SACRIFICED ANIMALS (97W)

		Group Name No. of Animals on Study	Contr 49				200 19		400 ppm 0		800 ppm 0
rgan	Findings	Grade <u>1</u> (%)	(%)	(%)	(%)	(%)	2 (%)	3 4 (%)	1 2 3 (%) (%)	<u>4</u> (%) <u>1</u> (%)	2 3 4
Reproductive	system)										
pididymis	cell debris	5 (10)	<490 0 (0) (0	0 (0)	1 (5) (<19 0 0) (()()()(() () ()
rostate	inflammation	9 (18)	(49) 1 (2) (0	0 (0)	1 (5) (<19 0 0) (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	< 0> (-) (-) (-) (_)	< 0> (-) (-) (-
	hyperplasia	4 (8)	0 (0) (0 0) (0 (0)	1 (5) (1 5) (0 0	(-) (-) (- -) (-)	(-) (-) (-
ammary gl	galactocele	0 (0)	<49) 1 (2) (0	0 (0)	0 (0) (<19 0 0) ((-) (-) (-) (- -) (-)	< 0> (-) (-) (-
Special sense	e organs/appendage)										
ye	cataract	3 (6)	(49) 1 (2) (0	0 (0)	4 (21) (<19 0 0) (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(-) (-) (-) (- -) (-)	< 0> (-) (-) (-
	retinal atrophy	18 (37)	4 (8) (0	0 (0)	8 (42) (3 16) (0 0	(-) (-) (-) (_ _)	 (-) (-) (-

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX : MALE SACRIFICED ANIMALS (97W)

	Group Nam No. of An	e Control imals on Study 49	200 ppm 19	400 ppm O	800 ppm 0
rgan	Findings	<u>1 2 3 4</u> (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)
pecial sens	se organs/appendage}				
rder gl	hyperplasia	49> 1 0 0 0 (2) (0) (0) (0)	<19> 0 0 0 0 0 0 0 0 0 0 0	() () () ()	() () () ()
ısculoskele	etal system)				
ne	osteosclerosis	<49> 0 0 0 0 0 0 0 0 0 0 0 0	<pre></pre>	(-) (-) (-) (-)	< 0> (-) (-) (-) (-)
ade a > b c)	1: Slight 2: Moderate 3: Marked a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 lifference; *: P ≤ 0.05 **: P ≤ 0.01	4: Severe			

APPENDIX L 6

HISTOLOGICAL FINDINGS: NON-NEOPLASTIC LESIONS: SUMMARY

RAT: FEMALE: SACRIFICED ANIMALS

(2-YEAR STUDY)

SEX : FEMALE

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

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

PAGE: 1

		o Name Control of Animals on Study 41	150 ppm 17	300 ppm 2	600 ppm 0
)rgan	Grade		1 2 3 4	1 2 3 4 (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)
Integumentar	y system/appandage)				
skin/app	inflammation	<pre></pre>		0 0 0 0 ? (0) (0) (0) (0)	< 0>
(Respiratory	system)				
asal cavit	mineralization	<pre> <41> 4 0 0 0 (10) (0) (0) (0) </pre>		(2> 1 0 0 0 ? (50) (0) (0) (0)	(-) (-) (-) (-
	eosinophilic change:olfactory epithelium	6 26 7 0 (15) (63) (17) (0		0 2 0 0 ?	(-) (-) (-) (-
	eosinophilic change:respiratory epithelium	21 2 0 0 (51) (5) (0) (0		0 0 0 0 ?	(-) (-) (-) (
	inflammation:foreign body	2 0 0 0 (5)(0)(0)(0)		0 0 0 0 ?	(-) (-) (-) (

(c)

c:b/a * 100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

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

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2

SEX : FEMALE

SACRIFICED ANIMALS (105W)

PAGE: 2

			41		4	1		17		4		1		3	4		1		0		А
Findings		%)			(%)	(%)			(%)	(%)		<u>%</u>)	(%)	(%)	(%)		(%			(%)	(%)
stem)																					
respiratory metaplasia:olfactory epi			0	0	0 0)		(0	0				0	0	0 (0)	?	() (< 0: ~) (· -)	_
respiratory metaplasia:gland			0 0) (0	0 (0)	16 (94)	((1 6) (0	0 (0)	(10	2 10) (0	0 (0)	0 (0)	?	(-) () ())	(
xanthogranuloma			0	0	0 (0)			0	0				1	0	0 (0)	?					
hemorrhage			0	0	0 (0)	1 (6)		1	0	0 (0)			0	0	0 (0)	?	- (-) (_	~	(-
accumulation of foamy cells	(1 2) (0 0) (0 (0)			0 0)	0 (0)			0 0)	0 (0)	0 (0)	?	(-) (- -) (- -)	(
bronchiolar-alveolar cell hyperplasi			0 0) (0	0 0)	0 (0)			0 0)	0 (0)	(0 0) (0 0)	0 (0)	0 (0)	?	(-) (- -) (- -)	- (~
	respiratory metaplasia:olfactory epi respiratory metaplasia:gland xanthogranuloma hemorrhage accumulation of foamy cells	No. of Animals on Study Grade Findings	No. of Animals on Study Grade 1 Findings	No. of Animals on Study 41 2	No. of Animals on Study																

(HPT150)

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

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

SACRIFICED ANIMALS (105W)

REPORT TYPE: A2

ANIMAL

: FEMALE

: RAT F344/DuCrj

Group Name 150 ppm 300 ppm 600 ppm Control No. of Animals on Study 41 17 2 0 Grade 3 3 (%) (%) Findings_ (%) (%) (%) (%) (%) (%) {Hematopoietic system} bone marrow <41> <17> < 2> granulation 0 0 0 0 0 0 0 0 0 ? (5)(0)(0)(0) (0)(0)(0)(0) (0) (0) (0) (0) $(\)\ (\)\ (\)\ (\)$ increased hematopoiesis 5 0 0 6 0 0 0 (12) (0) (0) (0) (-) (-) (-) (35) (0) (0) (0) (50) (0) (0) (0) spleen <41> <17> < 2> congestion 0 0 0 0 0 0 0 0 0 ? (10) (0) (0) (0) (0)(0)(0)(0) (0)(0)(0)(0) (-) (-) (-) deposit of hemosiderin 17 12 0 2 0 0 0 ? (41) (29) (0) (0) (35) (12) (0) (0) (0)(0)(0)(0) (-) (-) (-) extramedullary hematopoiesis 5 0 0 0 2 1 0 0 (12) (0) (0) (0) (12) (6) (0) (0) (0)(0)(0)(0) (-) (-) (-) {Circulatory system} heart <41> <17> myocardial fibrosis 0 0 0 0 0 0 0 0 0 0 ? (7)(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 ; $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square ?: Significant test is not applied, because No. of data in this group is less than 3.

(HPT150)

BAIS3

ANIMAL

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

: RAT F344/DuCrj

REPORT TYPE : A2

SEX : FEMALE SACRIFICED ANIMALS (105W)

PAGE: 4

Organ	Findings	Group Name No. of Animals on Study Grade 1 (%)	Contr 41 2 (%)	3 (%)	<u>4</u> (%)	1 (%)		0 ppm 17 3 (%)	<u>4</u> (%		1 (%)		300 2 2 (%)		<u>4</u> (%)		(1 %)	600 2 (%)	0 ppm 0 3	}	<u>4</u> (%)
{Digestive s	system)																					
stomach	erosion:glandular stomach	1 (2)	(41) 0 (0) (0	0 0)	0 (0)	0	17> 0 (0)	0)	0 (0)			0		?	(-	< - }	0> -		-
liver	herniation	9 (22)	(41) 0 (0) (0	0 0)	l (6)	0	17> 0 (0)	0 (0)	0 (0)		< 2 0 0) (0		?	(- -) (- - -)	0> -	·) (- -)
	angiectasis	0 (0)	0 (0) (0	0 (0)	2 (12)	0 (0)	0 (0)	(0)	0 (0)	(0 0) · (0 0)	0 (0)	?	(- -) ()	- (-	· -) (- -)
	necrosis:focal	0 (0)	0 (0) (0	0 ()	1 (6)	4 (24)		(0	**)	1 (50)		0 0) (0 0)		?		- -) (- -)	(-	•) (- -)
	granulation	14 (34)	5 (12) (2 5) (0 (0)	2 (12)	0 (0)			*	0 (0)		0 0) (0		?	(- -) (- -)	(-	· ·) (- -)
	clear cell focus	0 (0)	1 (2) (0	0 0)	1 (6)	2 (12)	1 (6)	0 (0		0 (0)		2 00) (0 0)		?	(- -) (- -)	- (-	. (- -)

Grade 1 : Slight

3 : Marked

(HPT150)

^{2 :} Moderate

^{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 : $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

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

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

SACRIFICED ANIMALS (105W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

: FEMALE

Group Name 150 ppm 300 ppm 600 ppm Control 41 3 No. of Animals on Study 17

Organ	Grade Findings		1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)	1 2 3 4 (%) (%) (%) (%)
{Digestive	system)				
liver	acidophilic cell focus	(41) 1 0 0 0 (2) (0) (0) (0)	(17) 1 4 0 0 ** (6) (24) (0) (0)	<pre></pre>	() () () ()
	basophilic cell focus	17 2 0 0 (41) (5) (0) (0)	2 3 0 0 * (12) (18) (0) (0)	0 0 0 0 ?	(-) (-) (-) (-)
	vacuolated cell focus	1 0 0 0 0 (2) (0) (0) (0)	2 0 0 0 0 (12) (0) (0) (0)	0 0 0 0 ?	(-) (-) (-) (-)
	bile duct hyperplasia	12 5 1 0 (29) (12) (2) (0)	5 1 0 0 (29) (6) (0) (0)	1 0 0 0 ?	(-) (-) (-) (-)
	cholangiofibrosis	0 0 1 0 (0) (2) (0)	0 0 0 0 0 (0) (0)	0 0 0 0 ?	(-) (-) (-) (-)
	regenerative hyperplasia	0 0 0 0 0 (0) (0)	1 0 0 0 0 (6) (6) (70) (70)	0 0 0 0 ?	(-) () ()
pancreas	atrophy	3 1 0 0 (7) (2) (0) (0)	<17> 1 0 0 0 (6) (0) (0) (0)	<pre></pre>	< 0> (-) (-) (-) (-)

Grade 4 : Severe 1 : Slight 2 : Moderate 3 : Marked

(IIPT150)

BAIS3

< a > a: Number of animals examined at the site

b b: Number of animals with lesion

⁽c) c:b/a * 100

Significant difference ; * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

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

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2

SEX : FEMALE HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

SACRIFICED ANIMALS (105W)

	Findings	Group Name No. of Animals on Study					150 ppm 17							300 ppm 2							600 ppm 0					
Organ		Grade 1 (%)	(%)	3		(%)	ī	<u>1</u> (%)	(%)	:		<u>4</u> (%)		<u>1</u> (%)	2 (%)		3 %)	<u>4</u> (%)			<u>1</u> (%)	(%)		3 (%)		<u>4</u> (%)
Urinary sys	stem)																									
idney	hyaline droplet	1 (2)	0	(41> 0 (0		0	(0 0) (0	17>))) (0			o			0 (0)	?	(-)	(< 0>	, _)	(- >
	deposit of hemosiderin	0 (0)	0 (0)	-		0 0)		0 0) (1 6)) ()	0	(1 50)	0 (0)	(0 0) (0 (0)	?	()	- () (- -)	(- -)
	chronic nephropathy	8 (20)		1 (2			(1 6) (0	(() ()	0	(0	0 (0)	(0 0) (0 (0)	?	(- -)	- (-) (- -)	(- -)
	tubular necrosis	0 (0)				0				((0 (0)	(0 (0)	0 (0)	(0 0) (0 (0)	?	()	_ (;) (- -)	(- -)
	papillary necrosis	0 (0)				0 0)	(2	4 24) (0 0)	(())) (0 ** (0)	(1 50)	1 (50)	(0 0) (0 (0)	?	(- -)	- (-) (- -)	(- -)
	mineralization:papilla	7 (17)	0 (0)			0		3 .8) (0 0)) ()	0 (0)	(1	2 00)	0 (0)	(0 0) (?	(-)	(-) (-)	(- -)
	mineralization:pelvis	6 (15)	_	0		0 0)			1 6)			0			0 (0)		0 0) (?	(- -)	- (-) (- -)	(-)

^{3 :} Marked Grade 1 : Slight 2 : Moderate 4 : Severe

(HPT150)

< a > a : Number of animals examined at the site

ь b: Number of animals with lesion

⁽c) c:b/a*100

Significant difference : $*: P \le 0.05$ **: $P \le 0.01$ Test of Chi Square

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

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

SACRIFICED ANIMALS (105W)

REPORT TYPE : A2

SEX : FEMALE

PAGE: 7

		Group Name No. of Animals on Study Grade 1	Control 41 2 3	4	150 ppm 17 1 2 3 4	300 ppm 2 1 2 3 4	600 ppm 0 1 2 3 4
Organ	Findings	(%)	(%) (%)	(%)	(%) (%) (%)	(%) (%) (%) (%)	(%) (%) (%)
{Urinary syst	tem}						
kidney	mineralization:cortex	1 (2) (<41> 0 0 0) (0)	0 (0)	0 0 0 0 (0) (0) (0) (0)	<pre></pre>	() () () ()
	eosinophilic droplet:proximal tubule	(5) (0 0	0 (0)	1 2 0 0 (6) (12) (0) (0)	1 0 0 0 ? (50) (0) (0)	(-) (-) (-) (-)
(Endocrine sy	ystem)						
oituitary	angiectasis	3 (7) (<41> 0 0 0) (0)	0 (0)	3 0 0 0 (18) (0) (0) (0)	(2> 0 0 0 0 0 ? (0) (0) (0) (0)	(-) (-) (-)
	cyst	12 (29) (2 0 5) (0)	0 (0)	2 0 0 0 0 (12) (0) (0) (0)	1 0 0 0 ? (50) (0) (0) (0)	(-) (-) (-) (-)
	hyperplasia	2 (5) (4 0 10) (0)	0 (0)	1 0 0 0 0 (6) (6) (0) (0)	0 0 0 0 ?	(-) (-) (-)
	1: Slight 2: Moderate 3 a: Number of animals examined at the s b: Number of animals with lesion c: b / a * 100 difference: *: P ≤ 0.05 **: P: ificant tost is not applied, because No. of	≤ 0.01 Test of Chi Square					

(HPT150)

SEX

ANIMAL : RAT F344/DuCrj

REPORT TYPE: A2 : FEMALE HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

SACRIFICED ANIMALS (105W)

	No	oup Name Control . of Animals on Study 41 ade 1 2 3 4	150 ppm 17 1 2 3 4	300 ppm 2 1 2 3 4	600 ppm 0 1 2 3 4
rgan	Findings	(%) (%) (%) (%)	(%) (%) (%)	(%) (%) (%) (%)	(%) (%) (%) (%)
(Endocrine	system)				
thyroid	C-cell hyperplasia	4 2 0 0 (10) (5) (0) (0)	<pre></pre>	0 0 0 0 ?	() () () ()
drenal	peliosis-like lesion	<41> 7 2 0 0 (17) (5) (0) (0)	<17> 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 ? (0) (0) (0) (0)	< 0> (-) (-) (-) (-)
	hyperplasia:cortical cell	1 2 0 0 (2) (5) (0) (0)	1 0 0 0 0 (6) (6) (70) (70)	0 0 0 0 ?	(-) (-) (-)
	hyperplasia∶modulla	1 0 0 0 0 (2) (0) (0) (0)	1 0 0 0 0 (6) (6) (7)	0 0 0 0 ?	(-) (-) (-)
	focal fatty change:cortex	9 2 0 0 (22) (5) (0) (0)	1 0 0 0 0 (6) (6) (0) (0)	0 0 0 0 ?	(-) (-) (-) (-)
Reproduct	ive system)				
vary	cyst	(41) 0 0 0 0 (0) (0) (0) (0)	<17> 1 0 0 0 (6) (0) (0) (0)	<pre></pre>	< 0> (-) (-) (-) (-)
Grade (a > b (c)	1: Slight 2: Modorate 3: a : Number of animals examined at the site b : Number of animals with lesion c : b / a * 100	Marked 4 : Severe			

(HPT150)

BAIS3

ANIMAL : RAT F344/DuCrj

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

SACRIFICED ANIMALS (105W)

REPORT TYPE : A2 SEX : FEMALE

Organ	Findings	Group Name No. of Animals on Study Grade 1 (%)	Contro 41 2 (%)	3 4 (%) (%)	1 (%)	150 p 17 2 (%)	3 4 (%) (%)	1 (%)		m 3 4 (%)	1	600 ppm 0 2 3 4 (%) (%) (%)
{Reproductive	system)											
uterus	dilatation	(0)	<41> 1 (2) (0 0	0 (0)	<17> 0 (0) (0 0	0 (0)	< 2> 0 (0) (0 0 ? 0) (0)	() (< 0>
	cystic endometrial hyperplasia	1 (2)	2 (5) (0 0	i (6)	1 (6) (0 0 0 0) (0)	0 (0)	0 (0) (0 0 ? 0) (0)	(-) (-) (-) (-)
mammary gl	hyperplasia	0 (0)	<41> 2 (5) (0 0	0 (0)	<17> 0 (0) (0 0	0 (0)	< 2> 0 (0) (0 0 ? 0) (0)	- (-) (< 0> -) (-) (-)
{Special sens	e organs/appendage}											
eye	cataract	2 (5)	<11> 1 (2) (0 0	1 (6)	<17> 0 (0) (0 0	0 (0)	< 2> 0 (0) (0 0 ? 0) (0)	_ (-) (< 0> -) (-) (-)
	retinal atrophy	30 (73)	9 (22) (1 0 2) (0)	14 (82)	2 (12) (0 0	2 (100)		0 0 ?		-) (-) (-)

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

(HPT150)

BAIS3

a: Number of animals examined at the site

ь b: Number of animals with lesion

⁽c) c : b / a * 100

Significant difference : * : $P \le 0.05$ ** : $P \le 0.01$ Test of Chi Square

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

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

SACRIFICED ANIMALS (105W)

REPORT TYPE : A2

SEX : FEMALE

PAGE: 10

	No	oup Name of Animals on Study	Control 41			150 17					0 ppm 2				600 p		
)rgan	Findings	ade <u>1</u> (%)	2 3 (%) (%)	(%)	(%)	(%)	(%)	(%)	<u>1</u> (%)	2 (%)	(%)	(%)		(%)	2 (%)	(%)	(%)
{Special sens	e organs/appendage)																
eye	keratitis	0 (0) (<41> 0 0 0) (0)	0 (0)	1 (6)	<17 0 (0) (0 0)	0 (0)	0	2> 0 (0)	0 ? (0)	(- (< 02 - -) (> -) (. •)
darder gl	lymphocytic infiltration	. 3 (7) (<41> 0 0 0) (0)	0 (0)	0 (0)	<17 0 (0) (0		0 (0)	0	2> 0 (0)	0 ? (0)		- -) (< 0> - -) (> - -) (_)
nasolacr d	inflammation	5 (12)	<41> 0 0 0) (0)	0 (0)	0 (0)	<17 0 (0) (0	0 0)		0	2> 0 (0)	0 ? (0)		- -) (< 0) - -) (- -) (- -)
Musculoskele	tal system)																
oone	osteosclerosis	2 (5) (<41> 1 0 2) (0)	0 (0)	0 (0)	<17 [(6) (0	0	0 (0)	0	2> 0 (0)	0 ? (0)	(- -) (< 0> - -) (> - -) (_ _)
	1: Slight 2: Moderate 3: a: Number of animals examined at the site b: Number of animals with lesion c: b / a * 100 ifference: *: P ≤ 0.05 **: P ≤ 0 ficant test is not applied, because No. of d																

(HPT150)

BAIS3

APPENDIX M 1

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

RAT: MALE

(2-YEAR STUDY)

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

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 SEX : MALE

: MALE PAGE : 1

Time-relatedWeeks	Items	Group Name	Control	200 ppm	400 ppm	800 ppm	
0 - 25	NO. OF EXAMINED ANIMALS		0	0	0	1	
	NO. OF ANIMALS WITH TUMORS NO. OF ANIMALS WITH SINGLE TUMORS NO. OF ANIMALS WITH MULTIPLE TUMORS		0 0 0	0 0	0 0	1 1 0	
	NO. OF BENIGN TUMORS NO. OF MALIGNANT TUMORS NO. OF TOTAL TUMORS		0 0 0	0 0 0	0 0 0	0 1 1	
26 - 45	NO. OF EXAMINED ANIMALS		0	1	2	13	
	NO. OF ANIMALS WITH TUMORS NO. OF ANIMALS WITH SINGLE TUMORS NO. OF ANIMALS WITH MULTIPLE TUMORS		0 0 0	0 0 0	2 2 0	13 8 5	
	NO. OF BENIGN TUMORS NO. OF MALIGNANT TUMORS NO. OF TOTAL TUMORS		0 0 0	0 0 0	0 2 2	4 14 18	
46 - 65	NO. OF EXAMINED ANIMALS		0	i	13	33	
	NO. OF ANIMALS WITH TUMORS NO. OF ANIMALS WITH SINGLE TUMORS NO. OF ANIMALS WITH MULTIPLE TUMORS		0 0 0	0 0 0	13 4 9	32 11 21	
	NO. OF BENIGN TUMORS NO. OF MALIGNANT TUMORS NO. OF TOTAL TUMORS		0 0 0	0 0 0	9 16 25	9 57 66	
66 - 85	NO. OF EXAMINED ANIMALS		1	10	30	3	•
	NO. OF ANIMALS WITH TUMORS NO. OF ANIMALS WITH SINGLE TUMORS NO. OF ANIMALS WITH MULTIPLE TUMORS		0 0 0	10 2 8	30 8 22	3 0 3	
	NO. OF BENIGN TUMORS NO. OF MALIGNANT TUMORS NO. OF TOTAL TUMORS		0 0 0	8 12 20	23 49 72	1 6 7	

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

ANIMAL : RA

: RAT F344/DuCrj

REPORT TYPE : A1 SEX : MALE

PAGE: 2

ime-related Weeks	Items	Group Name	Control	200 ppm	400 ppm	800 ppm	
86 - 96	NO. OF EXAMINED ANIMALS		0	19	5	0	
	NO. OF ANIMALS WITH TUMORS		0	19	5	0	
	NO. OF ANIMALS WITH SINGLE TUMORS		0	3	. 2	0	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	16	3	0	
	NO. OF BENIGN TUMORS		0	26	3	0	
	NO. OF MALIGNANT TUMORS		0	23	8	0	
	NO. OF TOTAL TUMORS		0	49	11	0	
97 - 97	NO. OF EXAMINED ANIMALS		49	19	0	0	
	NO. OF ANIMALS WITH TUMORS		47	19	0	0	
	NO. OF ANIMALS WITH SINGLE TUMORS		21	2	0	0	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		26	17	0	0	
	NO. OF BENIGN TUMORS		75	29	0	0	
	NO. OF MALIGNANT TUMORS		6	18	0	0	
	NO. OF TOTAL TUMORS		81	47	0	0	
0 - 97	NO. OF EXAMINED ANIMALS		50	50	50	50	
	NO. OF ANIMALS WITH TUMORS		47	48	50	49	
	NO. OF ANIMALS WITH SINGLE TUMORS		21	7	16	20	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		26	41	34	29	
	NO. OF BENIGN TUMORS		75	63	35	14	
	NO. OF MALIGNANT TUMORS		6	53	75	78	
	NO. OF TOTAL TUMORS		81	116	110	92	

(HPT070)

BAIS3

APPENDIX M 2

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

RAT: FEMALE

(2-YEAR STUDY)

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

STUDY NO. : 0303

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 SEX : FEMALE

`ime-related Weeks	Items	Group Name	Control	150 ррт	300 ppm	600 ppm	
0 - 25	NO. OF EXAMINED ANIMALS		0	0	0	0	
	NO. OF ANIMALS WITH TUMORS		0	0	0	0	
	NO. OF ANIMALS WITH SINGLE TUMORS		0	0	0	0	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	0	
	NO. OF BENIGN TUMORS		0	0	0	0	
	NO. OF MALIGNANT TUMORS		0	0	0	0	
	NO. OF TOTAL TUMORS		0	0	0	0	
26 - 45	NO. OF EXAMINED ANIMALS		0	0	1	3	
	NO. OF ANIMALS WITH TUMORS		0	0	1	2	
	NO. OF ANIMALS WITH SINGLE TUMORS		0	0	1	1	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	1	
	NO. OF BENIGN TUMORS		0	0	0	1	
	NO. OF MALIGNANT TUMORS		0	0	1	2	
	NO. OF TOTAL TUMORS		0	0	1	3	
46 - 65	NO. OF EXAMINED ANIMALS		1	0 .	6	19	
	NO. OF ANIMALS WITH TUMORS		0	0	5	18	
	NO. OF ANIMALS WITH SINGLE TUMORS		0	0	4	3	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	1	15	
	NO. OF BENIGN TUMORS		0	0	3	13	
	NO. OF MALIGNANT TUMORS		0	0	3	23	
	NO. OF TOTAL TUMORS		0	0	6	36	
66 - 85	NO. OF EXAMINED ANIMALS		2	5	24	27	
	NO. OF ANIMALS WITH TUMORS		2	5	24	27	
	NO. OF ANIMALS WITH SINGLE TUMORS		2	2	7	2	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	3	. 17	25	
	NO. OF BENIGN TUMORS		1	2	27	25	
	NO. OF MALIGNANT TUMORS		1	6	27	40	
	NO. OF TOTAL TUMORS		2	8	54	65	

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

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2 SEX : FEMALE

PAGE: 4

Time-related Weeks	Items	Group Name	Control	150 ppm	300 ppm	600 ppm	
86 - 104	NO. OF EXAMINED ANIMALS		6	28	17	1	
	NO. OF ANIMALS WITH TUMORS		6	27	17	1	
	NO. OF ANIMALS WITH SINGLE TUMORS		3	8	3	0	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		3	19	14	1	
	NO. OF BENIGN TUMORS		5	37	22	0	
	NO. OF MALIGNANT TUMORS		4	21	25	3	
	NO. OF TOTAL TUMORS		9	58	47	3	
105 - 105	NO. OF EXAMINED ANIMALS		41	17	2	0	
	NO. OF ANIMALS WITH TUMORS		29	17	2	0	
	NO. OF ANIMALS WITH SINGLE TUMORS		18	3	1	Õ	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		11	14	1	0	
	NO. OF BENIGN TUMORS		38	27	3	0	
	NO. OF MALIGNANT TUMORS		3	12	2	0	
	NO. OF TOTAL TUMORS		41	39	5	0	
0 - 105	NO. OF EXAMINED ANIMALS		50	50	50	50	
	NO. OF ANIMALS WITH TUMORS		37	49	49	48	
	NO. OF ANIMALS WITH SINGLE TUMORS		23	13	16	6	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		14	36	33	42	
	NO. OF BENIGN TUMORS		44	66	55	39	
	NO. OF MALIGNANT TUMORS		8	39	58	68	
	NO. OF TOTAL TUMORS		52	105	113	107	

(HPT070)

APPENDIX N 1

HISTOLOGICAL FINDINGS: NEOPLASTIC LESIONS: SUMMARY

RAT: MALE: ALL ANIMALS

(2-YEAR STUDY)

HISTOLOGICAL FINDINGS : NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

ALL ANIMALS (0- 97W)

REPORT TYPE : A1

SEX : MALE

PAGE: 1

Organ	Findings	Group Name No. of animals on Study	Control 50	200 ppm 50	400 ppm 50	800 ppm 50
{Integumentar	y system/appandage]					
skin/app	keratoacanthoma		<50> 2 (4%)	<50> 2 (4%)	<50> 0 (0%)	<50> 1 (2%)
subcutis	fibroma		<50> 3 (6%)	<50> 2 (4%)	<50> 0 (0%)	<50> 0 (0%)
{Respiratory	system)					
nasal cavit	adenoma		<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)
	hemangioma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	sarcoma:NOS		0 (0%)	1 (2%)	5 (10%)	1 (2%)
	ethesioneuroepithelioma		0 (0%)	0 (0%)	1 (2%)	6 (12%)
lung	bronchiolar-alveolar adenoma		<50> 2 (4%)	<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)
	adenosquamous carcinoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	bronchiolar-alveolar carcinoma		1 (2%)	0 (0%)	0 (0%)	0 (0%)
	hemangiosarcoma		0 (0%)	0 (0%)	2 (4%)	1 (2%)
{Hematopoieti	c system)					
spleen	mononuclear cell leukemia		<50> 2 (4%)	<50> 1 (2%)	<50> 1 (2%)	<50> 0 (0%)
(a)	a: Number of animals examined at the site b: Number of animals with neoplasm c	: b / a * 100				

(HPT085)

HISTOLOGICAL FINDINGS: NEOPLASTIC LESIONS (SUMMARY) ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1 SEX : MALE

m)									
am't									
squamous cell papilloma			<50> (0%)	1	<50> (2%)	0	<50> (0%)	0	<50> (0%)
аденоша			<50> (2%)	0	<50> (0%)	0	<50> (0%)	0	<50> (0%)
hopatocellular adenoma			<50> (2%)	10	<50> (20%)	10	<50> (20%)	9	<50> (18%)
hemangiosarcoma		0	(0%)	25	(50%)	34	(68%)	43	(86%)
hepatocellular carcinoma		0	(0%)	22	(44%)	24	(48%)	18	(36%)
islet cell adenoma		0	<50> (0%)	1	<50> (2%)	1	<50> (2%)	0	<50> (0%)
am}									
adenoma		16	<50> (32%)	9	<50> (18%)	6	<50> (12%)	0	<50> (0%)
C-cell adenoma	·		<50> (14%)	4	<50> (8%)	2	<50> (4%)	1	<50> (2%)
follicular adenoma		0	(0%)	1	(2%)	0	(0%)	0	(0%)
C-cell carcinoma		1	(2%)	1	(2%)	0	(0%)	0	(0%)
pheochromocytoma		1	<50> (2%)	0	<50> (0%)	0	<50> (0%)	0	<50> (0%)
cortical adenoma		1	(2%)	0	(0%)	0	(0%)	0	(0%)
	squamous cell papilloma adenoma hepatocellular adenoma hemangiosarcoma hepatocellular carcinoma islet cell adenoma em) adenoma C-cell adenoma follicular adenoma pheochromocytoma cortical adenoma	adenoma hopatocellular adenoma hemangiosarcoma hepatocellular carcinoma islet cell adenoma em) adenoma C-cell adenoma follicular adenoma C-cell carcinoma pheochromocytoma	adenoma 1 hepatocellular adenoma 1 hemangiosarcoma 0 hepatocellular carcinoma 0 islet cell adenoma 0 am) adenoma 16 C-cell adenoma 7 follicular adenoma 0 C-cell carcinoma 1	squamous cell papilloma 0 (0%) adenoma 1 (2%) hopatocellular adenoma 1 (2%) hemangiosarcoma 0 (0%) hepatocellular carcinoma 0 (0%) islet cell adenoma 0 (0%) adenoma 16 (32%) C-cell adenoma 7 (14%) follicular adenoma 0 (0%) C-cell carcinoma 1 (2%) pheochromocytoma 1 (2%)	squamous cell papilloma 0 (0%) 1 adenoma 1 (2%) 0 hepatocellular adenoma 1 (2%) 10 hemangiosarcoma 0 (0%) 25 hepatocellular carcinoma 0 (0%) 22 islet cell adenoma 0 (0%) 1 am) 3 550> 3 C-cell adenoma 7 (14%) 4 follicular adenoma 0 (0%) 1 C-cell carcinoma 1 (2%) 1 pheochromocytoma 1 (2%) 0	squamous cell papilloma 0 (0%) 1 (2%) 500 5500	squamous cell papilloma 0 (0%) 1 (2%) 0 adenoma 1 (50) (50) (50) 0 hepatocellular adenoma 1 (2%) 10 (20%) 10 hemanigiosarcoma 0 (0%) 25 (50%) 34 hepatocellular carcinoma 0 (0%) 22 (44%) 24 islet cell adenoma 0 (0%) 1 (2%) 1 amb 30 (0%) 1 (2%) 50> 60> C-cell adenoma 7 (14%) 4 (8%) 2 follicular adenoma 7 (14%) 4 (8%) 2 follicular adenoma 1 (2%) 1 (2%) 0 pheochromocytoma 1 (2%) 1 (2%) 0	squamous cell papilloms 0 (0%) 1 (2%) 0 (0%) adenous 1 (2%) 0 (0%) 0 (0%) hopatocellular adenoma 1 (2%) 0 (0%) 10 (20%) hemangiosarcoma 0 (0%) 25 (50%) 34 (68%) hepatocellular carcinoma 0 (0%) 25 (50%) 34 (68%) islet cell adenoma 0 (0%) 22 (44%) 24 (48%) adenoma 1 (50) 50) 50) 50) islet cell adenoma 1 (50) 50) 50) 50) adenoma 16 (32%) 9 (18%) 6 (12%) ccell adenoma 7 (14%) 4 (8%) 2 (4%) d-cell adenoma 7 (14%) 4 (8%) 0 (0%) d-cell adenoma 1 (2%) 0 (0%) 0 (0%)	squamous cell papilloma 0 (0%) 1 (2%) 0 (0%) 0 (0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0%) 0 0 0%) 0 0 0%) 0 0 0 0%) 0

HISTOLOGICAL FINDINGS : NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

ALL ANIMALS (0- 97W)

REPORT TYPE : A1

SEX : MALE

rgan		np Name Control of animals on Study 50	200 ppm 50	400 ppm 50	800 ppm 50
Endocrine sys	stem)				
drenal	pheochromocytoma:malignant	<50> 1 (2%)	<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)
Reproductive	system)				
estis	interstitial cell tumor	<50> 39 (78%)	<50> 31 (62%)	<50> 13 (26%)	<50> 0 (0%)
rep/cli gl	adenoma	<50> 1 (2%)	<50> 2 (4%)	<50> 2 (4%)	<50> 0 (0%)
Special sense	e organs/appendage)				
ye	melanoma	<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)
ymbal gl	squamous cell carcinoma	<50> 1 (2%)	<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)
Body cavities	s)				
ediastinum	sarcoma:NOS	<50> 0 (0%)	<50> 1 (2%)	<50> 2 (4%)	<50> 3 (6%)
eritoneum	hemangioma	<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)
	mesothelioma	0 (0%)	0 (0%)	1 (2%)	0 (0%)
	hemangiosarcoma	0 (0%)	0 (0%)	0 (0%)	1 (2%)
mesenterium	hemangioma	<50> 0 (0%)	<50> 0 (0%)	<50> o (o%)	<50> 1 (2%)
<a>> (c)	a : Number of animals examined at the site b : Number of animals with neoplasm c : b / a * 100				

HISTOLOGICAL FINDINGS : NEOPLASTIC LESIONS (SUMMARY)

: RAT F344/DuCrj

ALL ANIMALS (0- 97W)

REPORT TYPE : A1 : MALE SEX

ANIMAL

200 ppm 400 ppm Group Name Control 800 ppm Findings_ No. of animals on Study 50 Organ__ 50 50 50 (Body cavities) mesenterium <50> <50> <50> <50> hemangiosarcoma 0 (0%) 0 (0%) 2 (4%) 2 (4%) adipose ⟨50⟩ <50> <50> <50> hemangiosarcoma 0 (0%) 2 (4%) 0 (0%) 3 (6%) (a) a: Number of animals examined at the site b (c) b: Number of animals with neoplasm c:b/a*100 (IIPT085)

BAIS3

APPENDIX N 2

HISTOLOGICAL FINDINGS: NEOPLASTIC LESIONS: SUMMARY

RAT: FEMALE: ALL ANIMALS

(2-YEAR STUDY)

HISTOLOGICAL FINDINGS : NEOPLASTIC LESIONS (SUMMARY)

ALL ANIMALS (0-105W)

REPORT TYPE : A2

SEX : FEMALE

ANIMAL : RAT F344/DuCrj

rgan	Findings	Group Name No. of animals on Study	Control 50	150 ppm 50	300 ppm 50	600 ppm 50
Integumentar	y system/appandage)					
ubcutis	fibroma		<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)
	schwannoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
	fibrosarcoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	sarcoma:NOS		0 (0%)	0 (0%)	1 (2%)	0 (0%)
	carcinosarcoma		1 (2%)	0 (0%)	0 (0%)	0 (0%)
Respiratory	system)					
asal cavit	sarcoma:NOS		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<50> 1 (2%)
rachea	carcinoid tumor		<50> 0 (0%)	<50> 1 (2%)	<49> 0 (0%)	<50> 0 (0%)
	sarcoma:NOS		0 (0%)	1 (2%)	1 (2%)	0 (0%)
ung	hemangiosarcoma		<50> 0 (0%)	<50> 2 (4%)	<50> 0 (0%)	<50> 0 (0%)
Hematopoieti	c system)					
ymph node	malignant lymphoma		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)
oleen	mononuclear cell leukemia		<50> 4 (8%)	<50> 11 (22%)	<50> 6 (12%)	<50> 2 (4%)
<a>> (c)	a: Number of animals examined at the site b: Number of animals with neoplasm c:b/a*1	00				

HISTOLOGICAL FINDINGS : NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

ALL ANIMALS (0-105W)

REPORT TYPE : A2

SEX : FEMALE

organ	Findings	Group Name No. of animals on Study	Coi	ntrol 50	15	50 ppm	30	0 ppm 50	60	0 ррт 50
Digestive sys	tem]									
oral cavity	squamous cell papilloma		0	<50> (0%)	1	<50> (2%)	0	<50> (0%)	0	<50> (0%)
alivary gl	adenoma		0	<50> (0%)	0	<50> (0%)	0	<50> (0%)	1	<50> (2%)
iver	hepatocellular adenoma		1	<50> (2%)	30	<50> (60%)	31	<50> (62%)	33	<50> (66%)
	hemangiosarcoma		0	(0%)	15	(30%)	27	(54%)	41	(82%)
	hepatocellular carcinoma		0	(0%)	5	(10%)	16	(32%)	21	(42%)
	Ito-cell tumor:malignant		0	(0%)	1	(2%)	0	(0%)	0	(0%)
ancreas	islet cell adenoma		0	<50> (0%)	1	<50> (2%)	0	<50> (0%)	0	<50> (0%)
Jrinary syste	on)									
rin bladd	transitional cell papilloma		Ö	<50> (0%)	1	<50> (2%)	0	<50> (0%)	0	<50> (0%)
Indocrine sys	tom)									
ituitary	adenoma		16	<50> (32%)	15	<49> (31%)	9	<50> (18%)	1	<50> (2%)
	adenocarcinoma		0	(0%)	2	(4%)	0	(0%)	0	(0%)
hyroid	C-cell adenoma		5	<50> (10%)	2	<50> (4%)	2	<48> (4%)	0	<50> (0%)
<a>> (c)	a: Number of animals examined at the site b: Number of animals with neeplasm c: b/a*	100								· · · · · ·

(HPT085)

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HISTOLOGICAL FINDINGS : NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

ALL ANIMALS (0-105W)

REPORT TYPE : A2 SEX : FEMALE

rgan		of animals on Study	Control 50	150 ppm 50	300 ppm 50	600 ppm 50
Endocrine sy	stem)					
hyroid			<50>	<50>	<48>	<50>
,	follicular adenoma		1 (2%)	0 (0%)	1 (2%)	0 (0%)
	C cell carcinoma		1 (2%)	0 (0%)	0 (0%)	0 (0%)
drenal			<50>	<50>	<50>	<50>
	pheochromocytoma		0 (0%)	2 (4%)	0 (0%)	0 (0%)
	cortical adenocarcinoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
{Reproductive	system)					
ovary			<50>	<50>	<50>	<50>
	hemangioma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
iterus			<50>	<50>	<50>	<50>
	endometrial stromal polyp		10 (20%)	4 (8%)	9 (18%)	2 (4%)
	endometrial stromal sarcoma		1 (2%)	0 (0%)	0 (0%)	1 (2%)
manmary gl			<50>	<50>	<50>	<50>
	fibroma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
	fibroadenoma		8 (16%)	5 (10%)	1 (2%)	1 (2%)
	adenocarcinoma		1 (2%)	0 (0%)	1 (2%)	1 (2%)
prep/cli gl			<50>	<50>	<50>	<50>
	adenoma		1 (2%)	0 (0%)	2 (4%)	0 (0%)
Special sens	e organs/appendage)					
eye			<50>	<50>	<50>	<50>
	me l anoma		2 (4%)	0 (0%)	0 (0%)	0 (0%)
<a>><a><a><a><a><a><a><a><a><a><a><a><a>	a: Number of animals examined at the site b: Number of animals with neoplasm c: b/a*100					

HISTOLOGICAL FINDINGS : NEOPLASTIC LESIONS (SUMMARY)

ANIMAL : RAT F344/DuCrj

ALL ANIMALS (0-105W)

REPORT TYPE : A2

SEX : FEMALE

Organ	Findings	Group Name No. of animals on Study	Control 50	150 ppm 50	300 ppm 50	600 ppm 50
(Special sens	se organs/appendage)					
Zymbal gl	adenoma		<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)
	squamous cell carcinoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
{Body cavitie	es)					
peri toneum	hemangiosarcoma		<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)
retroperit	hemangiosarcoma		<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)
adipose	hemangiosarcoma		<50> 0 (0%)	<50> 0 (0%)	<50> 2 (4%)	<50> 0 (0%)
(a) b (c)	a: Number of animals examined at the site b: Number of animals with neoplasm c: b/a*1	00				
(HPT085)						

(HPT085)

BAIS3

APPENDIX O 1

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

RAT: MALE: (2-YEAR STUDY)

STUDY No. : 0303

ANIMAL : RAT F344/DuCrj

SEX : MALE

Group Name Control 200 ppm 400 ppm 800 ppm SITE : subcutis TUMOR : fibroma Tumor rate Overall rates(a) 3/50(6.0) 2/50(4.0) 0/50(0.0) 0/50(0.0) Adjusted rates(b) 6.12 2.94 0.0 0.0 3/49(6.1) Terminal rates(c) 0/19(0.0) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = 0.1911Prevalence method(d) P = 0.7877Combined analysis(d) P = 0.6074Cochran-Armitage test(e) P = 0.0387*Fisher Exact test(e) P = 0.5000P = 0.1212P = 0.1212SITE : nasal cavity TUMOR : sarcoma: NOS Tumor rate Overall rates(a) 0/50(0.0) 1/50(2.0) 5/50(10.0) 1/50(2.0) Adjusted rates(b) 0.0 33.33 0.0 8.33 Terminal rates(c) 0/49(0.0) 0/19(0.0) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = 0.0929Prevalence method(d) P = 0.0023**Combined analysis(d) P = 0.0017**Cochran-Armitage test(e) P = 0.4744Fisher Exact test(e) P = 0.5000P = 0.0281*P = 0.5000SITE : nasal cavity TUMOR : ethesioneuroepithelioma Tumor rate Overall rates(a) 0/50(0.0) 0/50(0.0) 1/50(2.0) 6/50(12.0) Adjusted rates (b) 0.0 0.0 2.86 30.00 0/49(0.0) Terminal rates(c) 0/19(0.0) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = 0.0023**?

P = 0.5000

P = N.C.

(HPT360A)

Prevalence method(d)

Combined analysis(d)

Fisher Exact test(e)

Cochran-Armitage test(e)

P = 0.0001**

P < 0.0001**

P = 0.0003**

P = 0.0133*

PAGE:

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BAIS3

STUDY No. : 0303

ANIMAL : RAT F344/DuCri

SEX : MALE

(HPT360A)

Group Name Control 200 ppm 400 ppm 800 ppm SITE : liver TUMOR : hepatocellular adenoma Tumor rate Overall rates(a) 1/50(2.0) 10/50 (20.0) 10/50(20.0) 9/50(18.0) Adjusted rates(b) 2.04 28.00 25.00 22.22 Terminal rates(c) 1/49(2.0) 4/19(21.1) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = -----Prevalence method(d) P = 0.0155*Combined analysis(d) P = ----Cochran-Armitage test(e) P = 0.0707Fisher Exact test(e) P = 0.0039**P = 0.0039**P = 0.0078**SITE : liver TUMOR : hemangiosarcoma Tumor rate Overall rates(a) 0/50(0.0) 25/50 (50.0) 34/50 (68.0) 43/50(86.0) Adjusted rates(b) 0.0 36.84 16.67 100.00 Terminal rates(c) 0/49(0.0) 7/19(36.8) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P < 0.0001** Prevalence method(d) P = 0.0010**Combined analysis(d) P < 0.0001** Cochran-Armitage test(e) P < 0.0001** Fisher Exact test(e) P < 0.0001** P < 0.0001** P < 0.0001** SITE : liver TUMOR : hepatocellular carcinoma Tumor rate Overall rates(a) 0/50(0.0) 22/50(44.0) 24/50(48.0) 18/50(36.0) Adjusted rates (b) 0.0 47, 37 100.00 100.00 0/49(0.0) Terminal rates(c) 9/19(47.4) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P < 0.0001** Prevalence method(d) P < 0.0001** Combined analysis(d) P < 0.0001**? Cochran-Armitage test(e) P = 0.0021**Fisher Exact test(e) P < 0.0001** P < 0.0001** P < 0.0001**

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BAIS3

STUDY No. : 0303

: RAT F344/DuCrj ANIMAL

SEX : MALE

Group Name Control 200 ppm 400 ppm 800 ppm SITE : liver TUMOR : hemangioma, hemangiosarcoma Tumor rate Overall rates(a) 0/50(0.0) 25/50 (50.0) 34/50(68,0) 43/50 (86.0) Adjusted rates(b) 0.0 36.84 16.67 100.00 Terminal rates(c) 0/49(0.0) 7/19(36.8) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P < 0.0001** Prevalence method(d) P = 0.0010**Combined analysis(d) P < 0.0001** Cochran-Armitage test(e) P < 0.0001** Fisher Exact test(e) P < 0.0001** P < 0,0001** P < 0.0001** SITE : liver TUMOR : hepatocellular adenoma, hepatocellular carcinoma Tumor rate Overall rates(a) 1/50(2.0) 31/50(62.0) 29/50(58.0) 23/50 (46.0) Adjusted rates(b) 2.04 70.83 100.00 100.00 Terminal rates(c) 1/49(2.0) 13/19(68.4) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P < 0.0001** Prevalence method(d) P < 0.0001** Combined analysis(d) P < 0.0001** Cochran-Armitage test(e) P = 0.0010**Fisher Exact test(e) P < 0.0001** P < 0.0001** P < 0.0001** SITE : pituitary gland TUMOR : adenoma Tumor rate Overall rates(a) 16/50(32.0) 9/50(18.0) 6/50(12.0) 0/50(0.0) Adjusted rates(b) 32.65 26, 32 12.12 0.0 Terminal rates(c) 16/49(32.7) 5/19(26.3) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = 0.1956Prevalence method(d) P = 0.6539Combined analysis(d) P = 0.4718Cochran-Armitage test(e) P < 0.0001** Fisher Exact test(e) P = 0.0826P = 0.0142*P < 0.0001** (HPT360A)

STUDY No. : 0303

ANIMAL : RAT F344/DuCrj

SEX : MALE

Group Name Control 200 ppm 400 ppm 800 ppm SITE : pituitary gland TUMOR : adenoma, adenocarcinoma Tumor rate Overall rates(a) 16/50(32.0) 9/50(18.0) 6/50(12.0) 0/50(0.0) Adjusted rates(b) 32, 65 26, 32 12.12 0.0 Terminal rates(c) 16/49(32.7) 5/19(26.3) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = 0.1956Prevalence method(d) P = 0.6539Combined analysis(d) P = 0.4718P < 0.0001** Cochran-Armitage test(e) Fisher Exact test(e) P = 0.0826P = 0.0142*P < 0.0001** SITE : thyroid TUMOR : C-cell adenoma Tumor rate Overall rates(a) 7/50(14.0) 4/50(8,0) 2/50(4.0) 1/50(2.0) Adjusted rates(b) 14.29 13.79 9.52 2, 78 Terminal rates(c) 7/49(14.3) 2/19(10.5) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = -----Prevalence method(d) P = 0.2895Combined analysis(d) P = -----Cochran-Armitage test(e) P = 0.0192*Fisher Exact test(e) P = 0.2623P = 0.0798P = 0.0297*SITE : testis TUMOR : interstitial cell tumor Tumor rate Overall rates(a) 39/50 (78.0) 13/50(26.0) 31/50(62.0) 0/50(0.0) Adjusted rates(b) 79.59 100.00 71.430.0 Terminal rates(c) 39/49 (79.6) 13/19(68.4) 0/0(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = -----Prevalence method(d) P = 0.8927Combined analysis(d) P = -----Cochran-Armitage test(e) P < 0.0001** Fisher Exact test(e) P = 0.0630P < 0.0001** P < 0.0001**

(HPT360A)

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STUDY No. : 0303 NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

ANIMAL : RAT F344/DuCrj

SEX

: MALE PAGE:

Group Name	Control	200 ppm	400 ppm	800 ppm	
	SITE : mediastinum TUMOR : sarcoma:NOS				
Cumor rate	TUMOR : sarcoma:NOS				
Overall rates(a)	0/50(0.0)	1/50(2.0)	2/50(4.0)	3/50(6.0)	
Adjusted rates(b)	0.0	0.0	0.0	7. 14	
Terminal rates(c)	0/49(0.0)	0/19(0.0)	0/0(0.0)	0/0(0.0)	
Statistical analysis	3, 10 (0.0)	5, 10 (5, 5,	5, 5(51 5)	5, 5 (5, 5,	
Peto test					
Standard method(d)	P = 0.0049**				
Prevalence method(d)	P = 0.0261* ?				
Combined analysis(d)	P = 0.0006**				
Cochran-Armitage test(e)	P = 0.0685				
Fisher Exact test(e)		P = 0.5000	P = 0.2475	P = 0.1212	
	SITE : adipose tissue TUMOR : hemangiosarcoma				
	TUMOR : hemangiosarcoma				
Overall rates(a)	TUMOR : hemangiosarcoma	2/50(4.0)	0/50(0.0)	3/50(6.0)	
Overall rates(a) Adjusted rates(b)	TUMOR : hemangiosarcoma 0/50(0.0) 0.0	2. 78	0.0	6. 90	
Overall rates(a) Adjusted rates(b) Terminal rates(c)	TUMOR : hemangiosarcoma				
Overall rates(a) Adjusted rates(b) Terminal rates(c) Statistical analysis	TUMOR : hemangiosarcoma 0/50(0.0) 0.0	2. 78	0.0	6. 90	
Overall rates(a) Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test	TUMOR : hemangiosarcoma 0/50(0.0)	2. 78	0.0	6. 90	
Overall rates(a) Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d)	TUMOR: hemangiosarcoma 0/50(0.0)	2. 78	0.0	6. 90	
Overall rates(a) Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d)	TUMOR: hemangiosarcoma 0/50(0.0)	2. 78	0.0	6. 90	
Statistical analysis Peto test Standard method(d)	TUMOR: hemangiosarcoma 0/50(0.0)	2. 78	0.0	6. 90	

(HPT360A)

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Standard method : Death analysis

Prevalence method: Incidental tumor test

Combined analysis: Death analysis + Incidental tumor test

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

⁽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.

⁽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.

N.C.: Statistical value cannot be calculated and was not significant.

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

ANIMAL : RAT F344/DuCrj

SEX :

: MALE

PAGE: 1

Group Name	Control	200 ppm	400 ppm	800 ppm	
	SITE : mesenterium				
	TUMOR : hemangioma, hemangiosa	arcoma			
mor rate					
Overall rates(a)	0/50(0.0)	0/50(0.0)	2/50(4.0)	3/50(6,0)	
Adjusted rates(b)	0. 0	0.0	4. 55	3. 23	
Terminal rates(c)	0/49(0.0)	0/19(0.0)	0/0(0.0)	0/0(0.0)	
tatistical analysis					
eto test					
Standard method(d)	P = 0.0007**				
Prevalence method(d)	P = 0.0805				
Combined analysis(d)	P = 0.0004**				
Cochran-Armitage test(e)	P = 0.0264*				
Fisher Exact test(e)		P = N.C.	P = 0.2475	P = 0.1212	

(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; *: $P \le 0.05$ **: $P \le 0.01$

N.C.: Statistical value cannot be calculated and was not significant.

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

ANIMAL : RAT F344/DuCrj

SEX : MALE

(HPT360A)

Group Name	Control	200 ppm	400 ppm	· mqq 008
	SITE : ALL SITE			
_	TUMOR : hemangiosarcoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	26/50 (52.0)	36/50(72.0)	45/50(90.0)
Adjusted rates(b)	0.0	36.84	33. 33	100.00
Terminal rates(c)	0/49(0.0)	7/19(36.8)	0/0(0.0)	0/0(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P < 0.0001**			
Prevalence method(d)	P < 0.0001**			
Combined analysis(d)	P < 0.0001**			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P < 0.0001**	P < 0.0001**	P < 0.0001**

(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; $*: P \le 0.05$ **: $P \le 0.01$

N.C.: Statistical value cannot be calculated and was not significant.

PAGE:

1

BAIS3

APPENDIX O 2

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

RAT: FEMALE: (2-YEAR STUDY)

STUDY No. : 0303

ANIMAL : RAT F344/DuCrj

SEX : FEMALE

Group Name Control 150 ppm 300 ppm 600 ppm SITE : spleen TUMOR : mononuclear cell leukemia Tumor rate Overall rates(a) 4/50(8.0) 11/50(22.0) 6/50(12.0) 2/50(4.0) Adjusted rates (b) 7.32 23.5350.00 2.63 Terminal rates(c) 3/41 (7.3) 4/17(23,5) 1/2(50.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = 0.0001**Prevalence method(d) P = 0.0069**Combined analysis(d) P < 0.0001** Cochran-Armitage test(e) P = 0.1657Fisher Exact test(e) P = 0.0453*P = 0.3703P = 0.3389SITE : liver TUMOR : hepatocellular adenoma Tumor rate Overall rates(a) 1/50(2.0) 30/50 (60.0) 31/50(62.0) 33/50 (66.0) Adjusted rates(b) 2.44 79.17 100.00 87.50 Terminal rates(c) 1/41(2.4) 13/17(76.5) 2/2(100.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P = -----P < 0.0001** Prevalence method(d) Combined analysis(d) P = -----Cochran-Armitage test(e) P < 0.0001** Fisher Exact test(e) P < 0.0001** P < 0.0001** P < 0.0001** SITE : liver TUMOR : hemangiosarcoma Tumor rate Overall rates(a) 0/50(0.0) 15/50(30.0) 27/50(54.0) 41/50(82.0) Adjusted rates(b) 0.0 17.65 0.0 100.00 0/41(0.0) Terminal rates(c) 3/17(17.6) 0/2(0.0) 0/0(0.0) Statistical analysis Peto test Standard method(d) P < 0.0001** Prevalence method(d) P = 0.0005**Combined analysis(d) P < 0.0001** Cochran-Armitage test(e) P < 0.0001**

P < 0.0001**

P < 0.0001**

(HPT360A)

Fisher Exact test(e)

P < 0.0001**

PAGE :

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STUDY No. : 0303

ANIMAL : RAT F344/DuCrj SEX : FEMALE PAGE: 7

Group Name	Control	150 ppm	300 ppm	600 ppm	
	SITE : liver				
umor rate	TUMOR : hepatocellular carc	Inoma			
Overall rates(a)	0/50(0.0)	5/50(10.0)	16/50(32.0)	21/50(42.0)	
Adjusted rates(b)	0.0	15. 38	50.00	100.00	
Terminal rates(c)	0/41(0.0)	2/17(11.8)	1/ 2(50. 0)	0/ 0(0.0)	
Statistical analysis Peto test	,, == (,,		-, -, -,	, , ,	
Standard method(d)	P < 0.0001**				
Prevalence method(d)	P < 0.0001**?				
Combined analysis(d)	P < 0.0001**?				
Cochran-Armitage test(e)	P < 0.0001**				
Fisher Exact test(e)		P = 0.0281*	P < 0.0001**	P < 0.0001**	
	SITE : liver				
	TUMOR : hemangioma, hemangio	sarcoma			
Cumor rate	0(50(0.0)	15 (50(20 0)	07/50/ 54.0\	41 /50 / 00 0)	
Overall rates(a) Adjusted rates(b)	0/50(0.0) 0.0	15/50(30.0) 17.65	27/50(54.0) 0.0	41/50 (82. 0) 100. 00	
Terminal rates(c)	0.0	3/17(17.6)	0/2(0.0)	0/0(0.0)	
Statistical analysis	0,41(0.0)	3/11(11.0)	0/ 2(0.0)	0/ 0(0.0/	
Peto test					
Standard method(d)	P < 0.0001**				
Prevalence method(d)	P = 0.0005**				
Combined analysis(d)	P < 0.0001**				
Cochran-Armitage test(e)	P < 0.0001**				
Fisher Exact test(e)		P < 0.0001**	P < 0.0001**	P < 0.0001**	
	SITE : liver				
	TUMOR : hepatocellular aden	oma, hepatocellular carcinoma			
fumor rate					
Overall rates(a)	1/50(2.0)	32/50 (64.0)	38/50(76.0)	42/50(84.0)	
Adjusted rates(b)	2. 44	79. 17	100.00	100.00	
Terminal rates(c)	1/41 (2.4)	13/17(76.5)	2/ 2(100.0)	0/0(0.0)	
Statistical analysis					
Peto test	D 4 0 000134				
Standard method(d)	P < 0.0001**				
Prevalence method(d)	P < 0.0001**				
Combined analysis(d) Cochran-Armitage test(e)	P < 0.0001** P < 0.0001**				
Fisher Exact test(e)	1 / 0.0001**	P < 0.0001***	P < 0.0001**	P < 0.0001**	
		1 / 0.0001	1 \ 0.0001****	r \ 0. 00017***	

(HPT360A)

STUDY No. : 0303

ANIMAL : RAT F344/DuCrj

: FEMALE PAGE: 8

Group Name	Control	150 ppm	300 ppm	600 ppm	
	SITE : pituitary gland				
	TUMOR : adenoma				
fumor rate	10/50/ 00 0)	15(10(.00.0)	0/50/ 10 0	4 (50 (-0.0)	
Overall rates(a) Adjusted rates(b)	16/50(32.0) 31.71	15/49(30.6) 40.91	9/50(18. 0) 31. 82	1/50 (2. 0) 4. 00	
Terminal rates(c)	13/41(31.7)	6/17(35.3)	0/2(0.0)	0/0(0.0)	
tatistical analysis	10/41(01.1/	0,11 (00.0)	0/ 2(0.0)	0, 0(0.0)	
Peto test					
Standard method(d)	P = 0.4854				
Prevalence method(d)	P = 0.2283				
Combined analysis(d)	P = 0.2598				
Cochran-Armitage test(e)	P < 0.0001**				
Fisher Exact test(e)		P = 0.5271	P = 0.0826	P < 0,0001**	
	SITE : pituitary gland				
	TUMOR : adenoma, adenocarcinoma				
Tumor rate	10 (50 (00 0)	45/40/ 04/5)	0/50/ 10 0	4 (#10 (- 0 - 0)	
Overall rates(a)	16/50(32. 0)	17/49(34.7)	9/50(18.0)	1/50(2.0)	
Adjusted rates(b) Terminal rates(c)	31. 71 13/41 (31. 7)	45. 45 7/17(41. 2)	31.82 0/2(0.0)	4.00 0/0(0.0)	
Statistical analysis	13/41(31.7)	1/11 (41.2)	0/ 2(0.0)	0/ 0(0.0)	
Peto test					
Standard method(d)	P = 0, 4915				
Prevalence method(d)	P = 0.1933				
Combined analysis(d)	P = 0.2356				
Cochran-Armitage test(e)	P < 0.0001**				
Fisher Exact test(e)		P = 0.4716	P = 0.0826	P < 0.0001**	
	SITE : thyroid				
	TUMOR : C-cell adenoma				
Tumor rate					
Overall rates(a)	5/50(10.0)	2/50(4.0)	2/48(4.2)	0/50(0.0)	
Adjusted rates(b)	10. 64	8.00	16. 67	0.0	
Terminal rates(c)	4/41 (9.8)	1/17(5.9)	0/2(0,0)	0/0(0.0)	
Statistical analysis					
Peto test Standard method(d)	D -				
Standard method(d) Prevalence method(d)	P = P = 0.5378				
Combined analysis(d)	P =				
COMPANIES GHOTASTS (A)	•				
Cochran-Armitage test(e)	P = 0.0256*				

(HPT360A)

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

ANIMAL : RAT F344/DuCrj SEX : FEMALE

DAGE .

SEX : FEMALE				PAGE :	
Group Name	Control	150 ppm	300 ppm	600 ppm	
	SITE : uterus TUMOR : endometrial stromal polyp				
Tumor rate	remon . endometrial stromat polyp				
Overall rates(a)	10/50(20.0)	4/50(8.0)	9/50(18.0)	2/50(4.0)	
Adjusted rates(b)	22. 73	8. 82	66. 67	25. 00	
Terminal rates(c)	9/41 (22. 0)	0/17(0.0)	1/ 2(50.0)	0/0(0.0)	
Statistical analysis	5, 11 (BB, 5,	0, 1. (0.0,	1, 2 (001 0)	o, o (o. o,	
Peto test					
Standard method(d)	P = 0.1572				
Prevalence method(d)	P = 0.1427				
Combined analysis(d)	P = 0.1102				
Cochran-Armitage test(e)	P = 0.0468*				
Fisher Exact test(e)		P = 0.0739	P = 0.5000	P = 0.0139*	
	SITE : mammary gland		<u> </u>		
_	TUMOR : fibroadenoma				
Tumor rate	0/50/ 10 0	5 (50 (10 0)	1/50/ 0.0	1/50/ 0.0)	
Overall rates(a)	8/50 (16. 0)	5/50(10.0)	1/50(2.0)	1/50(2.0)	
Adjusted rates(b)	19.05 7/41(17.1)	17.65 3/17(17.6)	0.0 0/2(0.0)	4.76 0/0(0.0)	
Terminal rates(c)	(/41(17.1)	3/1/(17.6)	0/ 2(0.0)	0/ 0(0.0)	
Statistical analysis Peto test					
Standard method(d)	P = 0.1126				
Prevalence method(d)	P = 0.6026				
Combined analysis(d)	P = 0. 4221				
Cochran-Armitage test(e)	P = 0.0056**				
Fisher Exact test(e)	, , , , , , , , , , , , , , , , , ,	P = 0.2768	P = 0.0154*	P = 0.0154*	
. 1011 2000 0000(8)		. 0.2100	1 0,0101.	1 0.0101	

(HPT360A)

BAIS3

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

ANIMAL : RAT F344/DuCrj

: FEMALE SEX PAGE: 10

: mammary gland : fibroma, fibroadenoma /50(18.0) 19.05 /41(17.1)	a, adenocarcinoma 6/50(12.0) 17.65	2/50(4.0) 0.0	2/50(4.0) 11.11
/50 (18. 0) 19. 05	6/50(12.0)		
19. 05			
19. 05			
	17.65	0.0	11, 11
/41 (17 1)			
7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3/17(17.6)	0/2(0.0)	0/0(0.0)
0. 1341			
0.3856			
0, 2038			
0.0129*			
	P = 0.2883	P = 0.0256*	P = 0.0256*
	0. 3856 0. 2038	0. 3856 0. 2038 0. 0129*	0. 3856 0. 2038 0. 0129*

(HPT360A)

BAIS3

- (a): Number of tumor-bearing animals/number of animals examined at the site.
- (b): Kaplan-Meire estimated tumor incidence at the end of the study after adjusting for intercurrent mortality.
- (c): Observed tumor incidence at terminal kill.
- (d): Beneath the control incidence are the P-values associated with the trend test.

Standard method : Death analysis

Prevalence method: Incidental tumor test

- Combined analysis : Death analysis + Incidental tumor test
- (e): The Cochran-Armitage and Fisher exact test compare directly the overall incidence rates.
- ?: The conditional probabilities of the largest and smallest possible out comes can not estimated or this P-value is beyond the estimated P-value.
- -----: There is no data which should be statistical analysis.

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

N.C.: Statistical value cannot be calculated and was not significant.

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

ANIMAL : RAT F344/DuCrj

SEX : FEMALE

PAGE:

Group Name	Control	150 ppm	300 ppm	600 ppm	
	SITE : ALL SITE				
	TUMOR : hemangiosarcoma				
umor rate					
Overall rates(a)	0/50(0.0)	17/50(34.0)	28/50(56.0)	42/50(84.0)	
Adjusted rates(b)	0.0	17. 65	0.0	100.00	
Terminal rates(c)	0/41(0.0)	3/17(17.6)	0/2(0.0)	0/0(0.0)	
tatistical analysis					
Peto test					
Standard method(d)	P < 0.0001**				
Prevalence method(d)	P = 0.0005**				
Combined analysis(d)	P < 0.0001**				
Cochran-Armitage test(e)	P < 0.0001**				
Fisher Exact test(e)		P < 0.0001**	P < 0.0001**	P < 0.0001**	

(HPT360A)

BAIS3

- (a): Number of tumor-bearing animals/number of animals examined at the site.
- (b): Kaplan-Meire estimated tumor incidence at the end of the study after adjusting for intercurrent mortality.
- (c): Observed tumor incidence at terminal kill.
- (d): Beneath the control incidence are the P-values associated with the trend test.

Standard method : Death analysis

Prevalence method : Incidental tumor test

- Combined analysis : Death analysis + Incidental tumor test
- (e): The Cochran-Armitage and Fisher exact test compare directly the overall incidence rates.
- ?: The conditional probabilities of the largest and smallest possible out comes can not estimated or this P-value is beyond the estimated P-value.
- ----: There is no data which should be statistical analysis.

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

N.C.: Statistical value cannot be calculated and was not significant.

APPENDIX P 1

HISTOLOGICAL FINDINGS: METASTASIS OF TUMOR: SUMMARY

RAT: MALE: ALL ANIMALS

(2-YEAR STUDY)

ANIMAL

: RAT F344/DuCrj

REPORT TYPE : A1 SEX : MALE HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)

ALL ANIMALS (0- 97W)

Group Name Control 200 ppm 400 ppm 800 ppm No. of Animals on Study 50 50 50 50 Findings_ {Respiratory system} nasal cavit <50> <50> <50> <50> metastasis:liver tumor 0 0 1 trachea <50> <50> <50> <50> metastasis:mediastinum tumor 0 0 1 1 lung <50> <50> <50> <50> leukemic cell infiltration metastasis:liver tumor 22 27 25 metastasis:mesenterium tumor 0 {Hematopoietic system} bone marrow <50> <50> <50> <50> leukemic cell infiltration lymph node <50> <50> <50> <50> leukemic cell infiltration metastasis:liver tumor 0 0 0 1 spleen <50> <50> <50> <50> metastasis:liver tumor 0 0 1 {Digestive system} salivary gl <50> <50> <50> <50> metastasis:nasal tumor 0 stomach <50> <50> <50> <50> metastasis:liver tumor 0 0 0 1 < a > a: Number of animals examined at the site b: Number of animals with lesion

(JPT150)

HISTOLOGICAL FINDINGS: METASTASIS OF TUMOR (SUMMARY) ALL ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1
SEX : MALE

		Group Name No. of Animals on Study	Control 50	200 ppm 50	400 ppm 50	800 ppm 50
Organ	Findings		00	00	00	
{Digestive sys	stem)					
stomach	metastasis:peritoneum tumor		<50> 0	<50> 0	<50> 1	<50> 0
liver	leukemic cell infiltration		<50> 2	<50> 0	<50>	<50> 0
pancreas	metastasis:liver tumor		<50> 0	<50> 2	<50> 3	<50> 0
	metastasis:mesenterium tumor		0	0	1	0
{Endocrine sys	stem)					
pituitary	metastasis:nasal tumor		<50> 0	<50> 0	<50> 1	<50> 0
thyroid	metastasis:mediastinum tumor		<50> 0	<50> 0	<50> 1	<50> 0
adrenal	metastasis:liver tumor		<50> 0	<50> 1	<50> 0	<50> 0
{Nervous syste	em)					
brain	metastasis:nasal tumor		<50> 0	<50> 0	<50> 0	<50> 2
spinal cord	metastasis:liver tumor		<50> 0	<50> 0	<50> 0	<50> 1
{Special sense	e organs/appendage)					
Harder gl	metastasis:nasal tumor		<50> 0	<50> 0	<50> 1	<50> 0
< a > b	a: Number of animals examined at the sib: Number of animals with lesion	ite				

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)

ANIMAL : RAT F344/DuCrj

ALL ANIMALS (0- 97W)

REPORT TYPE : A1 SEX : MALE

Group Name Control 200 ppm 400 ppm 800 ppm No. of Animals on Study 50 50 Findings__ Organ____ {Body cavities} mediastinum <50> <50> <50> <50> metastasis:liver tumor 0 0 2 peritoneum <50> <50> <50> <50> metastasis:liver tumor 0 2 0 mesenterium <50> <50> <50> <50> metastasis:liver tumor 0 0 2 0 adipose <50> <50> <50> <50> metastasis:liver tumor 0 2 1 < a > a : Number of animals examined at the site b b: Number of animals with lesion

(JPT150)

BAIS3

APPENDIX P 2

HISTOLOGICAL FINDINGS: METASTASIS OF TUMOR: SUMMARY

RAT: FEMALE: ALL ANIMALS

(2-YEAR STUDY)

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

ALL ANIMALS (0-105W)

: FEMALE SEX PAGE: 1

Organ	Findings	Group Name No. of Animals on Study	Control 50	150 ppm 50	300 ppm 50	600 ppm 50
{Respiratory	system}					
nasal cavit	metastasis:subcutis tumor		<50> 1	<50> 0	<50> 0	<50> 0
trachea	leukemic cell infiltration		<50> 0	<50> 0	<50> 1	<50> 0
	metastasis:thyroid tumor		1	0	0	0
lung	leukemic cell infiltration	•	<50> 2	<50> 7	<50> 5	<50> 2
	metastasis:liver tumor		0	13	19	27
	metastasis:adrenal tumor		0	1	0	0
	metastasis:thyroid tumor		1	0	0	0
	metastasis:subcutis tumor		0	0	1	0
{Hematopoietic	c system}					
bone marrow	leukemic cell infiltration		<50> 1	<50> 6	<50> 4	<50> 0
lymph node	leukemic cell infiltration		<50> 2	<50> 4	<50> 2	<50> 0
	metastasis:uterus tumor		0	0	0	1
	metastasis:trachea tumor		0	1	1	0
spleen	metastasis:uterus tumor		<50> 0	<50> 0	<50> 0	<50> 1
{Circulatory	system)					
heart	leukemic cell infiltration		<50> 0	<50> 2	<50> 0	<50> 0

< a > a: Number of animals examined at the site

b: Number of animals with lesion b

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)

ANIMAL : RAT F344/DuCrj

ALL ANIMALS (0-105W)

REPORT TYPE : A2

SEX : FEMALE

PAGE: 2

		Group Name No. of Animals on Study	Control 50	150 ppm 50	300 ppm 50	600 թթա 50
rgan	Findings					
Digestive s	ystem}					
alivary gl	leukemic cell infiltration		<50> 0	<50> 1	<50> 0	<50> 0
tomach	metastasis:liver tumor		<50> 0	<50> 1	<50> 1	<50> 2
iver	leukemic cell infiltration		<50> 3	<50> 10	<50> 4	<50> 2
	metastasis:adrenal tumor		0	. 1	0	0
oancreas	metastasis:liver tumor		<50> 0	<50> 0	<50> 0	<50> 1
Urimary syst	tem}					
idney	leukemic cell infiltration		<50> 0	<50> 4	<50> 2	<50> 2
Endocrine s	ystem}					
ituitary	leukemic cell infiltration		<50> 0	<50> 1	<50> 2	<50> 0
drenal	leukemic cell infiltration	·	<50> 0	<50> 5	<50> 2	<50> 1
	metastasis:liver tumor		0	0	0	1
Reproductive	e system}					
vary	leukemic cell infiltration		<50> 0	<50> 2	<50> 2	<50> 1
(a > b	a: Number of animals examined at the s: b: Number of animals with lesion	te				
(JPT150)						BA

: RAT F344/DuCrj

ANIMAL REPORT TYPE : A2 SEX : FEMALE HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)

PAGE: 3

BAIS3

ALL ANIMALS (0-105W)

Group Name Control 150 ppm 300 ppm 600 ppm No. of Animals on Study 50 50 50 Organ____ Findings_ {Reproductive system} ovary <50> <50> <50> <50> metastasis:adrenal tumor (Nervous system) brain <50> <50> <50≻ <50≻ leukemic cell infiltration 0 3 0 metastasis:pituitary tumor 0 2 0 0 spinal cord <50> <50> <50> <50> leukemic cell infiltration 3 0 {Special sense organs/appendage} eye <50> <50> <50> <50> leukemic cell infiltration 1 1 0 Harder gl <50> <50> <50> ⟨50⟩ leukemic cell infiltration 0 1 (Body cavities) adipose <50> <50> <50> <50> metastasis:liver tumor 0 0 1 0 < a > a : Number of animals examined at the site b b: Number of animals with lesion (JPT150)

APPENDIX P 3

HISTOLOGICAL FINDINGS: METASTASIS OF TUMOR: SUMMARY

RAT: MALE: DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

HISTOLOGICAL FINDINGS: METASTASIS OF TUMOR (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A1

SEX : MALE

PAGE: 1

Organ	Findings	Group Name No. of Animals on Study	Control 1	200 ppm 31	400 ppm 50	800 ppm 50
{Respiratory	system)					
nasal cavit	metastasis:liver tumor		< 1> 0	<31> 0	<50> 0	<50>
trachea	metastasis:mediastinum tumor		< 1> 0	<31> 0	<50> 1	<50> 1
lung	leukemic cell infiltration		< 1> 0	<31> 0	<50> 1	<50> 0
	metastasis:liver tumor		0	19	27	25
	metastasis:mesenterium tumor		0	0	1	0
{Hematopoieti	c system}					
bone marrow	leukemic cell infiltration		< 1> 0	<31> 0	<50> 1	<50> 0
lymph node	leukemic cell infiltration		< 1> 0	<31> 0	<50> 1	<50> 0
	metastasis:liver tumor		0	0	0	1
spleen	metastasis:liver tumor		< 1> 0	<31> 0	<50> 1	<50> 0
{Digestive sy	stem)					
salivary gl	metastasis:nasal tumor		< 1> 0	<31> 0	<50>	<50> 0
stomach	metastasis:liver tumor		< 1> 0	<31> 0	<50> 0	<50>
< a >	a: Number of animals examined at the s b: Number of animals with lesion	ite				

(JPT150)

BAIS3

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 97W)

ANIMAL : RAT F344/DuCrj REPORT TYPE : A1

SEX : MALE

Group Name Control 200 ppm 400 ppm 800 ppm No. of Animals on Study 31 50 50 Findings_ {Digestive system} stomach < 1> <31> <50> <50> metastasis:peritoneum tumor 0 1 0 liver < 1> <31> <50> <50> leukemic cell infiltration 0 0 1 0 pancreas < 1> <31> <50> <50> metastasis:liver tumor 3 0 metastasis:mesenterium tumor 0 1 {Endocrine system} pituitary < 1> <31> <50> <50> metastasis:nasal tumor 1 0 thyroid < 1> ⟨31⟩ <50> <50> metastasis:mediastinum tumor 1 0 adrenal < 1> ⟨31⟩ <50> <50> metastasis:liver tumor 0 {Nervous system} brain < 1> <31> <50> <50> metastasis:nasal tumor 0 0 2 spinal cord < 1> <31> <50> <50> metastasis:liver tumor 1 {Special sense organs/appendage} Harder gl < 1> <31> <50> <50> metastasis:nasal tumor 1 < a > a : Number of animals examined at the site b: Number of animals with lesion

: RAT F344/DuCrj ANIMAL

REPORT TYPE : A1 SEX : MALE HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)

PAGE: 3

DEAD AND MORIBUND ANIMALS (0- 97W)

Group Name 800 ppm 50 Control 200 ppm 400 ppm No. of Animals on Study 31 50 Findings_ {Body cavities} mediastinum < 1> <31> <50> <50> metastasis:liver tumor 0 0 0 2 peritoneum < 1> <31> <50> <50> metastasis:liver tumor 0 1 2 0 mesenterium < 1> <31> <50> <50> metastasis:liver tumor 0 2 0 adipose < 1> ⟨31⟩ ⟨50⟩ <50> metastasis:liver tumor 0 1 2 1 < a > a : Number of animals examined at the site b: Number of animals with lesion BAIS3

(JPT150)

APPENDIX P 4

HISTOLOGICAL FINDINGS: METASTASIS OF TUMOR: SUMMARY

RAT: FEMALE: DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

: RAT F344/DuCrj

REPORT TYPE : A1 SEX : MALE

ANIMAL

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY) SACRIFICED ANIMALS (97W)

Group Name Control 200 ppm 19 800 ppm 0 400 ppm No. of Animals on Study Findings_ Organ_ {Respiratory system} lung <49> <19> < 0> < 0> leukemic cell infiltration 2 0 metastasis:liver tumor 3 {Digestive system} liver **〈49〉** <19> < 0> < 0> leukemic cell infiltration 0 < a > a : Number of animals examined at the site b b: Number of animals with lesion (JPT150)

BAIS3

APPENDIX P 5

HISTOLOGICAL FINDINGS: METASTASIS OF TUMOR: SUMMARY

RAT: MALE: SACRIFICED ANIMALS

(2-YEAR STUDY)

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

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2

SEX : FEMALE

)rgan	Findings	Group Name No. of Animals on Study	Control 9	150 ppm 33	300 ppm 48	600 ppm 50
Respiratory	system}					
asal cavit	metastasis:subcutis tumor		< 9>	<33> 0	<48>	<50> 0
rachea	and state to the state of the s		< 9>	<33>	<48>	<50>
	leukemic cell infiltration		0	0	1	. 0
	metastasis:thyroid tumor		1	0	0	0
ung	leukemic cell infiltration		< 9>	<33> 5	<48> 5	<50> 2
	metastasis:liver tumor		0	9	19	27
	metastasis:thyroid tumor		1	0	0	0
	metastasis:subcutis tumor		0	0	1	0
Hematopoieti	c system}					
one marrow	leukemic cell infiltration		< 9>	<33> 5	<48>	<50> 0
ymph node			< 9>	<33>	<48>	<50>
	leukemic cell infiltration		0	3	2	0
	metastasis:uterus tumor		0	0	0	1
	metastasis:trachea tumor		0	1	1	0
pleen	metastasis:uterus tumor		< 9> 0	<33> 0	<48>	<50> 1
Circulatory	system)					
eart	leukemic cell infiltration		< 9>	<33> 2	<48>	<50> 0

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

SEX

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2 : FEMALE

		Group Name No. of Animals on Study	Control 9	150 ppm 33	300 ppm 48	600 ppm 50
Organ	Findings	Tot of inflatto on boday				
{Digestive sy	ystem}					
salivary gl	, ,		⟨ 9⟩	<33>	<48>	<50>
2012/01/ 61	leukemic cell infiltration		0	1	0	0
stomach	metastasis:liver tumor		< 9>	<33>	<48>	<50>
	metastasis.liver tumor		0	1	1	2
liver	leukemic cell infiltration		< 9>	<33> 7	<48> 4	<50> 2
oancreas			< 9>	<33>	<48>	· <50>
	metastasis:liver tumor		0	0	0	1
Urinary syst	tem)					
idney			< 9>	<33>	<48>	<50>
	leukemic cell infiltration		0	4	2	2
Endocrine sy	ystem}					
ituitary			< 9>	<33>	<48>	<50>
	leukemic cell infiltration		0	1	2	0
drenal	leukemic cell infiltration		< 9>	<33> 4	<48> 2	<50> 1
	metastasis:liver tumor		0	0	0	1 .
Reproductive	e system)					
vary			< 9>	<33>	<48>	<50>
	leukemic cell infiltration		0	2	2	1
Nervous syst	tem)					
rain			< 9>	<33>	<48>	<50>
	leukemic cell infiltration		0	3	2	0

< a > a : Number of animals examined at the site

b : Number of animals with lesion

ANIMAL : RAT F344/DuCrj REPORT TYPE : A2

SEX : FEMALE

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

Organ		Group Name No. of Animals on Study	Control 9	150 ppm 33	300 ppm 48	600 ppm 50
{Nervous syst	em)					
brain			< 9>	<33>	<48>	<50>
	metastasis:pituitary tumor		0	1	0	0
spinal cord			< 9>	<33>	<48>	<50>
	leukemic cell infiltration		0	2	3	0
{Special sens	e organs/appendage)					
еуе			< 9>	<33>	<48>	⟨50⟩
	leukemic cell infiltration		0	1	1	0
Harder gl			< 9>	<33>	<48>	<50>
	leukemic cell infiltration		0	1	1	0
{Body cavities	s}					
adipose			< 9>	<33>	<48>	<50>
	metastasis:liver tumor		0	0	1	0
< a > b	a : Number of animals examined at the si b : Number of animals with lesion	te				· · · · · · · · · · · · · · · · · · ·
(JPT150)				1500		

APPENDIX P 6

HISTOLOGICAL FINDINGS: METASTASIS OF TUMOR: SUMMARY

RAT: FEMALE: SACRIFICED ANIMALS

(2-YEAR STUDY)

ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2

SEX : FEMALE

HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)

PAGE: 1

SACRIFICED ANIMALS (105W)

0-		Group Name No. of Animals on Study	Control 41	150 ppm 17	300 ppm 2	600 ppm 0
Organ	Findings					
Respiratory	system)					
lung	5,000,		<41>	<17>	· · · · · · · · · · · · · · · · · · · 	< 0>
tung	leukemic cell infiltration		1	2	0	-
	metastasis:liver tumor		0	4	0	-
	metastasis:adremal tumor		0	1	0	-
{Hematopoiet	ic system)					
bone marrow			< 4 1>	<17>	< 2>	< 0>
	leukemic cell infiltration		0	1	0	-
lymph node	leukemic cell infiltration		<41> 2	<17> 1	< 2> 0	< 0>
{Digestive s	ystem}					
liver			<41>	<17>	< 2>	< 0>
	leukemic cell infiltration		2	3	0	-
	metastasis:adrenal tumor		0	1	0	-
{Endocrine s	ystem}					
adrenal	1 1 1 11 11 11 11		<41>	<17>	< 2>	< 0>
	leukemic cell infiltration		0	1	0	-
{Reproductiv	e system)					
ovary	metastasis:adrenal tumor		<41> 0	<17>	< 2> 0	< 0>
(a)	a : Number of animals examined at the si b : Number of animals with lesion	te				
(JPT150)						

STUDY NO. : 0303 ANIMAL : RAT F344/DuCrj

REPORT TYPE : A2

SEX : FEMALE HISTOLOGICAL FINDINGS : METASTASIS OF TUMOR (SUMMARY)

PAGE: 2

SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name No. of Animals on Study	Control 41	150 ppm 17	300 ppm 2	600 ppm 0
{Nervous s	ystem)					
brain	metastasis:pituitary tumor		<41> 0	<17> 1	< 2> 0	< 0> -
< a > b	a : Number of animals examined at the s b : Number of animals with lesion	ite			•	
(JPT150)						BA

APPENDIX Q 1

IDENTITY AND IMPURITY OF QUINOLINE IN THE 2-YEAR DRINKING WATER STUDY

IDENTITY AND IMPURITY OF QUINOLINE IN THE 2-YEAR DRINKING WATER STUDY

Test Substance

: Quinoline (Tokyo Kasei Kogyo Co., Ltd.)

A. Lot No.

: FHE02

1. Spectral Data

Mass Spectrometry

Instrument

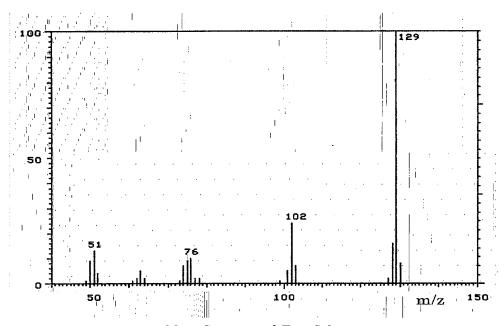
: Hitachi M-80B Mass Spectrometer

Ionization

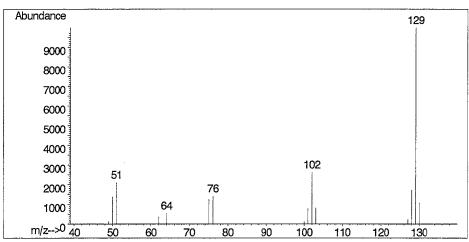
: EI (Electron Ionization)

Ionization Voltage

: 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Results: The mass spectrum was consistent with literature spectrum.

(*Fred W. McLafferty (1994) Wiley Registry of Mass Spectral Data, 6th edition.

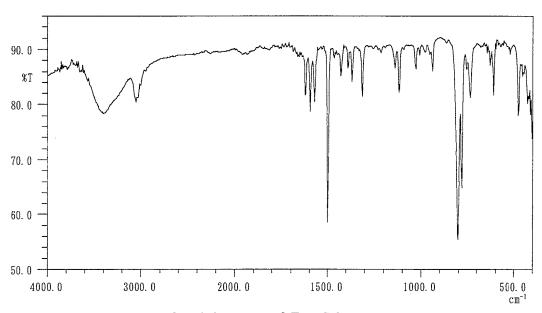
John Wiley and Sons, Inc. (U.S.), Entry Number 6221)

Infrared Spectrometry

Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr

Resolution : 4 cm⁻¹



Infrared Spectrum of Test Substance

Determined Values	Literature Values*
Wave Number (cm ⁻¹)	Wave Number (cm ⁻¹)
440~ 460	440~ 460
460~ 500	460~ 500
600~ 640	600~ 640
720~ 760	720~ 760
760~ 800	760∼ 800
800~ 840	800~ 840
920~ 960	920~ 960
$1020\sim 1040$	$1020 \sim 1040$
1100~1130	$1100 \sim 1130$
1130~1160	$1130 \sim 1160$
$1300 \sim 1320$	$1300 \sim 1320$
$1340 \sim 1380$	$1340 \sim 1380$
1380~1400	$1380 \sim 1400$
1400~1440	$1400 \sim 1440$
$1480 \sim 1520$	$1480 \sim 1520$
$1560 \sim 1580$	$1560 \sim 1580$
$1580 \sim 1600$	$1580 \sim 1600$
$1600 \sim 1640$	$1600 \sim 1640$
2890~3120	
$3120\sim3720$	$3120\sim3720$

Results: The infrared spectrum was consistent with literature spectrum.

(*William W. Simons (1978) The Sadtler Handbook of Infrared Spectra.

Sadtler Research Laboratories, Inc. (U.K.), p.218)

2. Impurity

Instrument

: Hewlett Packard 5890A Gas Chromatograph

Column

: INNOWAX (0.2 mm $\phi \times 50$ m)

Column Temperature

: 190° C

Flow Rate

: 1 mL/min

Detector

: FID (Flame Ionization Detector)

Injection Volume

: 1 µL

Sample Name	Peak No.	Area (%)	Peak Name
Test Substance	1	0.205	2-Methyl Naphthalene
	2	99.671	Quinoline
	3	0.124	Isoquinoline

Results: Gas chromatography indicated one major peak (peak No.2) and two impurities. It was identified only by comparing its gas chromatograph with that of 2-methyl naphthalene (peak No.1), and isoquinoline (peak No.3) in the quinoline, the amount in the test substance were 0.205%, and 0.124%.

3. Conclusions: The test substance was identified as quinoline, by the mass spectrum and the infrared spectrum. Gas chromatography indicated one major peak (peak No.2) and two impurities. It was identified only by comparing its gas chromatograph with that of 2-methyl naphthalene, and isoquinoline, the amount in the test substance were 0.205%, and 0.124%.

)

)

B. Lot No.

: FHE03

1. Spectral Data

Mass Spectrometry

Instrument

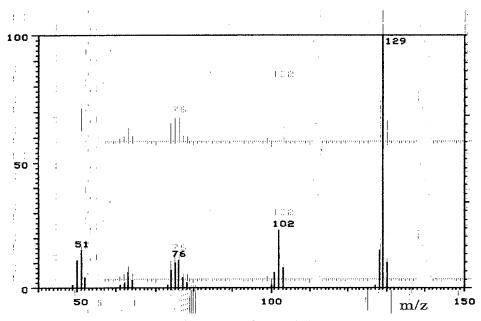
: Hitachi M-80B Mass Spectrometer

Ionization

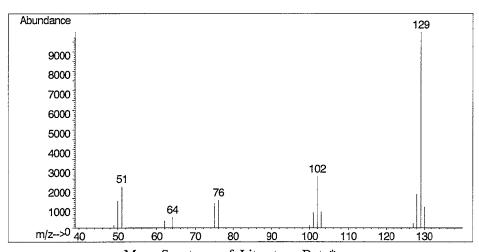
: EI (Electron Ionization)

Ionization Voltage

: 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Results: The mass spectrum was consistent with literature spectrum.

(*Fred W. McLafferty (1994) Wiley Registry of Mass Spectral Data, 6th edition.

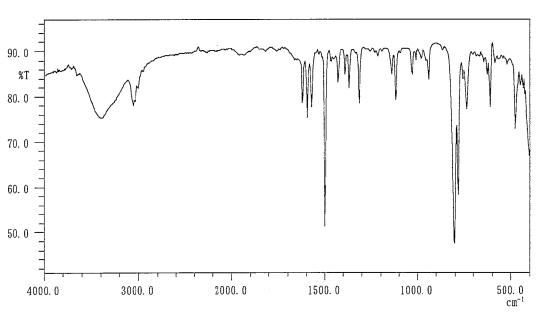
John Wiley and Sons, Inc. (U.S.), Entry Number 6221)

Infrared Spectrometry

Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr

Resolution : 4 cm⁻¹



Infrared Spectrum of Test Substance

*
Literature Values
Wave Number (cm ⁻¹)
440~ 460
460~ 500
600~ 640
720~ 760
760∼ 800
800~ 840
920~ 960
$1020\sim 1040$
1100~1130
1130~1160
1300~1320
1340~1380
1380~1400
1400~1440
1480~1520
1560~1580
1580~1600
1600~1640
3120~3720

Results: The infrared spectrum was consistent with literature spectrum.

(*William W. Simons (1978) The Sadtler Handbook of Infrared Spectra.

Sadtler Research Laboratories, Inc. (U.K.), p.218)

2. Impurity

Instrument

: Hewlett Packard 5890A Gas Chromatograph

Column

: INNOWAX (0.2 mm $\phi \times 50$ m)

Column Temperature

: 190° C

Flow Rate

: 1 mL/min

Detector

: FID (Flame Ionization Detector)

Injection Volume

 $: 1 \mu L$

Sample Name	Peak No.	Area (%)	Peak Name
Test Substance	1	0.166	2-Methyl Naphthalene
	2	99.692	Quinoline
	3	0.142	Isoquinoline

Results: Gas chromatography indicated one major peak (peak No.2) and two impurities. It was identified only by comparing its gas chromatograph with that of 2-methyl naphthalene (peak No.1), and isoquinoline (peak No.3) in the quinoline, the amount in the test substance were 0.166%, and 0.142%.

3. Conclusions: The test substance was identified as quinoline, by the mass spectrum and the infrared spectrum. Gas chromatography indicated one major peak (peak No.2) and two impurities. It was identified only by comparing its gas chromatograph with that of 2-methyl naphthalene, and isoquinoline, the amount in the test substance were 0.166%, and 0.142%.

)

)

APPENDIX Q 2

STABILITY OF QUINOLINE IN THE 2-YEAR DRINKING WATER STUDY

STABILITY OF QUINOLINE IN THE 2-YEAR DRINKING WATER STUDY

Test Substance : Quinoline (Tokyo Kasei Kogyo Co., Ltd.)

A. Lot No. : FHE02

1. Sample : This lot was used from 1996.2.21 to 1996.8.28. 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 $\phi \times$ 50 m)

Column Temperature : 190° C

Flow Rate : 1 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1 µL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
1996.2.9	1	5.680	0.205
	2	6.726	99.671
	3	7.186	0.124
1996.8.30	1	5.680	0.205
	2	6.728	99.671
	3	7.186	0.124

Results: Gas chromatography indicated one major peak (peak No.2) and two impurities (peaks No.1 and No.3 < 1% of total area) analyzed on 1996.2.9 and one major peak (peak No.2) and two impurities (peaks No.1 and No.3 < 1% of total area) analyzed on 1996.8.30. No new trace impurity peak in the test substance analyzed on 1996.8.30 was detected.

3. Conclusions: The test substance was stable for about 6 months in a dark place at room temperature.

B. Lot No.

: FHE03

1. Sample

: This lot was used from 1996.8.28 to 1998.2.19. 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 $\phi \times$ 50 m)

Column Temperature : 190° C

Flow Rate

: 1 mL/min

Detector

)

: FID (Flame Ionization Detector)

Injection Volume

 $: 1 \mu L$

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
1996.8.22	1	5.683	0.166
	2	6.728	99.692
	3	7.188	0.142
1998.2.28	1	5.675	0.165
	2	6.727	99.692
	3	7.182	0.143

Results: Gas chromatography indicated one major peak (peak No.2) and two impurities (peaks No.1 and No.3 < 1% of total area) analyzed on 1996.8.22 and one major peak (peak No.2) and two impurities (peak No.1 and No.3 < 1% of total area) analyzed on 1998.2.28. No new trace impurity peak in the test substance analyzed on 1998.2.28 was detected.

3. Conclusions: The test substance was stable for about 18 months in a dark place at room temperature.

APPENDIX Q 3

CONCENTRATION OF QUINOLINE IN FORMULATED WATER IN THE 2-YEAR DRINKING WATER STUDY

CONCENTRATION OF QUINOLINE IN FORMULATED WATER IN THE 2-YEAR DRINKING WATER STUDY

_			arget Concentration			
	Male			Female		
Date Analyzed	200ª	400	800	150	300	600
1996.02.20	197 (98.5) ^b	396 (99.0)	792 (99.0)	148 (98.7)	297 (99.0)	599 (99.8)
1996.05.14	202 (101)	399 (99.8)	794 (99.3)	151 (101)	299 (99.7)	591 (98.5)
1996.08.06	191 (95.5)	389 (97.3)	781 (97.6)	143 (95.3)	294 (98.0)	592 (98.7)
1996.10.29	195 (97.5)	389 (97.3)	784 (98.0)	149 (99.3)	293 (97.7)	588 (98.0)
1997.01.21	193 (96.5)	391 (97.8)	788 (98.5)	144 (96.0)	291 (97.0)	587 (97.8)
1997.04.15	197 (98.5)	388 (97.0)	777 (97.1)	148 (98.7)	295 (98.3)	593 (98.8)
1997.07.15	198 (99.0)	395 (98.8)	789 (98.6)	148 (98.7)	297 (99.0)	598 (99.7)
1997.09.30	202 (101)	403 (101)	_c	149 (99.3)	304 (101)	603 (101)
1997.12.16	199 (99.5)	-	-	150 (100)	297 (99.0)	-

^a ppm ^b %

Analytical method : The samples were analyzed by the 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 : 50° C Flow Rate : 1 mL/min

Mobile Phase : Methanol : Distilled Water = 3 : 2

: UV (280 nm) Detector

Injection Volume : 2.5 μL

^c No preparation for this concentration was made due to no survival animal.

APPENDIX Q 4

STABILITY OF QUINOLINE IN FORMULATED WATER
IN THE 2-YEAR DRINKING WATER STUDY

STABILITY OF QUINOLINE IN FORMULATED WATER IN THE 2-YEAR DRINKING WATER STUDY

		Target Concentration		
Date Prepared	Date Analyzed	150ª	800	
1996.2.20	1996.2.20	148 (100) ^b	792 (100)	
	1996.2.28	152 (103)	791 (99.9)	

^a ppm

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

Instrument : Hewlett Packard 1090 High Performance Liquid Chromatograph

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

Column Temperature: 50° C

Flow Rate : 1 mL/min

Mobile Phase : Methanol : Distilled Water = 3 : 2

Detector : UV (280 nm)

Injection Volume : 2.5 μL

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

APPENDIX R 1

METHODS FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-YEAR DRINKING WATER STUDY OF QUINOLINE

METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALYSIS IN THE 2-YEAR DRINKING WATER STUDY OF QUINOLINE

Item	Method
Hematology	
Red blood cell (RBC)	Light scattering method 1)
Hemoglobin (Hgb)	Cyanmethemoglobin method 1)
Hematocrit (Hct)	Calculated as RBC×MCV/10 1)
Mean corpuscular volume (MCV)	Light scattering method 1)
Mean corpuscular hemoglobin (MCH)	Calculated as Hgb/RBC×10 1)
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as Hgb/Hct×100 1)
Platelet	Light scattering method 1)
White blood cell (WBC)	Light scattering method 1)
Differential WBC	Pattern recognition method 2)
	(May-Grunwald-Giemsa staining)
Biochemistry	
Total protein (TP)	Biuret method 3)
Albumin (Alb)	BCG method 3)
A/G ratio	Calculated as Alb/(TP-Alb) 3)
T-bilirubin	Alkaline azobilirubin method 3)
Glucose	GlcK·G-6-PDH method 3)
T-cholesterol	CE·COD·POD method 3)
Triglyceride	LPL·GK·GPO·POD method 3)
Phospholipid	PLD·ChOD·POD method 3)
Glutamic oxaloacetic transaminase (GOT)	JSCC method 3)
Glutamic pyruvic transaminase (GPT)	JSCC method 3)
Lactate dehydrogenase (LDH)	SFBC method 3)
Alkaline phosphatase (ALP)	GSCC method 3)
γ -Glutamyl transpeptidase (γ -GTP)	L- γ -Glutamyl-p-nitroanilide method ³⁾
Creatine phosphokinase (CPK)	JSCC method 3)
Urea nitrogen	Urease · GLDH method 3)
Creatinine	Jaffe method 3)
Sodium	Ion selective electrode method 3)
Potassium	Ion selective electrode method 3)
Chloride	Ion selective electrode method 3)
Calcium	OCPC method 3)
Inorganic phosphorus	PNP·XOD·POD method 3)
Urinalysis	
pH,Protein,Glucose,Ketone body,Bilirubin,Occult blood,	Urinalysis reagent paper method 4)
Urobilinogen	

- 1) Automatic blood cell analyzer (Technicon H·1: Bayer Corporation)
- 2) Automatic blood cell differential analyzer (Hitachi 8200: Hitachi,Ltd.)
- 3) Automatic analyzer (Hitachi 7070: Hitachi, Ltd.)
- 4) Ames reagent strips for urinalysis (Multistix: Bayer Corporation)

APPENDIX R 2

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE ${
m 2-YEAR}$ DRINKING WATER STUDY OF QUINOLINE

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-YEAR DRINKING WATER STUDY OF QUINOLINE

Item	Unit	Decimal place
Hematology		
Red blood cell (RBC)	$\times 10^6/\mu$ L	2
Hemoglobin	g/dL	1
Hematocrit	%	1
Mean corpuscular volume (MCV)	fL	1
Mean corpuscular hemoglobin (MCH)	pg	1
Mean corpuscular hemoglobin concentration (MCHC)	g/dL	1
Platelet	$\times 10^3/\mu L$	0
White blood cell (WBC)	$\times 10^3/\mu L$	2
Differential WBC	%	0
Biochemistry		
Total protein	g/dL	1
Albumin	g/dL	1
A/G ratio	_	1
T-bilirubin	mg/dL	2
Glucose	mg/dL	0
T-cholesterol	mg/dL	0
Triglyceride	mg/dL	0
Phospholipid	mg/dL	0
Glutamic oxaloacetic transaminase (GOT)	IU/L	0
Glutamic pyruvic transaminase (GPT)	IU/L	0
Lactate dehydrogenase (LDH)	IU/L	0
Alkaline phosphatase (ALP)	IU/L	0
γ -Glutamyl transpeptidase (γ -GTP)	IU/L	О
Creatine phosphokinase (CPK)	IU/L	О
Urea nitrogen	mg/dL	1
Creatinine	mg/dL	1
Sodium	mEq/L	0
Potassium	mEq/L	1
Chloride	mEq/L	0
Calcium	mg/dL	1
Inorganic phosphorus	mg/dL	1

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APPENDIX S 1

HISTORICAL CONTROL DATA OF CELECTED NEOPLASTIC LESIONS F344/DuCrj (FISHER) RATS IN JAPAN BIOASSAY RESEARCH CENTER

Historical Control Data of Selected Neoplastic Lesions F344/DuCrj(Fisher) Rats in Japan Bioassay Research Center

		Male n=1199			Female n=1097	
Lesions(*:malignant)	Animal with Tumors	Rate %	Range %	Animal with Tumors	Rate %	Range %
Liver						
Hemangiosarcoma*	0	0	0	1	0.1	0-2
Hepatocellular adenoma	20	1.7	0-6	15	1.4	0-6
Hepatocellular carcinoma*	3	0.3	0-2	1	0.1	0-2
Nasal cavity						
Hemangioma	0	0	0	0	0	0
Sarcoma NOS*	0	0	0	0	0	0
Ethesioneuroepithelioma*	0	0	0	0	0	0
Adipose tissue						
Hemangiosarcoma*	0	0	0	0	0	0
Mesenterium						
Hemangioma	0	0	0	0	0	0
Hemangiosarcoma*	0	0	0	0	0	0
Peritoneum						
Hemangioma	0	0	0	0	0	0
Hemangiosarcoma*	0	0	0	0	0	0
Retroperitoneum						
Hemangiosarcoma*	0	0	0	0	0	0
Lung						
Hemangiosarcoma*	0	0	0	0	0	0
Mediastinum						
Sarcoma NOS*	0	0	0	1	0.1	0-2
Ovary						
Hemangiosarcoma*	-	-	-	0	0	0
All site						
Hemangioma	5	0.4	0-2	2	0.2	0-2
Hemangiosarcoma*	3	0.3	0-2	6	0.5	0-2