2-アミノ-4-クロロフェノールのマウスを用いた 経口投与による13週間毒性試験(混餌試験)報告書

試験番号:0550

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APPENDIX A 1

IDENTITY OF 2-AMINO-4-CHLOROPHENOL IN THE 13-WEEK FEED STUDY

IDENTITY OF 2-AMINO-4-CHLOROPHENOL IN THE 13-WEEK FEED STUDY

Test Substance	: 2-Amino-4-chlorophenol	(Wako P	Pure	Chemical	Industries,	Ltd.)
Lot No.	: CEQ0194					

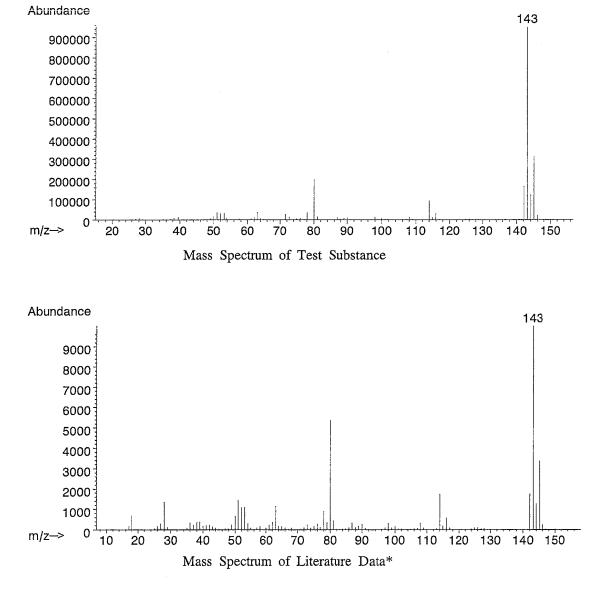
1. Spectral data

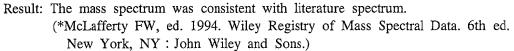
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Mass Spectrometry

Instrument	: Hewlett Packard 5989B Mass Spectrometer
Ionization	: EI (Electron Ionization)

Ionization Voltage : 70eV









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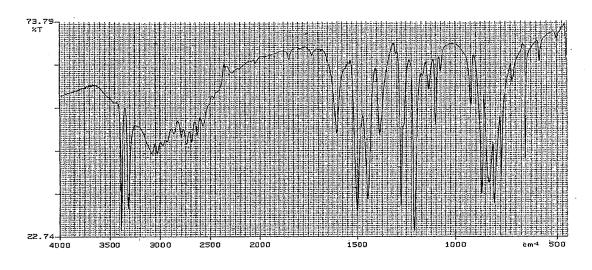
)

: Shimadzu FTIR-8200PC Infrared Spectrometer

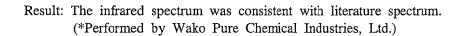
Cell : KBr Liquid Cell

Resolution : 2.0 cm⁻¹ 75.0 50.0 25.0

Infrared Spectrum of Test Substance



Infrared Spectrum of Literature Data*



2. Conclusion: The test substance was identified as 2-amino-4-chlorophenol by mass spectrum and infrared spectrum.

APPENDIX A 2

STABILITY OF 2-AMINO-4-CHLOROPHENOL IN THE 13-WEEK FEED STUDY

STABILITY OF 2-AMINO-4-CHLOROPHENOL IN THE 13-WEEK FEED STUDY

Test Substance	: 2-Amino-4-chlorophenol (Wako Pure Chemical Industries, Ltd.)
Lot No.	: CEQ0194

- 1. Sample : This lot was used from 2004.7.30 to 2004.11.1. Test substance was stored in cold storage in a dark place.
- 2. Gas Chromatography

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Instrument	: Hewlett Packard 5890A Gas Chromatograph
Column	: DB-1 (0.25 mm ϕ \times 60 m)
Column Temperature	: 100 °C \rightarrow (10 °C/min) \rightarrow 250 °C (5 min)
Flow Rate	: 1 mL/min
Detector	: FID (Flame Ionization Detector)
Injection Volume	: 1 μL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
2004.07.27	1	12.373	100
2005.01.11	1	12.374	100

- Result: Gas chromatography indicated one major peak (peak No.1) analyzed on 2004.7.27 and one major peak (peak No.1) analyzed on 2005.1.11. No new trace impurity peak in the test substance analyzed on 2005.1.11 was detected.
- 3. Conclusion: The test substance was stable for about 6 months in cold storage in a dark place.

APPENDIX A 3

CONCENTRATION OF 2-AMINO-4-CHLOROPHENOL IN FORMULATED DIETS IN THE 13-WEEK FEED STUDY

CONCENTRATION OF 2-AMINO-4-CHLOROPHENOL IN FORMULATED DIETS IN THE 13-WEEK FEED STUDY

		Target Concentration											
Date Analyzed	512ª	1280	3200	8000	20000								
2004.07.29	492 (96.1) ^b	1280 (100)	3170 (99.1)	8110 (101)	20400 (102)								
ppm %		, <u></u> _, <u></u> ,											
,.													
	: Shimadzu	1 LC-10 High P	ed by high perform erformance Liquid (4.6 mm ϕ × 15 cr	Chromatograph	matography.								
Analytical method Instrument	: Shimadzu : TSK GE	1 LC-10 High P		Chromatograph	matography.								
Analytical method Instrument Column	: Shimadzu : TSK GE	1 LC-10 High Pe L ODS-80TM (4	erformance Liquid (Chromatograph	matography.								
Analytical method Instrument Column Column Temperature	: Shimadzu : TSK GE : 40 °C : 0.8 mL/n : Methanol	1 LC-10 High Pe L ODS-80TM (4 nin L : Acetonitrile : 1	erformance Liquid (Chromatograph n)									
Analytical method Instrument Column Column Temperature Flow Rate	: Shimadzu : TSK GE : 40 °C : 0.8 mL/n : Methanol	n LC-10 High Pe L ODS-80TM (4 nin : Acetonitrile : Acetonitrile : A	erformance Liquid (4.6 mm ϕ × 15 cr Phosphoric Acid	Chromatograph n)									

APPENDIX A 4

HOMOGENEITY OF 2-AMINO-4-CHLOROPHENOL IN FORMULATED DIETS IN THE 13-WEEK FEED STUDY

HOMOGENEITY OF 2-AMINO-4-CHLOROPHENOL IN FORMULATED DIETS IN THE 13-WEEK FEED STUDY

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			Torgat Concerts	ration	
			Target Concent	ration	
	512 ^a	1280	3200	8000	20000
Coefficient Variation	2.30 ^b	2.71	2.05	2.58	2.66
^a ppm ^b % (n=7)		<u> </u>			
Analytical method	: The samples	were analyzed	by high performa	nce liquid chrom	atography.
Instrument	: Shimadzu L	C-10 High Perfor	rmance Liquid C	hromatograph	
Column	: TSK GEL C	DS-80TM (4.6)	$mm\phi \times \hat{15}$ cm)	
Column Temperature	: 40 °C				
Flow Rate	: 0.8 mL/min				
Mobile Phase		Acetonitrile : Phos anesulfonic Acid	-	onohydrate pH2.4)	= 1:1:3
Detector	: UV (284 nn				
Injection Volume	: 10 µL				

APPENDIX A 5

STABILITY OF 2-AMINO-4-CHLOROPHENOL IN FORMULATED DIETS IN THE 13-WEEK FEED STUDY

STABILITY OF 2-AMINO-4-CHLOROPHENOL IN FORMULATED DIETS IN THE 13-WEEK FEED STUDY

		Target Co	oncentration
Date Prepared	Date Analyzed	512ª	20000
2004.06.11	2004.06.11	484 (100) ^b	19900 (100)
	2004.06.16 ^c	436 (90.1)	19600 (98.5)
	2004.06.25 ^d	477 (98.6)	19400 (97.5)

^a ppm
^b % (Percentage was based on the concentration on date of preparation.)
^c Animal room samples
^d Cold storage samples

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

Instrument	: Shimadzu LC-10 High Performance Liquid Chromatograph
Column	: TSK GEL ODS-80TM (4.6 mm ϕ $ imes$ 15 cm)
Column Temperature	e: 40 ℃
Flow Rate	: 0.8 mL/min
Mobile Phase	: Methanol : Acetonitrile : Phosphoric Acid
	(5 mM Octanesulfonic Acid Sodium Salt Monohydrate pH2.4) = 1:1:3
Detector	: UV (284 nm)
Injection Volume	: 10 μL

APPENDIX B 1

CLINICAL OBSERVATION : MALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] REPORT TYPE : A1 13

SEX : MALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0
	512 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1
	1280 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	20000 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0
	512 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	1280 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	20000 ppm	0	0	0	0	1	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

001101		0	v	v	v	
512	ppm	0	0	0	0	
1280	ppm	0	0	0	0	
3200	ppm	0	0	0	0	
8000	ppm	0	0	0	0	
20000	ppm	0	0	0	0	

Control

512 ppm

1280 ppm

3200 ppm

8000 ppm

20000 ррт

Control

512 ppm

1280 ppm

3200 ppm

8000 ppm

20000 ppm

(HAN190)

INTERNAL MASS

NON REMARKABLE

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APPENDIX B 2

CLINICAL OBSERVATION : FEMALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

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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	
		_	_	_	_		_		_	_					
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	512 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1280 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000 ppm	. 0	0	0	0	0	2	3	3	3	3	3	3	3	
OILED	Control	0	0	Ö	0	0	0	0	0	0	0	0	0	0	
	512 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1280 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000 ppm	0	0	0	0	1	2	0	0	0	0	0	0	0	
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	512 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1280 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000 ppm	0	0	0	0	2	2	0	0	0	0	0	0	0	
OILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	512 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1280 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3200 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8000 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	20000 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	
ION REMARKABLE	Control	10	10	10	10	10	10	10	10	10	10	10	10	10	
	512 ppm	10	10	10	10	10	10	10	10	10	10	10	10	10	
	1280 ppm	10	10	10	10	10	10	10	10	10	10	10	10	10	
	3200 ppm	10	10	10	10	10	10	10	10	10	10	10	10	10	
	8000 ppm	10	10	10	10	10	10	10	10	10	10	10	10	10	
	20000 ppm	10	10 .	10	10	8	6	7	7	7	7	7	7	7	

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APPENDIX C 1

BODY WEIGHT CHANGES : MALE

Name	Administration	week				· · · · ·	
	0	1	2	3	4	5	6
Control	23.8± 0.9	25.1± 0.9	26.4± 1.6	26.7± 1.9	27.2± 1.9	28.5± 1.8	28.2± 2.2
512 ppm	23.7± 0.9	24.8± 2.0	26.0± 2.4	26.1± 3.3	28.0± 1.4	29.1± 1.6	28.6± 1.9
1280 ppm –	23.8± 0.9	25.0± 1.8	26.2± 1.8	26.3± 1.6	26.8± 1.7	28.0 ± 1.5	27.6± 1.4
3200 ppm	23.8± 0.8	24.6± 0.7	26.0± 1.0	26.1 \pm 1.2	26.6± 1.3	28.0± 1.4	27.4± 1.6
8000 ppm	23.8± 0.9	24.5± 0.6	25.7± 0.9	26.1± 1.1	26.8± 1.2	27.6土 1.2	27.4± 1.4
mqq 0000	23.7± 1.0	22.3± 1.6**	24.2± 1.4*	24.6± 1.6	24.8± 1.9**	24.9± 3.4*	25.5± 1.0**

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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/ UNIT : g REPORT TYPE : A1 13 SEX : MALE	Crlj[Crj:BDF1]		BODY WEIGHT ALL ANIMALS	CHANGES
Group Name	Administration 7	week8	9	
Control	29.1± 1.9	29.8± 2.0	30.4±	2.4

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31.9± 2.0 31.8± 2.0 32.3± 2.3 32.9土 2.7 512 ppm 30.3± 2.0 31.0 ± 2.3 31.1± 2.6 32.1± 2.8 32.3 ± 2.5 32.9± 2.9 33.2± 3.0 1280 ppm 29.4± 1.3 29.7± 1.2 30.6 ± 1.7 31.5± 2.1 31.5± 2.3 31.2± 2.4 32.4± 2.4 31.1± 1.9 3200 ppm 29.2 ± 1.7 29.7± 1.7 30.3± 1.4 31.5± 1.6 31.5± 1.9 31.5 ± 3.1 8000 ppm 28.4± 1.3 28.8± 1.6 29.5 ± 1.5 30.4± 1.6 29.7土 2.7 30.8± 2.2 30.8土 2.7 20000 ppm 25.7± 1.2** 27.4± 1.3* 27.1± 2.2** 28.1± 1.1** 27.3± 1.6++ 25.2± 1.4** 27.8± 1.1**

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

Test of Dunnett

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12

(SUMMARY)

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APPENDIX C 2

BODY WEIGHT CHANGES : FEMALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] UNIT : g REPORT TYPE : A1 13 SEX : FEMALE

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BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS

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up Name	Administration	week						
	0	1	2	3	4	5	6	
Control	18.8± 0.7	20. 2 - 1. 2	21.0± 1.2	21.3± 0.8	21.3± 1.2	22.0± 1.1	20.8± 0.8	
512 ppm	18.8± 0.8	20.2± 0.8	20.7± 0.8	20.5± 1.1	21.9± 1.0	22.3± 0.9	21.6± 0.3	
1280 ppm	18.8± 0.7	19.4± 1.6	20.5± 1.3	20.7± 1.0	21.4± 0.8	22.4± 0.9	21.1± 0.8	
3200 ppm	18.8± 0.8	20.0± 1.0	21.2± 1.2	20.5± 1.2	21.3± 1.4	22.0± 1.2	21.2± 1.4	
8000 ppm	18.8± 0.7	19.9± 1.0	20.5± 0.6	20.9± 0.4	21.0土 0.8	21.8 ± 0.5	20.7± 0.8	
20000 ppm	18.8± 0.7	18.6± 0.9**	20.2± 0.7	19.8± 0.7₩	20.2 ± 0.9	20.1± 1.8	19.1± 1.9	
Significant differe	ence; $*: P \leq 0.05$	** : P ≤ 0.01		Test of Dunnett				
		** · r ≧ 0.01	-	lest of Dunnett				
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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] UNIT : g REPORT TYPE : A1 13 SEX : FEMALE

PAGE : 4

p Name	Administrati	on week					
	7	8	9	10	11	12	13
Control	22.1 ± 1.3	21.7 ± 1.3	22.5 ± 1.1	22.5 ± 1.4	23.2± 1.3	23.6 ± 1.5	23.7± 1.3
512 ppm	22.6± 0.9	21.8± 0.6	22.3± 0.6	22.5± 0.8	23.8± 1.1	23.5± 1.6	23.8± 1.0
1280 ppm	22.3± 0.7	22.0± 0.8	22.9± 1.2	22.7± 0.8	23.4± 1.8	23.1± 1.7	23.9 ± 1.8
3200 µpm	22.5± 1.8	22.8± 1.3	22.9± 1.2	22.8± 1.3	23.2± 1.3	24.0± 1.6	24.2± 1.8
8000 ppm	21.8± 0.9	21.4立 0.9	22.7± 0.9	21.5± 1.4	22.6± 0.9	22.7土 0.8	22.5± 0.6
mqq 0000	20.8± 1.5	21.8± 0.6	22.8± 1.2	20.2± 0.9**	22.9± 1.7	23.0 ± 1.3	22.9± 0.9
Significant difference ;	* : P ≦ 0.05	** : P ≦ 0.01		Test of Dunnett			
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BODY WEIGHT CHANGES (SUMMARY)

ALL ANIMALS

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APPENDIX D 1

FOOD CONSUMPTION CHANGES : MALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Crlj[Crj:BDF1] UNIT : g REPORT TYPE : A1 13 SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

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PAGE : 1

p Name	Administratio	on week					
	1	2	3	4	5	6	7
Control	4.0± 0.3	3.6± 0.4	3.5± 0.5	3.6± 0.3	3.7± 0.3	3.9± 0.3	4.3± 0.4
512 ppm	3.9± 0.9	3.9± 0.8	3.6± 1.0	4.0± 0.5	4.2± 0.6	3.8± 0.5	4.3± 0.4
1280 ppm	4.0 \pm 0.4	3.9± 0.7	3.6± 0.5	3.7± 0.4	3.8± 0.3	3.7± 0.4	4.3± 0.6
3200 ppm	3.9 ± 0.2	4.2± 0.3	3.7 ± 0.5	3.8± 0.7	4.1± 0.5	3.9± 0.6	4.3± 0.5
8000 ppm	4.0± 0.2	3.9 <u>+</u> 0.2	3.8± 0.4	3.9± 0.7	3.9± 0.8	4.1± 0.3	4.0土 0.4
20000 ppm	3.8± 0.6	3.8± 0.4	3.5± 0.5	3.6 ± 0.4	3.6± 0.5	3.9± 0.7	3.3± 0.5**
Significant differe	ence ; $* : P \leq 0.05$	** : P ≦ 0.01		Test of Dunnett			
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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] UNIT : g REPORT TYPE : A1 13 SEX : MALE

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FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

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Name	Administration	week					
	8	9	10	11	12	13	
Control	4.1± 0.5	3.5± 0.5	4.1± 0.3	3.7 ± 0.5	3.9± 0.4	3.9± 0.4	
512 ppm	4.3± 0.6	3.9± 0.5	4.1± 0.7	4.1± 0.4	4.1± 0.3	4.1± 0.4	
1280 ppm	4.1± 0.4	4.1± 0.6	4.1± 0.4	3.9± 0.5	3.8± 0.6	4.0± 0.3	
3200 ypm	4.4± 0.5	4.2± 0.6*	4.1± 0.5	4.4± 0.4	3.8± 0.5	3.8± 0.7	
8000 ppm	4.1± 0.3	4.1土 0.6	4.3± 0.6	3.7 ± 0.6	4.2± 0.5	3.9± 0.6	
20000 ppm	4.8± 0.5**	4.4± 0.5**	3.3± 0.9	4.1± 0.8	4.1± 0.7	3.6± 0.4	
Significant difference ;	*:P≦ 0.05 *	e≠ : P ≤ 0.01		Test of Dunnett			
N260)				· · ·			F

APPENDIX D 2

FOOD CONSUMPTION CHANGES : FEMALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] UNIT : g REPORT TYPE : A1 13 SEX : FEMALE

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FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

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p Name	Administration	week					
	1	2	3	4	5	6	7
Control	3.8± 0.5	. 3.6土 0.5	3.4± 0.3	3.3± 0.2	3.6± 0.3	3.4 生 0.4	3.7± 0.3
512 ppm	3.7± 0.6	3.3± 0.2	3.4± 0.5	3.6± 0.4	3.7± 0.4	3.8± 0.5	4.1± 0.5
1280 ppm	3.2 ± 0.6	3.1± 0.3	3.3± 0.5	3.2± 0.4	3.6± 0.3	3.5± 0.3	3.5± 0.3
3200 ppm	3.5± 0.4	3.5± 0.5	3.1 ± 0.5	3.4± 0.3	3.5± 0.6	3.4± 0.5	3.9± 1.0
8000 ppm	3.5± 0.3	3.2 ± 0.2	3.4± 0.2	3.2± 0.4	3.5± 0.3	3.4± 0.3	3.6± 0.3
20000 mqq	3.5± 0. ⁻ 6	3.2± 0.4	3.1± 0.5	3.3± 0.5	3.4± 0.4	3.5 ± 0.6	3.3± 1.2
Significant difference ;		** : P ≦ 0.01		Test of Dunnett			

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] UNIT : g REPORT TYPE : A1 13 SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

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PAGE : 4

p Name	Administration	week					
	8	9	10	11	12	13	
Control	3.8± 0.4	3.7± 0.6	3.6± 0.7	4.0± 0.5	3.9± 0.3	3.8土 0.6	
512 ppm	3.8± 0.3	4.0± 0.4	3.8± 0.5	4.1± 0.4	3.9± 0.2	3.8± 0.3	
1280 ppm	3.7± 0.2	$3.9\pm$ 0.5	3.7± 0.6	3.9± 0.6	3.7 ± 0.3	3.7± 0.3	
3200 ppm	4.0± 0.4	3.8± 0.3	3.7± 0.4	3.7± 0.4	3.8± 0.5	3.9± 0.4	
8000 ppm	3.7± 0.2	4.0± 0.7	3.4± 0.7	3.5± 0.4	3.6 ± 0.5	3.4± 0.5	
20000 mag	4.3± 0.6	4.2± 0.6	3.1± 0.6	3.9 ± 0.7	3.5± 0.3	3.4± 0.5	
Significant differen	nce; *:P≦0.05	** : P ≤ 0.01		Test of Dunnett			
N260)							

APPENDIX E 1

CHEMICAL INTAKE CHANGES : MALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1;[Crj:BDF1] UNIT : g /kg/day REPORT TYPE : A1 13 SEX : MALE

PAGE : 1

oup Name	Administration	Week-Day)				·····	
	1-7	2-7	3–7	4-7	5-7	6-7	7-7
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
512 ppm	0.079± 0.014	0.076± 0.012	0.069± 0.014	0.073± 0.007	0.074± 0.010	0.068± 0.009	0.072± 0.006
1280 ppm	0.203± 0.010	0.190± 0.031	0.174± 0.024	0.178± 0.018	0.175± 0.010	0.170± 0.017	0.189± 0.024
3200 ppm	0.506 ± 0.025	0.511± 0.042	0.455± 0.069	0.454± 0.082	0.471± 0.059	0.459± 0.070	0.476± 0.061
8000 ppm	1.320± 0.099	1.214± 0.058	1.149± 0.100	1.152± 0.186	1.134± 0.198	1.182 ± 0.074	1.139± 0.091
20000 ppm	3.368± 0.423	3.131± 0.326	2.877± 0.409	2.905± 0.399	2.973± 0.662	3.056± 0.629	2.561± 0.438

CHEMICAL INTAKE CHANGES (SUMMARY)

ALL ANIMALS

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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] UNIT : g /kg/day REPORT TYPE : A1 13 SEX : MALE

CHEMICAL INTAKE CHANGES (SUMMARY) ALL ANIMALS

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PAGE : 2

roup Name	Administration ((Week-Day)					
-	8-7	9-7	10-7	11-7	12-7	13–7	
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	
512 ppm	0.072± 0.009	0.064± 0.007	0.066± 0.009	0.065± 0.005	0.064± 0.007	0.063± 0.007	
1280 ppm	0.177± 0.019	0.173± 0.022	0.165± 0.016	0.160 ± 0.018	0.154± 0.021	0.158± 0.013	
3200 ppm	0.470± 0.052	0.449± 0.077	0.422± 0.049	0.442± 0.036	0.384± 0.055	0.383± 0.046	
8000 ppm	1.151± 0.098	1.116± 0.156	1.140± 0.172	0.981± 0.111	1.087± 0.128	1.006± 0.121	
20000 ppm	3.485 ± 0.305	3.258± 0.337	2.602 ± 0.692	2.985± 0.447	2.978± 0.557	2.535± 0.247	

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APPENDIX E 2

CHEMICAL INTAKE CHANGES : FEMALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1;[Crj:BDF1] UNIT : g /kg/day REPORT TYPE : A1 13 SEX : FEMALE

CHEMICAL INTAKE CHANGES (SUMMARY) ALL ANIMALS

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roup Name	Administration	(Week-Day)					
	1-7	2-7	3-7	4-7	5-7	6-7	7-7
Control	0.000± 0.000	0.000 ± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
512 ppm	0.094± 0.014	0.081± 0.005	0.085± 0.010	0.084± 0.008	0.086± 0.008	0.090± 0.011	0.094± 0.010
1280 ppm	0.210± 0.024	0.196± 0.014	0.202± 0.029	0.192± 0.024	0.205± 0.015	0.211 ± 0.017	0.201± 0.020
3200 ppm	0.558± 0.045	0.522± 0.055	0.491± 0.074	0.505± 0.040	0.503± 0.075	0.510 ± 0.054	0.553 ± 0.102
8000 ppm	1.388± 0.082	1.232 ± 0.081	1.299± 0.093	1.231± 0.128	1.273± 0.105	1.310± 0.120	1.321± 0.077
20000 ppm	3.712± 0.493	3.207± 0.285	3.090± 0.447	3.267± 0.495	3.351± 0.470	3.723± 0.844	3.124± 1.090

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BAIS 4

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1;[Crj:BDF1] UNIT : g /kg/day REPORT TYPE : A1 13 SEX : FEMALE

CHEMICAL INTAKE CHANGES (SUMMARY) ALL ANIMALS

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PAGE: 4

$8-7$ $9-7$ $10-7$ $11-7$ $12-7$ $13-7$ Control 0.000 ± 0.000 512 ppm 0.088 ± 0.007 0.092 ± 0.008 0.087 ± 0.011 0.089 ± 0.007 0.084 ± 0.005 0.081 ± 0.006 1280 ppm 0.215 ± 0.015 0.218 ± 0.018 0.206 ± 0.033 0.211 ± 0.020 0.205 ± 0.016 0.198 ± 0.014 3200 ppm 0.556 ± 0.051 0.534 ± 0.044 0.516 ± 0.049 0.516 ± 0.050 0.510 ± 0.056 0.517 ± 0.060 8000 ppm 1.380 ± 0.110 1.420 ± 0.217 1.264 ± 0.211 1.241 ± 0.128 1.277 ± 0.188 1.209 ± 0.161	Group Name	Administration ((Week-Day)					
512 ppm 0.088± 0.007 0.092± 0.008 0.087± 0.011 0.089± 0.007 0.084± 0.005 0.081± 0.006 1280 ppm 0.215± 0.015 0.218± 0.018 0.205± 0.020 0.205± 0.016 0.198± 0.014 3200 ppm 0.556± 0.051 0.534± 0.044 0.516± 0.050 0.510± 0.056 0.517± 0.060 8000 ppm 1.380± 0.110 1.420± 0.217 1.264± 0.211 1.241± 0.128 1.277± 0.188 3.209± 0.161				10-7	11-7	12-7	13-7	
1280 ppm 0.215 ± 0.015 0.218 ± 0.018 0.206 ± 0.033 0.211 ± 0.020 0.205 ± 0.016 0.198 ± 0.014 3200 ppm 0.556 ± 0.051 0.534 ± 0.044 0.516 ± 0.049 0.516 ± 0.050 0.510 ± 0.056 0.517 ± 0.060 8000 ppm 1.380 ± 0.110 1.420 ± 0.217 1.264 ± 0.211 1.241 ± 0.128 1.277 ± 0.188 1.209 ± 0.161	Control	0.000± 0.000	0.000± 0.000		0.000 ± 0.000	0.000± 0.000	0.000± 0.000	
3200 ppm 0.556± 0.051 0.534± 0.044 0.516± 0.049 0.516± 0.050 0.510± 0.056 0.517± 0.060 8000 ppm 1.380± 0.110 1.420± 0.217 1.264± 0.211 1.241± 0.128 1.277± 0.188 1.209± 0.161	512 ppm	0.088± 0.007	0.092± 0.008	0.087± 0.011	0.089± 0.007	0.084± 0.005	0.081± 0.006	
8000 ppm 1.380±0.110 1.420±0.217 1.264±0.211 1.241±0.128 1.277±0.188 1.209±0.161	1280 ppm	0.215± 0.015	0.218± 0.018	0.205± 0.033	0.211± 0.020	0.205± 0.016	0.198± 0.014	
	3200 ppm	0.556± 0.051	0.534± 0.044	0.516± 0.049	0.516± 0.050	0.510± 0.056	0.517± 0.060	
	8000 ppm	1.380± 0.110	1.420± 0.217	1.264± 0.211	1.241± 0.128	1.277± 0.188	1.209± 0.161	
20000 ppm 3.925± 0.552 3.684± 0.450 3.085± 0.564 3.382± 0.439 3.033± 0.338 2.942± 0.462	20000 ppm	3.925± 0.552	3.684± 0.450	3.085± 0.564	3.382± 0.439	3.033± 0.338	2.942± 0.462	

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APPENDIX F 1

HEMATOLOGY : MALE

STUDY NO. : 0550 ANIMAL : MOUS MEASURE. TIME :	E B6D2F1/Crlj[Crj:BDF1]		HEMATOLOGY (SUMMARY) ALL ANIMALS (14W)	
SEX : MALE	REPORT T	YPE : Al			
Group Name	NO. of Animals	RED BLOOD CELL 1 0 ⁵ /µl	HEMOGLOBIN g⁄dl	HEMATOCRIT %	MCV f L

Control	9	10.52±	0. 32	15.8主	0.5	47.6土	1.7	45.3±	0.8	15.1±	0.1	33.3±	0.7	1415±	71
512 ppm	9	10.66±	0.20	16.0±	0.3	48.0±	0.6	45.0±	0.4	15.1±	0.2	33.5±	0. 3	1381±	83
1280 ppm	9	10.48±	0.38	15.6±	0.6	46.5±	1.4	44.4±	0.9	14.9±	0.3	33.5±	0.7	$1383\pm$	51
3200 ppm	10	10.20±	0. 29	15.5±	0.6	46.3±	1.4	45.3±	0.8	15.1±	0.3	33.4±	0.3	1310±	94*
8000 ppm	10	9.78±	0.26**	15.2±	0.4*	44.6±	1.0*	45.6±	0.5	15, 5±	0.2**	34.0±	0.4+	1401	105
20000 ppm	9	9.21±	0. 25**	16.1±	0.3	41. 2±	0.4**	44.7±	1.2	17.5±	0.3**	39.2±	0. 7**	$1451\pm$	105

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

Test of Dunnett

(IICL070)

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BAIS 4

PAGE : 1

PLATELET 1 0³/µl

MCHC g / dl

MCH pg

K : MALE	REPORT 1	TYPE : AI		PAGE :
oup Name	NO. of Animals	RETICULOCYT %		
Control	9	2.1± 0.		
512 ppm	9	2.0± 0.		
1280 ppm	9	2.3± 0.		
3200 ppm	10	2.6± 0.		
8000 ppm	10	3.7± 0.	*	
20000 µµm	9	6.1± 1.	*	

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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1i[Crj:BDF1] MEASURE. TIME : 1 SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)

ALL ANIMALS (14W)

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Group Name	NO. of Animals	₩BC 1 O³/µl	Dif N-BAND	ferentia	1 WBC (% N-SEG)	EOSINO		BASO		MONO		LYMPHO		OTHER
Control	9	2.37± 0.90	0±	1	12土	3	2±	1	0±	0	2±	1	83±	3	0土
512 ppm	9	2.78± 0.85	0±	0	14±	3	1±	1	0±	0	3±	2	82±	3	0±
1280 ppm	9	2.56± 1.63	0±	0	14土	4	2±	1	0±	0	3土	1	82±	5	0±
3200 ppm	10	1.77± 0.95	0±	1	13±	4	1±	1	0±	0	2士	1	83±	3	0±
8000 ppm	10	2.20± 1.32	1±	1	15土	4	1±	1*	0±	0	2±	1	82 1-	4	0±
20000 µµm	9	2.19± 1.16	1±	1	11±	3	0±	1*	0±	0	1±	1	86±	3	0±
Significant	difference	; *:P≦0.05	**:P≦	0.01			Test	of Dunn	ett						

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BAIS 4

PAGE : 3

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APPENDIX F 2

HEMATOLOGY : FEMALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1;[Crj:BDF1] MEASURE. TIME : 1 SEX

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HEMATOLOGY (SUMMARY)

ALL ANIMALS (14W)

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X : FEMALE	REPORT	TYPE : A1													PAGE :
oup Name	NO. of Animals	RED BL 1 O ⁵ /	00D CELL µl	HEMOGLO g⁄dl	BIN	HEMATOO %	RIT	MCV f L		MCH pg		MCHC g∕dl		PLATELE 1 0 ³ /µ	
Control	10	10.80±	0. 29	16.5±	0.4	49.0±	1.1	45.3±	0.7	15.3±	0.1	33.8土	0.5	1224±	82
512 ppm	10	10.74±	0. 34	16.3±	0.5	48.3±	1.2	44.9±	0.5	15.2±	0.1	33.8±	0.3	1243±	60
1280 ppm	10	10.67±	0.28	16.3±	0.5	47.8±	1.3	44.8±	0.4	15.3±	0.2	34.1±	0.3	1264±	99
3200 ppm	8	10.61±	0.21	16.1±	0.3	48.1±	1. 1	45.3±	0.6	15.2±	0.1	33.5±	0.4	1286±	46
8000 ppm	10	10.12±	0.30**	15.7±	0.5**	46.5±	1.2**	45.9±	0.7	15.5±	0.2	33.7±	0.4	1 312 ±	73
20000 µµm	7	9.68±	0.49**	16.8±	1.1	44.6±	2.5**	46.0±	0.8	17.3±	0.6 **	37.6±	0.8**	1318±	182

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TUDY NO. : 0550 NIMAL : MOUS EASURE. TIME :	E B6D2F1/Crlj	[Crj:BDF1]			LOGY (SUMMARY IMALS (14\))				
EXSURE. TIME . EX : FEMALE		TYPE : AI							PA	GE: 5
roup Name	NO. of Animals	RETICUL %	LOCYTE					 		
Control	10	2.2±	0. 6							
512 ppm	10	2.2±	0.5			·				
1280 ppm	10	1.9±	0.4							
3200 ppm	8	2.5±	0.8							
8000 ppm	10	4.1±	1.2**							
20000 ypm	7	7.3±	1. 4**							
Significant	difference ;	*: ₽ ≦	0.05 ** : P :	≤ 0.01		Test of I	unnett	 	 	
(IICL070)		· · · ·							 	BAIS

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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1;[Crj:BDF1] MEASURE. TIME : 1 REPORT TYPE : A1 SEX : FEMALE

HEMATOLOGY (SUMMARY)

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ALL ANIMALS (14W)

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oup Name	NO. of Animals	₩BC 1 0 ³ ⁄µ	ıl	Dif N-BAND	ferentia	1 WBC (% N-SEG	j)	EOSINO		BASO		MONO		LYMPIIO		OTHER	
Control	10	2.46±	1.03	0±	0	13±	3	1土	1	0土	0	3±	1	83±	2	0土	0
512 ppm	10	2.21±	0.91	0±	1	13±	3	1±	L	0±	0	2±	1	84±	4	0±	0
1280 ppm	10	2.16±	1.08	0±	0	13±	3	2±	2	0±	0	2土	1	84±	5	0±	0
3200 ppm	8	2.27±	0. 93	1±	1	12±	3	2±	2	0土	0	2±	1	84±	3	0±	0
8000 ppm	10	1.45±	0.76	0±	0	17土	8	0±	1	0±	0	1±	[* *	82土	7	0土	C
20000 ppm	7	2.89±	1.61	0±	0	15±	5	0土	1	0±	0	1±	1**	83±	5	0±	C
Significant	difference	; *:P≦	i 0.05	** : P ≦	0.01			Test	of Duni	nett							DATC

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BAIS 4

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APPENDIX G 1

BIOCHEMISTRY : MALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] MEASURE. TIME : 1 SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)

ALL ANIMALS (14W)

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SEX : MALE REPORT TYPE : A1	
MEADURE. IIME · I	

PAGE : 1

oup Name	NO. of Animals	TOTAL P g∕dl	ROTEIN	ALBUMIN g∕dl	1	A/G RAT	10	T−BILII mg∕dl		GLUCOSE mg∕dℓ		T−CHOLE: mg∕dℓ	STEROL	TRIGLYCI mg∕d£	ERIDE
Control	10	5.2±	0.3	3.0±	0.1	1.4±	0.1	0.13±	0.02	217±	35	84土	10	27 <u>-ŀ</u>	13
512 ppm	9	5.2±	0.1	3.0±	0.1	1.4±	0. 1	0.14±	0.01	170±	45	83±	8	27±	12
1280 ppm	9	5.2±	0.3	2.9±	0.1	1.3±	0.1	0.14±	0.03	195±	37	85±	16	23±	8
3200 ppm	10	5.0±	0.2	2.8±	0.2	1.3±	0.2	0.13±	0.02	170±	45	78±	10	21±	11
8000 ppm	10	5.1±	0.1	3.0±	0.1	1.4±	0.1	0.15±	0.03	177土	38	77 <u>+</u>	6	21±	7
20000 ррт	9	5.0±	0.2	2.9±	0.2	1.5±	0.1	0.16±	0.02*	173±	38	81±	8	19±	5

(IICL074)

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STUDY NO. : 0550	
ANIMAL : MOUS	E B6D2F1/Cr1j[Crj:BDF1]
MEASURE. TIME :	1
SEX : MALE	REPORT TYPE : A1

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BIOCHEMISTRY (SUMMARY)

ALL ANIMALS (14W)

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oup Name	NO. of Animals	PHOSPHO mg/dl	LIPID	AST IU∕£				LDH IU/J	2	ALP IU/S		G-GTP IU/L			
Control	10	169±	15	43±	3	16±	2	182±	39	142±	14	1±	0	47土	15
512 ppm	9	167±	16	48±	5	19±	2	203±	50	144±	10	1±	1	54±	20
1280 ppm	9	172±	29	48±	12	18±	5	214±	61	141±	9	1±	0	56土	24
3200 ppm	10	$153\pm$	19	45±	6	17土	1	208±	68	141±	6	1±	0	75±	72
8000 ppm	10	158土	13	46±	8	18±	4	234±	91	146±	14	1±	1	68±	38
20000 ppm	9	160±	15	49±	9	19±	4	243±	107	$153\pm$	31	1±	1	68±	38

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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] MEASURE. TIME : 1 SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)

ALL ANIMALS (14W)

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NO. of Animals	UREA NII mg∕dl	FOROGEN	SODIUM mEq⁄L						CALCIUM mg∕dl		INORGANIC PHOSPHORUS mg/dl	
10	24.2±	5.3	152±	1	4.6土	0.8	121±	2	8.7±	0.3	7.1± 0.9	
9	24.5±	5.4	151±	1	4.4±	0.3	121土	2	8.7±	0.2	7.0 ± 0.9	
9	26.7±	8.2	151±	1	4.4±	0.4	121±	2	8.8±	0.3	6.4± 0.5	
10	26.2±	5.3	151±	2	4.4±	0.1	1 22 ±	1	8.6±	0.3	7.2 \pm 1.0	
10	24.8土	2.5	$151\pm$	2	4.7±	0.6	119±	4	8.5±	0.2	6.8± 1.2	
9	25.8±	3. 5	153±	1	4.6土	0.4	120±	2	8.7±	0.3	7.1± 1.3	
	Animals 10 9 9 10 10	Animals mg∕dl 10 24.2± 9 24.5± 9 26.7± 10 26.2± 10 24.8±	Animals mg∕dl 10 24.2± 5.3 9 24.5± 5.4 9 26.7± 8.2 10 26.2± 5.3 10 24.8± 2.5	Animals mg/dl mEq/l 10 24.2± 5.3 152± 9 24.5± 5.4 151± 9 26.7± 8.2 151± 10 26.2± 5.3 151± 10 26.2± 5.3 151± 10 24.8± 2.5 151±	Animals $mg/d\ell$ mEq/ℓ 10 $24.2\pm$ 5.3 $152\pm$ 1 9 $24.5\pm$ 5.4 $151\pm$ 1 9 $26.7\pm$ 8.2 $151\pm$ 1 10 $26.2\pm$ 5.3 $151\pm$ 2 10 $24.8\pm$ 2.5 $151\pm$ 2	Animals mg/dl mEq/l mEq/l mEq/l 10 $24.2\pm$ 5.3 $152\pm$ 1 $4.6\pm$ 9 $24.5\pm$ 5.4 $151\pm$ 1 $4.4\pm$ 9 $26.7\pm$ 8.2 $151\pm$ 1 $4.4\pm$ 10 $26.2\pm$ 5.3 $151\pm$ 2 $4.4\pm$ 10 $24.8\pm$ 2.5 $151\pm$ 2 $4.7\pm$	Animals mg/dl mEq/l mEq/l	Animals $mg/d\ell$ mEq/ℓ mEq/ℓ mEq/ℓ mEq/ℓ mEq/ℓ 10 $24.2\pm$ 5.3 $152\pm$ 1 $4.6\pm$ 0.8 $121\pm$ 9 $24.5\pm$ 5.4 $151\pm$ 1 $4.4\pm$ 0.3 $121\pm$ 9 $26.7\pm$ 8.2 $151\pm$ 1 $4.4\pm$ 0.4 $121\pm$ 10 $26.2\pm$ 5.3 $151\pm$ 2 $4.4\pm$ 0.1 $122\pm$ 10 $24.8\pm$ 2.5 $151\pm$ 2 $4.7\pm$ 0.6 $119\pm$	Animals me_{7}/ℓ me_{7}/ℓ me_{7}/ℓ me_{7}/ℓ me_{7}/ℓ 10 $24.2\pm$ 5.3 $152\pm$ 1 $4.6\pm$ 0.8 $121\pm$ 2 9 $24.5\pm$ 5.4 $151\pm$ 1 $4.4\pm$ 0.3 $121\pm$ 2 9 $26.7\pm$ 8.2 $151\pm$ 1 $4.4\pm$ 0.4 $121\pm$ 2 10 $26.2\pm$ 5.3 $151\pm$ 2 $4.4\pm$ 0.1 $122\pm$ 1 10 $24.8\pm$ 2.5 $151\pm$ 2 $4.7\pm$ 0.6 $119\pm$ 4	Animals $mg/d\ell$ mEq/ℓ mEq/ℓ mEq/ℓ mEq/ℓ mEq/ℓ $mg/d\ell$ 10 $24.2\pm$ 5.3 $152\pm$ 1 $4.6\pm$ 0.8 $121\pm$ 2 $8.7\pm$ 9 $24.5\pm$ 5.4 $151\pm$ 1 $4.4\pm$ 0.3 $121\pm$ 2 $8.7\pm$ 9 $26.7\pm$ 8.2 $151\pm$ 1 $4.4\pm$ 0.4 $121\pm$ 2 $8.8\pm$ 10 $26.2\pm$ 5.3 $151\pm$ 2 $4.4\pm$ 0.1 $122\pm$ 1 $8.6\pm$ 10 $24.8\pm$ 2.5 $151\pm$ 2 $4.7\pm$ 0.6 $119\pm$ 4 $8.5\pm$	Animals $mg/d\ell$ mEq/ℓ mEq/ℓ mEq/ℓ mEq/ℓ mEq/ℓ $mg/d\ell$ 10 $24.2\pm$ 5.3 $152\pm$ 1 $4.6\pm$ 0.8 $121\pm$ 2 $8.7\pm$ 0.3 9 $24.5\pm$ 5.4 $151\pm$ 1 $4.4\pm$ 0.3 $121\pm$ 2 $8.7\pm$ 0.2 9 $26.7\pm$ 8.2 $151\pm$ 1 $4.4\pm$ 0.4 $121\pm$ 2 $8.8\pm$ 0.3 10 $26.2\pm$ 5.3 $151\pm$ 2 $4.4\pm$ 0.1 $122\pm$ 1 $8.6\pm$ 0.3 10 $24.8\pm$ 2.5 $151\pm$ 2 $4.7\pm$ 0.6 $119\pm$ 4 $8.5\pm$ 0.2	Animals $mg/d\ell$ mEq/ℓ mEq/ℓ mEq/ℓ $mg/d\ell$ $mg/d\ell$ $mg/d\ell$ 10 $24.2\pm$ 5.3 $152\pm$ 1 $4.6\pm$ 0.8 $121\pm$ 2 $8.7\pm$ 0.3 $7.1\pm$ 0.9 9 $24.5\pm$ 5.4 $151\pm$ 1 $4.4\pm$ 0.3 $121\pm$ 2 $8.7\pm$ 0.2 $7.0\pm$ 0.9 9 $26.7\pm$ 8.2 $151\pm$ 1 $4.4\pm$ 0.4 $121\pm$ 2 $8.8\pm$ 0.3 $6.4\pm$ 0.5 10 $26.2\pm$ 5.3 $151\pm$ 2 $4.4\pm$ 0.1 $122\pm$ 1 $8.6\pm$ 0.3 $7.2\pm$ 1.0 10 $24.8\pm$ 2.5 $151\pm$ 2 $4.7\pm$ 0.6 $119\pm$ 4 $8.5\pm$ 0.2 $6.8\pm$ 1.2

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APPENDIX G 2

BIOCHEMISTRY : FEMALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1]

BIOCHEMISTRY (SUMMARY) ALL ANIMALS (14\)

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roup Name	NO. of Animals	TOTAL P g∕dl	ROTEIN	ALBUMIN g ⁄dl		A/G RAT	10	T−BILII mg∕dl		GLUCOSE mg∕dl		T−CHOLES mg∕dl	STEROL	TRIGLYCE mg∕dℓ	ERIDE
Control	10 .	5.2±	0.2	3.2±	0. 1	1.7±	0.1	0.14±	0.02	131±	23	72±	6	17±	3
512 ppm	9	5.2±	0.2	3.2±	0.2	1.6±	0.2	0.15±	0.06	140±	25	72±	10	18±	9
1280 ppm	10	5.1±	0.1	3.2±	0.1	1.8±	0.2	0.13±	0.01	136±	20	70±	7	17±	5
3200 ppm	8	5.2±	0.1	3.3±	0. 1	1.7±	0. 1	0.13±	0.01	$153\pm$	31	76±	15	18±	9
8000 ppm	10	5.1±	0.2	3.2±	0.1	1. 7 ±	0. 1	0.14±	0.04	142±	23	81土	12	21土	9
20000 ppm	7	5.3±	0.3	3.4±	0.1	1.8±	0.1	0.18±	0.05	180±	22**	93±	13**	17±	4

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BIOCHEMISTRY (SUMMARY) STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] ALL ANIMALS (14W) MEASURE. TIME : 1 SEX : FEMALE REPORT TYPE : AI Group Name NO. of PHOSPHOLIPID AST ALT LDH mg∕dl Animals IU/l IU∕ℓ IU∕ℓ

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10 143 ± 9 65± 15 23± 4 $240\pm$ 70 $223 \pm$ 22 $1\pm$ 0 111土 48 Control $59\pm$ 7 20土 2 $256\pm$ 122 $223 \pm$ 21 $1\pm$ 1 $137\pm$ 187 512 ppm 9 $144 \pm$ 14 $126 \pm$ 1280 ppm 10 $138 \pm$ 12 63± 12 $22\pm$ 4 $229 \pm$ 33 $232 \pm$ 20 $1\pm$ 0 65 28 1± $71\pm$ 16 $226 \pm$ 28 $216 \pm$ 1 3200 ppm 8 $148 \pm$ 25 57± 5 $20\pm$ 3 218± 27 1± 139土 46 8000 ppm 157土 19 69± 14 24± 4 $284\pm$ 87 1 10 321± 188 45 $1\pm$ $163 \pm$ 145 20000 ррт 7 $171 \pm$ 18** $59\pm$ 14 $20\pm$ 4 $203 \pm$ 1

ALP

IU/l

G-GTP

IU∕ℓ

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

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BAIS 4

PAGE : 5

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IU∕£

STUDY NO. : 0550	
ANIMAL : MOUSE	B6D2F1/Cr1j[Crj:BDF1]
MEASURE. TIME : 1	
SEX : FEMALE	REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY) ALL ANIMALS (14W)

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roup Name	NO. of Animals	UREA NI mg∕dℓ	TOROGEN	SODIUM mEq∕£		POTASSI mEq/y		CHLORIDE mEq / L		CALCIUM mg⁄dl		INORGAN mg∕dl	IIC PHOSPHORUS	
Control	10	19.0±	2. 4	152±	2	4.3±	0.2	121±	1	8.8土	0.2	6.6土	1.3	
512 ppm	9	19.2±	2.0	151±	2	4.4±	0.5	121±	2	8.6±	0.3	5.9±	0.6	
1280 ppm	10	19.0±	3. 3	151±	2	4.4±	0.3	120±	2	8.7±	0.2	5.9±	0.8	
3200 ppm	8	19.5±	2.0	151±	1	4.5±	0.3	$122\pm$	1	8.8±	0.2	5.8±	1.2	
8000 ppm	10	20.2±	2. 3	151±	1	4.4±	0.4	121±	1	8.6±	0.3	6.5±	1.2	
20000 ppm	7	27.4±	8.0*	$151\pm$	1	4.5±	0.4	119±	2	8.8±	0.3	6.0±	1.4	

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APPENDIX H 1

URINALYSIS : MALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] MEASURE. TIME : 1 SEX : MALE REPORT TYPE : A1

URINALYSIS

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PAGE : 1

oup Name	NO. of	μH					-			Pre	otei	in.					Gluc	ose				Ket	one	body	7			000	ult	b10	bu	
• ·	Animals	5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI		±	+	2+ 3	3+ 4	CH	I	- :	± -ł	- 2+	3+	4+ CHI	-	±	+ 2+	+ 3+	4+	CHI	-	±	+ 2	+ 3+	CIII
Control	10	0	0	0	3	4	2	1		0	0	7	3	0 0)		10	0	0 0	0	0	1	2	7 (0 0	0		10	0	0	0 0	
512 ppm	9	0	0	0	Б	3	1	0		0	0	9	0	0)		9	0	0 0	0	0	2	2	5 (0 0	0		9	0	0	0 0	
1280 ppm	9	0	0	2	3	1	1	2		0	1	8	0	0)		9	0	0 0	0	0	3	4	2 (0 C	0		9	0	0	0 0	
3200 ppm	10	0	1	1	2	3	3	0		0	0	10	0	0)		10	0	0 0	0	0	5	3	2 (0 0	0		10	0	0	0 0	
8000 ppm	10	0	4	0	1	2	2	1		0	4	6	0	0) *		10	0	0 0	0	0	6	3	1 (0 0	0	*	10	0	0	0 0	
20000 ppm	9	0	2	5	1	1	0	0	*	0	8	1	0	0) **		9	0	0 0	0	0	6	3	0 (0 0	0	**	9	0	0.	0 0	

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STUDY NO. : 0550 ANIMAL : MOUS MEASURE. TIME : SEX : MALE	SE B6D2F1/Crl. 1	i[Crj:BDF1] TYPE : Al	URINALYSIS		PAGE : 2
Group Name	NO. of Animals	Urobilinogen ± + 2+ 3+ 4+ CHI			
Control	10	10 0 0 0 0			
512 ppm	9	9 0 0 0 0			
1280 ppm	9	9 0 0 0 0			
3200 ppm	10	10 0 0 0 0			
8000 ppm	10	10 0 0 0 0			
20000 ppm	9	9 0 0 0 0			

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

Test of CHI SQUARE

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APPENDIX H 2

URINALYSIS : FEMALE

 STUDY NO. : 0550

 ANIMAL
 : MOUSE B6D2F1/Cr1j[Crj:BDF1]

 MEASURE. TIME : 1

 SEX : FEMALE
 REPORT TYPE : A1

URINALYSIS

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PAGE	:	- 3

oup Name	NO. of	pil							Pro	otei	n				G1.	icos				Ket	one	bod	ly			000	ult	ь 1	boo		
	Animals	5.0	6.0	6.5	7.0	7.5	8.0	8.5 CIII	_	±	+	2+ 3	3+ 4+	CHI		±	+ 2+	+ 3+	4+ CHI	-	<u>+</u>	+ 2	+ 3	+ 4+	CIII	-	±	+	2+3	+ Cl	i lI
Control	10	0	1	4	2	3	0	0	0	2	7	1	0 0		10	0	0 () 0	0	1	9	0	0	0 0		10	0	0	0	0	
512 ppm	10	0	0	4	0	2	4	0	0	1	7	2	0 0		10	0	0 0	0 0	0	1	8	1	0	0 0		10	0	0	0	0	
1280 ppm	10	0	1	1	4	2	2	0	0	3	5	2	0 0		10	0	0 (0 0	0	0	10	0	0	0 0		10	0	0	0	0	
3200 ppm	10	0	4	2	1	3	0	0	0	3	6	1	0 0		10	0	0 (0 0	0	1	9	0	0	0 0		10	0	0	0	0	
8000 ppm	10	0	1	3	4	0	2	0	0	5	4	1	0 0		10	0	0 0	0 0	0	0	7	3	0	0 0		10	0	0	0	D	
20000 ppm	7	0	0	1	3	1	2	0	0	3	2	2	0 0		7	0	0 (0 0	0	0	7	0	0	0 0		7	0	0	0	0	

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SEX : FEMALE	REPORT	TYPE : A1	PAGE : 4
Group Name	NO. of Animals	Urobilinogen ± + 2+ 3+ 4+ CHI	
Control	10	10 0 0 0 0	
512 ppm	10	10 0 0 0 0	
1280 ppm ·	10	10 0 0 0 0	
3200 ppm	10	10 0 0 0 0	
8000 ppm	10	10 0 0 0 0	
20000 ppm	7	7 0 0 0 0	

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

Test of CHI SQUARE

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APPENDIX I 1

GROSS FINDINGS : MALE DEAD AND MORIBUND ANIMALS

GROSS FINDINGS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] REPORT TYPE : A1 SEX : MALE

Organ	Findings	Group Name NO. of Animals	Control 0 (%)	512 ppm 1 (%)	1280 ppm 1 (%)	3200 mqq 0 (%)
thymus	atrophic		- (-)	0 (0)	1 (100)	- (-)
spleen	dark		- (-)	0 (0)	0 (0)	- (-)
gl stomach	ulcer		- (-)	0 (0)	0 (0)	- (-)
kidney	enlarged		- ()	0 (0)	1 (100)	- (-)
	white zone		- (-)	0 (0)	1 (100)	- (-)
	hydronephrosis		- (-)	1 (100)	0 (0)	- (-)

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thoracic ca pleural fluid

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- (-)

PAGE : 1

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- (-) 0 (0) 1 (100)

STUDY NO. : 0550 : MOUSE B6D2F1/Cr1j[Crj:BDF1] ANIMAL REPORT TYPE : A1 : MALE SEX

GROSS FINDINGS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

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Group Name 8000 ppm 20000 ppm 1 (%) Organ____ Findings___ NO. of Animals 0 (%) - (-) 1 (100) thymus atrophic - (-) spleen dark 1 (100) gl stomach ulcer - (-) 1 (100) kidney enlarged - (-) 0 (0) - (-) 0 (0) white zone - (-) hydronephrosis 0 (0) pleural fluid - (-) 0 (0) thoracic ca

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BAIS 4

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PAGE : 2

APPENDIX I 2

GROSS FINDINGS : MALE

SACRIFICED ANIMALS

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] REPORT TYPE : A1 SEX : MALE

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GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (14W)

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PAGE : 1

rgan	Findings	Group Name Control NO. of Animals 10 (%)	512 ppm 9 (%)	1280 ppm 9 (%)	3200 ppm 10 (%)
pleen	enIarged	0 (0)	0 (0)	0 (0)	0 (0)
	dark	0 (0)	0 (0)	0 (0)	0 (0)
	black zone	1 (10)	0 (0)	0 (0)	0 (0)
restomach	thick	0 (0)	0 (0)	0 (0)	0 (0)
dney	hydronephrosis	1 (10)	1 (11)	2 (22)	0 (0)

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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] REPORT TYPE : A1 SEX : MALE

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (14W)

PAGE : 2

Organ	Findings	Group Name 8000 ppm NO. of Animals 10 (%)	20000 ррт 9 (%)
spleen	enlarged	0 (0)	8 (89)
	dark	0 (0)	9 (100)
	black zone	0 (0)	0 (0)
forestomach	thick	0 (0)	5 (56)
kidney	hydronephrosis	0 (0)	0 (0)

(HPT080)

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APPENDIX I 3

GROSS FINDINGS : FEMALE DEAD AND MORIBUND ANIMALS

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj;BDF1] REPORT TYPE : Λ1 SEX : FEMALE

GROSS FINDINGS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

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PAGE : 3

Organ	Findings	Group Name NO. of Animals	Control 0 (%)	512 ppm 0 (%)	1280 ppm 0 (%)	3200 ppm 0 (%)
thymus	atrophic		- (-)	- (-)	- (-)	- (-)
spleen	dark		- (-)	- (-)	- (-)	- (-)
forestomach	thick		- (-)	- (-)	- (-)	- (-)

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ANIMAL : REPORT TYPE :	0550 MOUSE B6D2F1/Cr1;[Cr;:BDF1] A1 FEMALE	GROSS FINDINGS (SUMMARY) DEAD AND MORIBUND ANIMALS	(O- 14W)		PAGE: 4
Organ	Findings	Group Name NO. of Animals	8000 ppm 0 (%)	20000 ppm 3 (%)	
thymus	atrophic		- (-)	3 (100)	
spleen	dark		- (-)	2 (67)	
forestomach	thick		- (-)	2 (67)	

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APPENDIX I 4

GROSS FINDINGS : FEMALE

SACRIFICED ANIMALS

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] REPORT TYPE : A1 SEX : FEMALE

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (14W)

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PAGE : 3

Organ	Findings	Group Name Control NO. of Animals 10 (%)	512 ppm 10 (%)	1280 ppm 10 (%)	3200 ppm 10 (%)
spleen	enlarged	0 (0)	0 (0)	0 (0)	0 (0)
	dark	0 (0)	0 (0)	0 (0)	0 (0)
	black zone	1 (10)	0 (0)	0 (0)	0 (0)
forestomach	thick	0 (0)	0 (0)	0 (0)	0 (0)
ovary	cyst	0 (0)	0 (0)	0 (0)	0 (0)

(HPT080)

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STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] REPORT TYPE : A1 SEX : FEMALE

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (14W)

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PAGE: 4

| Organ       | Findings   | Group Name 8000 ppm<br>NO. of Animals 10 (%) | 20000 ppm<br>7 (%) |
|-------------|------------|----------------------------------------------|--------------------|
|             |            |                                              |                    |
| spleen      | enlarged   | 0 ( 0)                                       | 7 (100)            |
|             | dark       | 0 ( 0)                                       | 7 (100)            |
|             | black zone | 0 ( 0)                                       | 0 ( 0)             |
| forestomach | thick      | 2 (20)                                       | 7 (100)            |
| ovary       | cyst       | 2 (20)                                       | 0 ( 0)             |
|             |            |                                              |                    |

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## APPENDIX J 1

## ORGAN WEIGHT, ABSOLUTE : MALE

STUDY NO. : 0550 ANIMAL : MOUSE B6D2F1/Cr1j[Crj:BDF1] REPORT TYPE : A1 SEX : MALE UNIT: g

-21

### ORGAN WEIGHT: ABSOLUTE (SUMMARY) SURVIVAL ANIMALS ( 14W)

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PAGE : 1

| coup Name  | NO. of<br>Animals | Body Weight    | THYMUS            | ADRENALS     | TESTES       | HEART        | LUNGS             |
|------------|-------------------|----------------|-------------------|--------------|--------------|--------------|-------------------|
| Control    | 10                | 30.6± 2.4      | 0.038± 0.005      | 0.010± 0.002 | 0.229± 0.020 | 0.146± 0.015 | 0.146± 0.010      |
| 512 ppm    | 9                 | 30.8± 2.6      | 0.035± 0.006      | 0.009± 0.001 | 0.205± 0.030 | 0.152± 0.011 | 0.149± 0.007      |
| 1280 ppm   | 9                 | 30.1± 2.4      | $0.039 \pm 0.009$ | 0.010± 0.001 | 0.241± 0.027 | 0.149± 0.015 | 0.143± 0.011      |
| 3200 ppm   | 10                | 29.6 $\pm$ 3.1 | 0.033± 0.007      | 0.010± 0.001 | 0.228± 0.033 | 0.151± 0.018 | $0.145 \pm 0.009$ |
| . 8000 ppm | 10                | 28.7± 2.5      | 0.036± 0.006      | 0.010± 0.002 | 0.225± 0.028 | 0.149± 0.015 | 0.153± 0.016      |
| 20000 ppm  | 9                 | 25.8± 1.0**    | 0.032± 0.003      | 0.009± 0.002 | 0.215± 0.028 | 0.143± 0.012 | 0.147± 0.012      |

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NO. of KIDNEYS SPLEEN LIVER BRAIN Group Name Animals Control 10 0.419± 0.033 0.050± 0.005 1.094± 0.073 0.437± 0.009 0.447± 0.067 1.126± 0.071 0.447± 0.013 512 ppm 9 0.054± 0.008 1.077± 0.101 0.448± 0.018 1280 ppm 0.744± 0.733 0.054± 0.011 9 3200 ppm 0.407± 0.029 0.053± 0.008 1.088± 0.127 0.441± 0.010 10 8000 ppm 10 0.409± 0.028 0.067± 0.005** 1.116± 0.108 0.441± 0.014 0.450± 0.031* 0.145± 0.023** 1.214± 0.068* 0.432 ± 0.014 20000 ppm 9 Significant difference ; $*: P \leq 0.05$ ** : P ≦ 0.01 Test of Dunnett

ORGAN WEIGHT: ABSOLUTE (SUMMARY)

SURVIVAL ANIMALS (14W)

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BAIS 4

PAGE : 2

APPENDIX J 2

ORGAN WEIGHT, ABSOLUTE : FEMALE

PAGE : 3 OVARIES LUNGS NO. of Body Weight THYMUS ADRENALS HEART Group Name Animals Control 10 21.2± 1.3 0.040± 0.004 0.013± 0.001 0.028 ± 0.006 0.119± 0.008 0.139± 0.008 10 21.1± 1.2 0.039± 0.008 0.013± 0.003 0.027± 0.006 0.119± 0.004 0.145± 0.008 512 ppm 0.039± 0.004 0.023 ± 0.002 0.116± 0.007 0.137± 0.008 1280 ppm 10 21.0± 1.4 0.012± 0.001 21.9± 1.6 0.042± 0.005 0.012± 0.001 0.027± 0.004 0.121± 0.011 0.148± 0.011 3200 ppm 10 8000 ppm 10 20.5± 0.8 0.042± 0.007 0.013± 0.003 0.027± 0.009 0.119± 0.008 0.137± 0.009 20.5± 0.7 0.039± 0.006 0.023± 0.003 0.138± 0.009 20000 ppm 7 0.014± 0.002 0.120 ± 0.006 Significant difference ; $*: P \leq 0.05$ ** : P ≦ 0.01 Test of Dunnett

ORGAN WEIGHT: ABSOLUTE (SUMMARY)

SURVIVAL ANIMALS (14W)

(HCL040)

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ORGAN WEIGHT: ABSOLUTE (SUMMARY) SURVIVAL ANIMALS (14W)

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| up Name | NO. of
Animals | KID | NEYS | SPL | EEN | LIV | ER | BRA | IN | |
 | |
|-----------|-------------------|--------|--------|------------|---------|--------|--------|------------|--------|--|------|--|
| Control | 10 | 0.293± | 0.014 | 0.054土 | 0.005 | 0.877± | 0.027 | 0.459± | 0.011 | | | |
| 512 ppm | 10 | 0.298± | 0.012 | 0.057± | 0.004 | 0.880± | 0.047 | 0.456± | 0. 011 | | | |
| 1280 ppm | 10 | 0.284± | 0.018 | $0.052\pm$ | 0.006 | 0.857± | 0.091 | 0.453± | 0.013 | | | |
| 3200 ppm | 10 | 0.308± | 0. 020 | 0.056± | 0.007 | 0.916± | 0. 090 | 0.464± | 0.011 | | | |
| 8000 ppm | 10 | 0.292± | 0.010 | 0.071± | 0.013* | 0.895± | 0.071 | $0.454\pm$ | 0.015 | | | |
| 20000 ppm | 7 | 0.315± | 0.020* | 0.153± | 0.015** | 1.036± | 0.067₩ | 0.446± | 0.024 | | | |

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APPENDIX K 1

ORGAN WEIGHT, RELATIVE : MALE

ORGAN WEIGHT:RELATIVE (SUMMARY) SURVIVAL ANIMALS (14W)

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| oup Name | NO. of
Animals | Body Weight
(g) | THYMUS | ADRENALS | TESTES | HEART | LUNGS | |
|-----------|-------------------|--------------------|--------------|--------------|-------------------|-------------------|-----------------------|--|
| Control | 10 | 30.6土 2.4 | 0.124± 0.016 | 0.032± 0.009 | 0.753± 0.082 | 0.478土 0.049 | 0.479± 0.031 | |
| 512 ppm | 9 | 30.8± 2.6 | 0.113± 0.013 | 0.030± 0.003 | 0.670± 0.112 | 0.496± 0.048 | 0.487± 0.045 | |
| 1280 ppm | 9 | 30.1± 2.4 | 0.128± 0.023 | 0.032± 0.004 | 0.803± 0.087 | 0.499± 0.060 | 0.476± 0.039 | |
| 3200 ppm | 10 | 29.6± 3.1 | 0.111± 0.016 | 0.034± 0.006 | 0.778 ± 0.144 | 0.513± 0.052 | 0.495± 0.054 | |
| 8000 ppm | 10 | 28.7± 2.5 | 0.125± 0.013 | 0.034± 0.007 | 0.784± 0.084 | 0.522± 0.071 | 0.532± 0.029 ≭ | |
| 20000 ppm | 9 | 25.8± 1.0** | 0.125± 0.016 | 0.037± 0.007 | 0.830± 0.097 | 0.553 ± 0.051 | 0.572± 0.061₩ | |

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BRAIN KIDNEYS SPLEEN LIVER Group Name NO. of Animals 10 1.376± 0.135 0.162 ± 0.016 3.583± 0.193 1.438 ± 0.128 Control 3.662 ± 0.230 1.458± 0.137 512 ppm 9 1.464± 0.299 0.177± 0.033 1.495± 0.103 3.579 ± 0.184 1280 ppm 9 2.583± 2.767 0.182 ± 0.047 1.505 ± 0.152 3200 ppm 0.178± 0.016 3.673 ± 0.144 10 1.381 ± 0.070 0.233± 0.014** 3.891± 0.204** 1.545 ± 0.125 8000 ppm 10 1.427 1.065 1.674± 0.103** 20000 ppm 9 1.744± 0.136** 0.562± 0.091** 4.702± 0.207** . Test of Dunnett Significant difference ; $*: P \leq 0.05$ ** : P ≦ 0.01

ORGAN WEIGHT: RELATIVE (SUMMARY)

SURVIVAL ANIMALS (14W)

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PAGE : 2

APPENDIX K 2

ORGAN WEIGHT, RELATIVE : FEMALE

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ORGAN WEIGHT: RELATIVE (SUMMARY) SURVIVAL ANIMALS (14W)

PAGE : 3

| oup Name | NO. of
Animals | Body Weight
(g) | THYMUS | ADRENALS | OVARIES | HEART | LUNGS | |
|-------------|-------------------|--------------------|--------------|--------------|--------------|-------------------|--------------|--|
| Control | 10 | 21.2± 1.3 | 0.188± 0.020 | 0.063± 0.007 | 0.133± 0.030 | 0.561± 0.015 | 0.656± 0.021 | |
| 512 ppm | 10 | 21.1± 1.2 | 0.186± 0.031 | 0.063± 0.014 | 0.130± 0.032 | 0.562± 0.035 | 0.685± 0.050 | |
| 1280 ppm | 10 | 21.0± 1.4 | 0.186± 0.019 | 0.059± 0.009 | 0.109± 0.010 | 0.554 ± 0.031 | 0.657± 0.045 | |
| 3200 ppm | 10 | 21.9± 1.6 | 0.194± 0.024 | 0.057± 0.005 | 0.122± 0.020 | 0.553± 0.057 | 0.677± 0.060 | |
| 8000 ppm | 10 | 20.5± 0.8 | 0.205± 0.032 | 0.065± 0.015 | 0.130± 0.043 | 0.581± 0.045 | 0.672± 0.044 | |
| 20000 ppm | 7 | 20.5± 0.7 | 0.191± 0.026 | 0.066± 0.010 | 0.112± 0.018 | 0.584± 0.021 | 0.672± 0.057 | |
| Significant | difference ; | *:P≦0.05 ** | : P ≦ 0.01 | Tes | t of Dunnett | | | |
| CL042) | | | | | | | | |

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ORGAN WEIGHT: RELATIVE (SUMMARY) SURVIVAL ANIMALS (14W)

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PAGE: 4

| 1.386 \pm 0.045
1.412 \pm 0.092
1.356 \pm 0.060
1.408 \pm 0.081 | 0.254 ± 0.019
0.268 ± 0.020
0.250 ± 0.019 | 4. 148± 0. 141
4. 166± 0. 175
4. 085± 0. 248 | 2.171± 0.105 2.161± 0.118 2.170± 0.120 | |
|--|---|--|--|--|
| 1.356± 0.060 | | | | |
| | 0.250± 0.019 | 4.085± 0.248 | 2.170± 0.120 | |
| 1 408+ 0 081 | | | | |
| 1. 100 - 0. 001 | 0.257± 0.029 | 4.179± 0.229 | 2.126± 0.135 | |
| 1.426± 0.044 | 0.344± 0.053** | 4.368± 0.231 | 2.220± 0.069 | |
| 1.538± 0.130* | 0.744± 0.069★★ | 5.043± 0.240₩ | 2.173± 0.137 | |
| | 1.538± 0.130* | 1.538± 0.130* 0.744± 0.069** | 1.538± 0.130* 0.744± 0.069** 5.043± 0.240** | 1.538± 0.130* 0.744± 0.069** 5.043± 0.240** 2.173± 0.137 |

APPENDIX L 1

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : MALE DEAD AND MORIBUND ANIMALS

Findings_

Group Name

Grade

. •

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

Control 512 ppm No. of Animals on Study 0 1 2 3 2 3 4 4 (%) (%) (%) (%) (%) (%) (%) (%) (%)

| {Hematopoietic | |
|----------------|--|
| | |

Organ_

| thymus | atrophy | < 0> | < 1>
1 0 0 0 | < 1>
0 0 1 0 | < 0> |
|--------------|------------------------------|------------------------|--|--|---------------------------------|
| | | (-) (-) (-) (-) | (100) (0) (0) (0) | (0) (0) (100) (0) | (-) (-) (-) (-) |
| spleen | deposit of hemosiderin | <pre> < 0></pre> | <pre> < 1>
0 0 0 0
(0) (0) (0) (0)</pre> | <pre> < 1>
0 0 0 0
(0) (0) (0) (0)</pre> | < 0>

(-) (-) (-) (-) |
| | extramedullary hematopoiesis | (-) (-) (-) | 0 0 0 0
(0) (0) (0) (0) | 0 0 0 0
(0) (0) (0) (0) | (-) (-) (-) (-) |
| {Circulatory | v system) | | | | |

| (Circulatory system) | | | | |
|------------------------------|---------------------------------|--|---|-------------------------------|
| heart
myocardial necrosis | < 0>

(-) (-) (-) (-) | <pre> < 1>
0 0 0 0 0
(0) (0) (0) (0)</pre> | <pre> < 1> 0 1 0 0 (0) (100) (0) (0)</pre> | < 0>

(-) (-) (-) () |
| myocarditis | (-) (-) (-) | 0 1 0 0
(0) (100) (0) (0) | 0 0 0 0
(0) (0) (0) (0) | |

Digestive system

| stomach | | < 0> | < 1> | < 1> | < 0> |
|---------|--|---------------------|--------------|---------------------|---------------------|
| | hyperplasia:forestomach | | 0 0 0 0 | 0 0 0 0 | |
| | | (-) (-) (-) (-) | (0)(0)(0)(0) | (0) (0) (0) (0) | (-) (-) (-) (-) |
| Grade | l: 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 | | | | |

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PAGE : 1

(%)

3200 ppm

3 4

(%)

0

2

(%)

(%)

1280 ppm

3

4

(%)

1

2

(%) (%)

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14%)

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PAGE : 2

| rgan | Findings | Group Name 8000 ppm No. of Animals on Study 0 Grade 1 2 3 4 (%) (%) (%) (%) | 20000 ppm
1
<u>1</u> <u>2</u> <u>3</u> <u>4</u>
(%) (%) (%) (%) | |
|---------------|------------------------------|---|--|--|
| (Hematopoieti | c system) | | | |
| thymus | atrophy | <pre> < 0></pre> | <pre> < 1>
0 0 1 0
(0) (0) (100) (0)</pre> | |
| spleen | deposit of hemosiderin | <pre> < 0></pre> <pre></pre> <pre> (-) (-) (-) (-)</pre> | <pre> < 1>
0 0 1 0
(0) (0) (100) (0)</pre> | |
| | extramedullary hematopoiesis | | 0 0 1 0
(0) (0) (100) (0) | |
| Circulatory | system) | | | |
| eart | myocardial necrosis | < 0>

(-) (-) (-) (-) | <pre>< 1> 0 0 0 0 (0) (0) (0) (0)</pre> | |
| | myocarditis |
(-) (-) (-) (-) | 0 0 0 0
(0) (0) (0) (0) | |
| {Digestive sy | stem) | | | |
| stomach | hyperplasia:forestomach | < 0>

(-) (-) (-) (-) | <pre>< 1> 0 1 0 0 (0) (100) (0) (0)</pre> | |

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIKALS (0- 14W)

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PAGE : 3

| Organ | Findings | Group Name
No. of Animals on Study
Grade <u>1</u>
(%) | Contro
0
2
(%) (% | 3 4 | 512 ppm
1
<u>1 2 3 4</u>
(%) (%) (%) (%) | 1280 ppm
1
<u>1 2 3 4</u>
(%) (%) (%) (%) | 3200 ppm
0
<u>1 2 3 4</u>
(%) (%) (%) (%) |
|------------------------------|---|--|----------------------------|-----|---|---|--|
| {Urinary sy | stem) | | | | | | |
| kidney | hydronephrosis | - (-) | < 0>

() (| | <pre> < 1>
0 0 1 0
(0) (0) (100) (0)</pre> | <pre> < 1>
0 0 1 0
(0) (0) (100) (0)</pre> | < 0>

(-) (-) (~) (-) |
| | mineralization:cortex | -
(-) | | | 0 0 0 0
(0) (0) (0) (0) | 1 0 0 0
(100) (0) (0) (0) | (-) (-) (-) (-) |
| Grade
< a >
b
(c) | I : Slight 2 : Moderate
a : Number of animals examined at th
b : Number of animals with lesion
c : b / a * 100 | 3 : Marked 4 : Sever
e site | 3 | | | | |

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

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PAGE: 4

| Organ | Group Name
No. of Anim
Grade | 8000 ppm
als on Study 0
(%) (%) (%) (%) | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | |
|------------------------------|--|---|---|------|
| {Urinary s | ystem) | | | |
| kidney | hydronephrosis | < 0>

(-) (-) (-) (-) | < 1>
1 0 0 0
(100) (0) (0) (0) | |
| | mineralization:cortex | (-) (-) (-) | 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 | 4 : Severe | | |
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APPENDIX L 2

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : MALE SACRIFICED ANIMALS

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (14W)

 \sim

| Organ | Group Name
No. of Anim
Grade
Findings | Control als on Study 10 1 2 3 4 (%) (%) (%) (%) | 512 ppm
9
<u>1 2 3 4</u>
(%) (%) (%) (%) | 1280 ppm
9
<u>1 2 3 4</u>
(%) (%) (%) (%) | 3200 ppm
10
<u>1 2 3 4</u>
(%) (%) (%) (%) |
|------------------------------|--|---|--|--|---|
| {Respiratory | y system} | | | | |
| nasal cavit | eosinophilic change:respiratory epithelium | <10>
0 0 0 0
(0) (0) (0) (0) | <pre> < 9> 0 0 0 0 (0) (0) (0) (0)</pre> | < 9>
0 0 0 0
(0) (0) (0) (0) | <10>
2 0 0 0
(20) (0) (0) (0) |
| | respiratory metaplasia:olfactory epithelium | i 0 0 0
(10)(0)(0)(0) | 1 0 0 0
(11) (0) (0) (0) | 0 0 0 0
(0)(0)(0)(0) | 0 0 0 0
(0) (0) (0) (0) |
| {Hematopoie | tic system) | | | | |
| spleen | deposit of hemosiderin | <10>
0 0 0 0
(0) (0) (0) (0) | < 9>
0 0 0 0
(0) (0) (0) (0) | < 9>
0 0 0 0
(0) (0) (0) (0) | <10>
10 0 0 0 ***
(100) (0) (0) (0) |
| | deposit of melanin | 1 0 0 0
(10) (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) |
| | extramedullary hematopoiesis | 1 0 0 0
(10) (0) (0) (0) | 2 0 0 0
(22) (0) (0) (0) | 5 0 0 0
(56)(0)(0)(0) | 10 0 0 0 ***
(100) (0) (0) (0) |
| {Digestive : | system) | | | | |
| stomach | erosion:forestomach | <10>
0 0 0 0
(0) (0) (0) (0) | <pre> < 9> 0 0 0 0 (0) (0) (0) (0)</pre> | < 9>
0 0 0 0
(0) (0) (0) (0) | <10>
0 0 0 0
(0) (0) (0) (0) |
| Grade
< a >
b
(c) | l: Slight 2: Moderate 3: Marked
a: Number of animals examined at the site
b: Number of animals with lesion
c: b / a * 100 | 4 : Severe | | | |

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PAGE : 1

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (14W)

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PAGE : 2

| Organ | Group Name
No. of Ani
Grade
Findings | 8000 ppm
mals on Study 10
(%) (%) (%) (%) | 20000 ppm
9
<u>1 2 3 4</u>
(%) (%) (%) (%) | |
|---|---|---|---|--|
| {Respiratory | system) | | | |
| nasal cavit | eosinophilic change:respiratory epithelium | <10>
0 0 0 0
(0) (0) (0) (0) | < 9>
0 0 0 0
(0) (0) (0) (0) | |
| | respiratory metaplasia:olfactory epithelium | 0 0 0 0
(0)(0)(0)(0) | 0 0 0 0
(0)(0)(0)(0) | |
| {Hematopoieti | ic system) | | | |
| spleen | deposit of hemosiderin | <10>
10 0 0 0 **
(100) (0) (0) (0) | < 9>
0 9 0 0 ***
(0) (100) (0) (0) | |
| | deposit of melanin | 0 0 0 0
(0)(0)(0)(0) | 0 0 0 0 0
(0) (0) (0) (0) · | |
| | extramedullary hematopoiesis | 2 8 0 0 **
(20) (80) (0) (0) | 0 0 [·] 9 0 **
(0) (0) (100) (0) | |
| {Digestive sy | vstem) | | | |
| stomach | erosion:forestomach | <10>
0 0 0 0
(0) (0) (0) (0) | <pre></pre> | |
| Grade
< a >
b
(c)
Significant d | 1 : Slight2 : Moderate3 : Markeda : Number of animals examined at the siteb : Number of animals with lesionc : b / a * 100difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ T | 4 : Severe | | |

(HPT150)

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (14W)

| Organ | Findings | Group Name Control No. of Animals on Study 10 Grade 1 2 3 4 (%) (%) (%) (%) | 512 ppm
9
<u>1 2 3 4</u>
(%) (%) (%) (%) | 1280 ppm
9
<u>1 2 3 4</u>
(%) (%) (%) (%) | 3200 ppm
10
<u>1 2 3 4</u>
(%) (%) (%) (%) |
|--------------------------|--|---|--|--|---|
| {Digestive | system} | | | | |
| stomach | ulcer:forestomach | <10>
0 0 0 0
(0) (0) (0) (0) | <pre> < 9>
0 0 0 0
(0) (0) (0) (0)</pre> | < 9>
0 0 0 0
(0) (0) (0) (0) | <10>
1 0 0 0
(10) (0) (0) (0) |
| | hyperplasia:forestomach | 0 0 0 0
(0) (0) (0) (0) | 0 0 0 0
(D) (O) (O) (O) | 1 0 0 0
(11) (0) (0) (0) | 7 1 0 0 ***
(70) (10) (0) (0) |
| liver | deposit of hemosiderin | <10>
0 0 0 0
(0) (0) (0) (0) | <pre> < 9> 0 0 0 0 (0) (0) (0) (0)</pre> | <pre> < 9>
0 0 0 0
(0) (0) (0) (0)</pre> | <10>
0 0 0 0
(0) (0) (0) (0) |
| | granulation | 1 0 0 0
(10) (0) (0) (0) | 0 0 0 0
(0)(0)(0)(0) | 2 0 0 0
(22) (0) (0) (0) | 0 0 0 0
(0)(0)(0)(0) |
| | swelling:central | 0 0 0 0
(0) (0) (0) (0) | 0 0 0 0
(0)(0)(0)(0)(0) | 0 0 0 0
(0)(0)(0)(0)(0) | 0 0 0 0
(0)(0)(0)(0) |
| {Urinary sy | rstem) | | | | |
| kidney | scar | <10>
0 0 0 0
(0) (0) (0) (0) | <pre> < 9>
0 0 0 0
(0) (0) (0) (0)</pre> | <pre></pre> | <10>
0 0 0 0
(0) (0) (0) (0) |
| Grade
<а>
b
(с) | l : Slight 2 : Moderate
a : Number of animals examined at
b : Number of animals with lesior
c : b / a * 100 | | | | |

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

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PAGE : 3

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PAGE: 4

| | | Group Name 8000 ppm
No. of Animals on Study 10
Grade 1 2 3 4 | 20000 ppm
9
1 2 3 4 | |
|------------------------------|--|--|---|--|
| rgan | Findings | Grade <u>1 2 3 4</u>
(%) (%) (%) (%) | $\frac{1}{(\%)} \begin{array}{ccccccccccccccccccccccccccccccccccc$ | |
| {Digestive | system) | | | |
| stomach | ulcer:forestomach | <10>
0 0 0 0
(0) (0) (0) (0) | <pre> < 9></pre> | |
| | hyperplasia:forestomach | 4 4 0 0 ★★★
(40) (40) (0) (0) | 0 0 9 0 ¥¥
(0) (.0) (100) (0) | |
| liver | deposit of hemosiderin | <10>
0 0 0 0
(0) (0) (0) (0) | < 9>
9 0 0 0 **
(100) (0) (0) (0) | |
| | granulation | 0 0 0 0
(0) (0) (0) (0) | 2 0 0 0
(22) (0) (0) (0) | |
| | swelling:central | 6 0 0 0 *
(60) (0) (0) (0) | 7 0 0 0 +++
(78) (0) (0) (0) | |
| {Urinary sy | stem) | | | |
| kidney | scar | <10>
0 0 0 0
(0) (0) (0) (0) | < 9>
1 0 0 0
(11) (0) (0) (0) | |
| Grade
< a >
b
(c) | <pre>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 ≤</pre> | | | |

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

SACRIFICED ANIMALS (14W)

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUAMARY) SACRIFICED ANIMALS (14W)

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PAGE : 5

| Organ | | Group Name Co
No. of Animals on Study 1
Grade <u>1 2</u>
(%) (%) | ntrol
0
<u>3 4</u>
(%) (%) | 512 ppm
9
<u>1 2 3 4</u>
(%) (%) (%) (%) | 1280 ppm
9
<u>1 2 3 4</u>
(%) (%) (%) (%) | 3200 ppm
10
<u>1 2 3 4</u>
(%) (%) (%) (%) |
|------------------------------|---|---|-------------------------------------|---|--|---|
| {Urinary sys | tem) | | | | | |
| kidney | inflatmatory polyp | <1.
0 1
(0) (10) | 0 0 | <pre></pre> | < 9>
0 1 0 0
(0) (11) (0) (0) | <10>
0 0 0 0
(0) (0) (0) (0) |
| | hydronephrosis | 0 1
(0) (10) | 0 0
(0)(0) | 0 0 1 0
(0) (0) (11) (0) | 0 0 <u>2</u> 0
(0) (0) (22) (0) | 0 0 0 0
(0) (0) (0) (0) |
| urin bladd | hyperplasia:transitional epithelium | <1.
0 0
(0) (0) | 0>
0 0
(0) (0) | < 9>
0 0 0 0
(0) (0) (0) (0) | < 9>
1 0 0 0
(11) (0) (0) (0) | <10>
1 0 0 0
(10) (0) (0) (0) |
| | swelling:transitional epithelium | 0 0
(0) (0) | 00
(0)(0) | 0 0 0 0
(0) (0) (0) (0) | 1 0 0 0
(11)(0)(0)(0) | 5 0 0 0 *
(50) (0) (0) (0) |
| Grade
< a >
b
(c) | 1 : Slight 2 : Moderate 3 a : Number of animals examined at the sits b : Number of animals with lesion c : b / a * 100 | : Marked 4 : Severe
te | | | | |

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

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (14W)

PAGE : 6

| Organ | Findings | Group Name 8000 ppm No. of Animals on Study 10 Grade 1 2 3 4 (%) (%) (%) (%) (%) | 20000 ppm
9
<u>1 2 3 4</u>
(%) (%) (%) | |
|---|---|--|---|-------|
| {Urinary syst | tem) | | | |
| kidney | inflammatory polyp | <10>
0 0 0 0
(0) (0) (0) (0) | < 9>
0 0 0 0
(0) (0) (0) (0) | |
| | hydronephrosis | 0 0 1 0
(0) (0) (10) (0) | 0 0 0 0
(0) (0) (0) (0) | |
| urin bladd | hyperplasia:transitional epithelium | <10>
4 0 0 0
(40) (0) (0) (0) | < 9>
8 0 0 0 **
(89) (0) (0) (0) | |
| | swelling:transitional epithelium | 5 4 0 0 **
(50) (40) (0) (0) | 1 8 0 0 **
(11) (89) (0) (0) | |
| Grade
< a >
b
(c)
Significant (| <pre>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</pre> | | | |
| (UDTIEN) | | | | RATS4 |

(HPT150)

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APPENDIX L 3

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : FEMALE DEAD AND MORIBUND ANIMALS

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

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PAGE : 5

| Organ | Findings | Group Name Control No. of Animals on Study 0 Grade 1 2 3 4 (%) (%) (%) (%) (%) | 512 ppm
0
<u>1 2 3 4</u>
(%) (%) (%) (%) | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 3200 ppm
0 · ·
<u>1 2 3 4</u>
(%) (%) (%) (%) |
|---------------|------------------------------|--|---|---|--|
| (Hematopoieti | c system) | | | | |
| thymus | atrophy | < 0>
 | < 0>
 | < 0>

(-) (-) (-) (-) | < 0>

(-) (-) (-) (-) |
| pleen | deposit of hemosiderin | < 0>

(-) (-) (-) (-) | < 0>

(-) (-) (-) (-) | < 0>
 | < 0>

(-) (-) (-) (-) |
| | extramedullary hematopoiesis | (-) (-) (-) (-) | (-) (-) (-) (-) | (-) (-) (-) (-) | (-) (-) (-) (-) |
| Digestive sy | rstem) | | | | |
| ongue | inflammation | < 0>
(-) (-) (-) (-) | < 0>
 | < 0>
 | < 0>

(-) (-) (-) (-) |
| tomach | erosion:forestomach | < 0>
(-) (-) (-) (-) | < 0>
 | < 0>
 | < 0>
 |
| | ulcer:forestomach | (-) (-) (-) (-) | (-) (-) (-) (-) | () () () | (-) (-) (-) (-) |

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

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PAGE: 6

| Organ | Findings | Group Name 8000 ppm No. of Animals on Study 0 Grade 1 2 3 4 (%) (%) (%) (%) | 20000 ppm
3
<u>1 2 3 4</u>
(%) (%) (%) | |
|---------------|------------------------------|---|---|--|
| Hematopoieti | c system) | | | |
| thymus | atrophy | < 0>
 | <pre> < 3>
0 0 3 0
(0) (0) (100) (0)</pre> | |
| spleen | deposit of hemosiderin | < 0>
 | < 3>
0 3 0 0
(0) (100) (0) (0) | |
| | extramedullary hematopoiesis | (-) (-) (-) (-) | 0 2 1 0
(0) (67) (33) (0) | |
| {Digestive sy | rstem) | | | |
| ongue | inflammation | < 0>
 | <pre> < 3> 1 0 0 0 (33) (0) (0) (0)</pre> | |
| stomach | erosion forestomach | < 0>
 | <pre></pre> | |
| | ulcer:forestomach | (-) (-) (-) (-) | 2 0 0 0
(67) (0) (0) (0) | |

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SURMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

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| PAGE : | 7 |
|--------|---|
|--------|---|

| Organ | | Group Name C
No. of Animals on Study
Grade <u>1 2</u>
(%) (%) | ontrol
0
<u>3 4</u>
(%) (%) | $ \begin{array}{c} 512 \text{ ppm} \\ 0 \\ \underline{1 2 3 4} \\ (\%) (\%) (\%) (\%) \end{array} $ | 1280 µpm
0
<u>1 2 3 4</u>
(%) (%) (%) (%) | $\begin{array}{ccc} 3200 \text{ ppm} \\ 0 \\ \hline 1 & 2 & 3 & 4 \\ \hline (\%) & (\%) & (\%) & (\%) \end{array}$ |
|------------------------------|---|--|--------------------------------------|---|--|--|
| {Digestive s | ystem) | | | | | |
| stomach | | < | 0> | < 0> | < 0> | < 0> |
| | hyperplasia:forestomach | (-) (-) | - <u>-</u>
(-) (-) | (-) (-) (-) (-) | (-) (-) (-) (-) |
() () () |
| {Urinary sys | tem) | | | | | |
| urin bladd | | < | 0> | < 0> | < 0> | < 0> |
| | necrosis:transitional epithelium | (-) (-) |
(_) (_) | (-) (-) (-) (-) | (-) (-) (-) (-) | (-) (-) (-) (-) |
| 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 | | | | |
| (HPT150) | | | | | | ΒΛΙ |

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIMALS (0- 14W)

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PAGE : 8

| Organ | Findings | Group Name 8000 ppm No. of Animals on Study 0 Grade 1 2 3 4 (%) (%) (%) (%) (%) | 20000 ppm
3
1 2 3 4
(%) (%) (%) (%) | |
|------------------------------|--|---|--|-------|
| {Digestive s | system} | | | |
| stomach | hyperplasia:forestomach | < 0>

(-) (-) (-) (-) | < 3>
0 0 3 0
(0) (0) (100) (0) | |
| {Urinary sys | stem) | | | |
| urin bladd | necrosis:transitional epithelium | < 0>
 | < 3>
0 2 0 0
(0) (67) (0) (0) | |
| Grade
< a >
b
(c) | 1 : Slight 2 : Moderate
a : Number of animals examined at the
b : Number of animals with lesion
c : b / a * 100 | 3 : Marked 4 : Severe
e site | | |
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APPENDIX L 4

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : FEMALE SACRIFICED ANIMALS

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (14W)

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| Organ | Findings | Group Name Con
No. of Animals on Study 10
Grade <u>1 2</u>
(%) (%) | trol
<u>3 4</u>
(%) (%) | 512 ppm
10
<u>1 2 3 4</u>
(%) (%) (%) (%) | 1280 ppm
10
<u>1 2 3 4</u>
(%) (%) (%) (%) | 3200 ppm
10
<u>1 2 3 4</u>
(%) (%) (%) (%) |
|--------------|------------------------------|---|-------------------------------|--|---|---|
| {Hematopoiet | cic system) | | | | | |
| spleen | deposit of hemosiderin | <10:
0 0
(0) (0) (| 0 0 | <10>
0 0 0 0
(0) (0) (0) (0) | <10>
5 0 0 0 *
(50) (0) (0) (0) | <10>
10 0 0 0 **
(100) (0) (0) (0) |
| | deposit of melanin | 1 0
(10) (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
(10) (0) (0) (0) |
| | extramedullary hematopoiesis | 1 0
(10) (0) (| 0 0
0) (0) | 2 0 0 0
(20)(0)(0)(0) | 9 0 0 0 ≉≠
(90)(0)(0)(0) | 8 2 0 0 **
(80) (20) (0) (0) |
| Digestive s | system) | | | | | |
| stomach | erosion:forestomach | <10:
0 0
(0) (0) (| 0 0 | <10>
0 0 0 0
(0) (0) (0) (0) | <10>
0 0 0 0
(0) (0) (0) (0) | <10>
0 1 0 0
(0) (10) (0) (0) |
| | ulcer:forestomach | 0 0
(0) (0) (| 0 0
0) (0) | 0 0 0 0
(0)(0)(0)(0) | 0 0 0 0
(0) (0) (0) (0) | 0 0 0 0
(0)(0)(0)(0) |
| | hyperplasia:forestomach | 0 0
(0) (0) (| 0 0
0) (0) | 0 0 0 0
(0) (0) (0) (0) | 2 0 0 0
(20)(0)(0)(0) | 3 3 0 0*
(30)(30)(0)(0) |
| livər | deposit of hemosiderin | <10:
0 0
(0) (0) (| 0 0 | <10>
0 0 0 0
(0) (0) (0) (0) | <10>
0 0 0 0
0 0) (0) (0) (0) | <10>
0 0 0 0
(0) (0) (0) (0) |

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

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

b b : Number of animals with lesion

(c) c:b/a*100

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

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PAGE : 7

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (14W)

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PAGE : 8

| Organ | Findings | Group Name 8000 ppm No. of Animals on Study 10 Grade 1 2 3 4 (%) (%) (%) (%) | 20000 ppm
7
<u>1 2 3 4</u>
(%) (%) (%) (%) | |
|---------------|------------------------------|--|---|--|
| {Hematopoiet | ic system) | | | |
| spleen | deposit of hemosiderin | <10>
3 7 0 0 ≠≠
(30) (70) (0) (0) | < 7>
0 7 0 0 **
(0) (100) (0) (0) | |
| | deposit of melanin | 0 0 0 0
(0) (0) (0) (0) | 0 0 0 0
(D) (O) (O) (O) | |
| | extrameduliary hematopoiesis | 4 5 1 0 ***
(40) (50) (10) (0) | 0 0 7 0 **≠
(0) (0) (100) (0) | |
| {Digestive sy | ystem) | | | |
| stomach | erosion:forestomach | <10>
1 0 0 0
(10) (0) (0) (0) | < 7>
1 0 0 0
(14) (0) (0) (0) | |
| | ulcer: forestomach | 0 0 0 0
(0) (0) (0) (0) | 3 1 0 0 *
(43) (14) (0) (0) | |
| | hyperplasia:forestomach | 5 3 2 0 **
(50) (30) (20) (0) | 0 0 7 0 **
(0) (0) (100) (0) | |
| livər | deposit of hemosiderin | <10>
0 0 0 0
(0) (0) (0) (0) | < 7>
7 0 0 0 ***
(100) (0) (0) (0) | |

c v. number of animals with lesion (c) c: b / a * 100 Significant difference ; * : P \leq 0.05 ** : P \leq 0.01 Test of Chi Square

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| HISTOPATHOLOGICAL FINDINGS | :NON-NEOPLASTIC LESIONS | (SUMMARY) |
|----------------------------|-------------------------|-----------|
| SACRIFICED ANIMALS (14W) | | |

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| | | Group Name
No. of Animals on Study | Cont
10 | | | | 1 | 12 pp
0 | | | : | 1280 p
10 | | | | | 200 pj
10 | 01 | |
|---|--|---------------------------------------|---------------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------|-----------|------------------|-------------|-----|-----------------|-----------|------------------|----------|------------|
|)rgan | Findings | Grade (%) | | 3
(%) | <u>4</u>
(%) | <u>1</u>
(%) | <u>2</u>
(%) | 3
(%) | <u>4</u>
(%) | <u> </u> | 2
(%) | 3 | | | <u>1</u>
(%) | 2
(%) | 3
(%) | 4(% | |
| (Digestive s | ystem} | | | | | | | | · | | | | | | | | | | |
| liver | granulation | 2
(20) | <10>
0
(0) (| 0
0) (| 0
0) | 0
(0) | 0 | 0>
0
(0) | 0
(0) | 2
(20) | 0 | (10>
0
(0 |) (0) | | 3
30) | 0 | 10>
0
(0) | 0
(0 |)
)) |
| {Urinary sys | tem) | | | | | | | | | | | | | | | | | | |
| ırin bladd | hyperplasia:transitional epithelium | 0
(0) | <10>
0
(0) (| 0
0) (| 0
0) | 0
(0) | 0 | 0>
0
(0) | 0
(0) | 1
(10) | 0 | (10>
0
(0 | 0
) (0) |) (| 0
0) | 0 | 10>
0
(0) | 0
(0 | |
| | necrosis:transitional epithelium | 0
(0) (| 0
(0) (| 0
0) (| 0
0) | 0
(0) | 0
(0) | 0
(0) | 0
(0) | 0
(0) | 0
(0) | 0 | 0
) (0) | | 0
0) | 0
(0) | 0
(0) | 0
(0 | |
| | swelling:transitional epithelium | 0
(0) (| 0
(0) (| 0
0) (| 0
0) | 0
(0) | 0
(0) | 0
(0) | 0
(0) | 2
(20) | 0
(0) | 0
() | | | 7
70) | 0
(0) | 0
(0) | |) **
)) |
| (Endocrine s | ystem) | | | | | | | | ā | | | | | | | | | | |
| oituitary | cyst | 0
(0) (| <10>
0
(0) (| 0
0) (| 0
0) · | 1
(10) | <1
0
(0) | 0 | 0
(0) | 0
(0) | 0 | (0 | | | 1
10) | 0 | 10>
0
(0) | 0
(0 | |
| Grade
(a)
b
(c)
Significant (| l : Slight 2 : Moderate
a : Number of animals examined at the s
b : Number of animals with lesion
c : b / a * 100 | 3 : Marked 4 : Severe
Site | | | | | | | | | | | | | | | | | |

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PAGE: 9

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (14W)

PAGE : 10 Group Name 8000 ppm 20000 ppm No. of Animals on Study 10 7 Grade 2 3 4 2 3 4 Organ_ Findings_ (%) (%) (%) (%) (%) (%) (%) (%) {Digestive system} liver <10> < 7> granulation 2 0 0 0 2 0 0 0 (20) (0) (0) (0) (29) (0) (0) (0) {Urinary system} urin bladd <10> < 7> hyperplasia:transitional epithelium 0 0 0 0 4 0 0 0* (0)(0)(0)(0) (57) (0) (0) (0) necrosis:transitional epithelium 0 0 0 0 0 1 0 0 (0)(0)(0)(0) (0)(14)(0)(0) swelling:transitional epithelium 10 0 0 0 ** 0 7 0 0** (100) (0) (0) (0) (0) (100) (0) (0) {Endocrine system} pituitary <10> < 7> cyst 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 \leq 0.05 ** : P \leq 0.01 Test of Chi Square .

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HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (14%)

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PAGE : 11

| lrgan | Findings | Group Name
No. of Animals on Study
Grade <u>1</u>
(%) | Control
10
<u>2 3 4</u>
(%) (%) (%) | 512 ppm
10
<u>1 2 3 4</u>
(%) (%) (%) (%) | 1280 ppm
10
<u>1 2 3 4</u>
(%) (%) (%) (%) | 3200 ppm
10
<u>1 2 3 4</u>
(%) (%) (%) (%) |
|-----------------|--|--|--|--|---|---|
| Reproductive | system) | | · . | | · · · · · · · · · · · · · · · · · · · | |
| vary | cyst | 0
(0) | <10>
0 0 0
(0) (0) (0) | <10>
0 0 0 0
(0) (0) (0) (0) | <10>
0 0 0 0
(0) (0) (0) (0) | <10>
0 0 0 0
(0) (0) (0) (0) |
| a >
b
c) | 1 : Slight2 : Moderate a : Number of animals examined at the b : Number of animals with lesion c : $b / a * 100$ fference ;* : $P \leq 0.05$ | | | | | |

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) SACRIFICED ANIMALS (14W)

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| Organ Findings | Group Name
No. of Animals on Study
Grade <u>1</u> (%) | 8000 ppm
10
<u>2 3 4</u>
(%) (%) (%) | 20000 ррш
7
<u>1 2 3 4</u>
(%) (%) (%) (%) |
|--|---|---|---|
| (Reproductive system)
evary
cyst | 2
(20) | <10>
0 0 0
(0) (0) (0) | < 7>
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 | |
| Significan | t difference ; * : $P \leq 0.05$ ** : $P \leq 0$ | .01 Test of Chi Square |

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PAGE : 12

APPENDIX M

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 13-WEEK FEED STUDY OF 2-AMINO-4-CHLOROPHENOL

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 13- WEEK FEED STUDY OF 2-AMINO-4-CHLOROPHENOL

| Item | Method | Unit | Decimal
place |
|---|--|-----------------------|------------------|
| Hematology | | | |
| Red blood cell (RBC) | Light scattering method ¹⁾ | $\times 10^{6}/\mu$ L | 2 |
| Hemoglobin(Hgb) | Cyanmethemoglobin method ¹⁾ | g/dL | 1 |
| Hematocrit(Hct) | Calculated as RBC×MCV/10 $^{\nu}$ | % | 1 |
| Mean corpuscular volume(MCV) | Light scattering method $^{\mathfrak{v}}$ | fL | 1 |
| Mean corpuscular hemoglobin(MCH) | Calculated as Hgb/RBC $\times 10^{10}$ | pg | 1 |
| Mean corpuscular hemoglobin concentration
(MCHC) | Calculated as Hgb/Hct $\times 100^{10}$ | g/dL | 1 |
| Platelet | Light scattering method $^{\upsilon}$ | $\times 10^{3/\mu}$ L | 0 |
| Reticulocyte | Light scattering method $^{\nu}$ | % | 1 |
| White blood cell(WBC) | Light scattering method ¹⁾ | $\times 10^{3}/\mu$ L | 2 |
| Differential WBC | Pattern recognition method ²⁾ | % | 0 |
| | (Wright staining) | | |
| Biochemistry |] | | |
| Total protein(TP) | Biuret method ³⁾ | g/dL | 1 |
| Albumin (Alb) | BCG method ³⁾ | g/dL | 1 |
| A/G ratio | Calculated as $Alb/(TP-Alb)^{3}$ | - | 1 |
| T-bilirubin | Alkaline azobilirubin method ³⁾ | mg/dL | 2 |
| Glucose | GlcK·G-6-PDH method ³⁾ | mg/dL | 0 |
| T-cholesterol | $CE \cdot COD \cdot POD method^{3)}$ | mg/dL | 0 |
| Triglyceride | LPL·GK·GPO·POD method ³⁾ | mg/dL | 0 |
| Phospholipid | PLD·ChOD·POD method ³⁾ | mg/dL | 0 |
| Aspartate aminotransferase (AST) | JSCC method ³⁾ | IU/L | 0 |
| Alanine aminotransferase (ALT) | JSCC method ³⁾ | IU/L | 0 |
| Lactate dehydrogenase (LDH) | SFBC method ³⁾ | IU/L | 0 |
| Alkaline phosphatase (ALP) | GSCC method ³⁾ | IU/L | 0 |
| γ ·Glutamyl transpeptidase (γ ·GTP) | JSCC method ³⁾ | IU/L | 0 |
| Creatine kinase (CK) | JSCC method ³⁾ | IU/L | 0 |
| Urea nitrogen | Urease \cdot GLDH method ³⁾ | mg/dL | 1 |
| Sodium | Ion selective electrode method ³⁾ | mEq/L | 0 |
| Potassium | Ion selective electrode method ³⁾ | mEq/L | 1 |
| Chloride | Ion selective electrode method ³⁾ | mEq/L | 0 |
| Calcium | OCPC method ³⁾ | mg/dL | 1 |
| Inorganic phosphorus | PNP·XOD·POD method ³⁾ | mg/dL | 1 |

1) Automatic blood cell analyzer (ADVIA120 : Bayer Corporation)

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

3) Automatic analyzer (Hitachi 7080 : Hitachi,Ltd.)

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