ブチル 2,3-エポキシプロピル エーテルのラット を用いた吸入によるがん原性試験報告書

試験番号:0437

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APPENDIX A 1

IDENTITY OF BUTYL 2,3-EPOXYPROPYL ETHER IN THE 2-YEAR INHALATION STUDY

IDENTITY OF BUTYL 2,3·EPOXYPROPYL ETHER IN THE 2·YEAR INHALATION STUDY

Test Substance : Butyl 2,3 epoxypropyl ether (Wako Pure Chemical Industries, Ltd.)

A. Lot No. : LDJ4265

1. Spectral Data

Mass Spectrometry

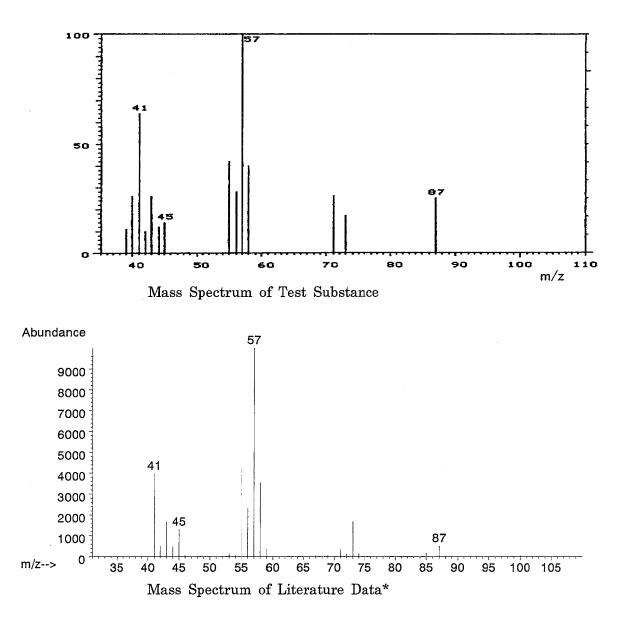
Instrument : Hitachi M-80B Mass Spectrometer

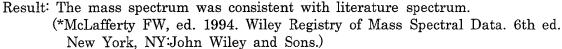
Ionization

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: EI (Electron Ionization)

Ionization Voltage : 70eV





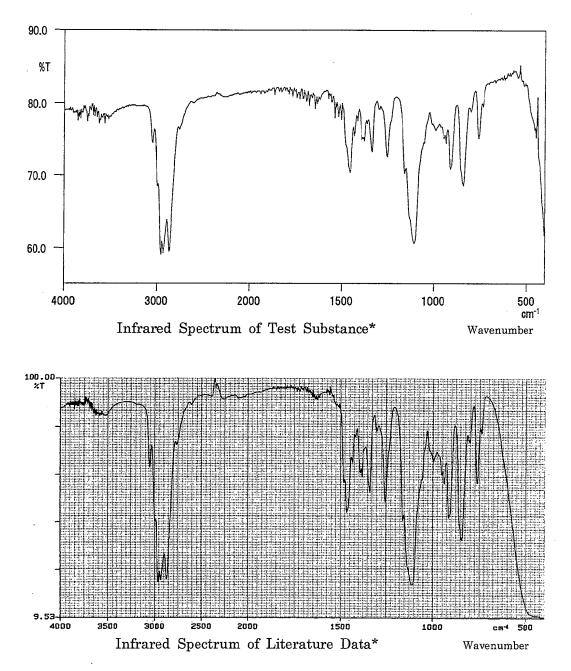
Infrared Spectrometry

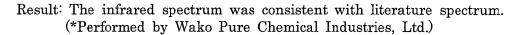
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution $: 4 \text{ cm}^{-1}$

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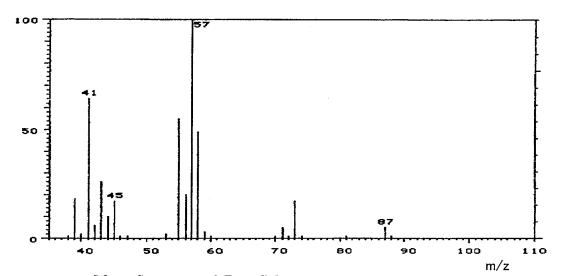
2. Conclusion: The test substance was identified as butyl 2,3 epoxypropyl ether by mass spectrum and infrared spectrum.

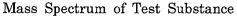
- B. Lot No. : LDE4969
- 1. Spectral Data

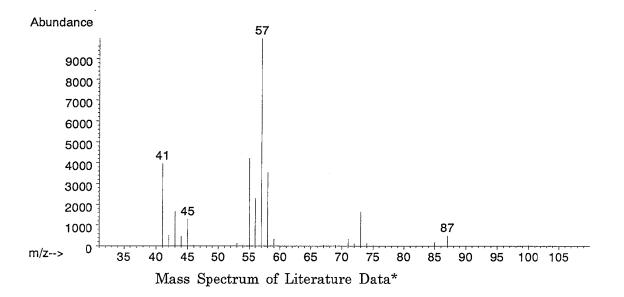
)

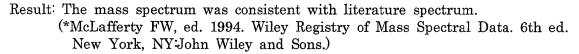
Mass Spectrometry

- Instrument : Hitachi M-80B Mass Spectrometer
- Ionization : EI (Electron Ionization)
- Ionization Voltage : 70eV









Infrared Spectrometry

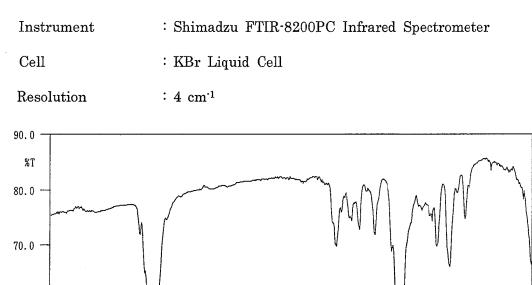
60.0

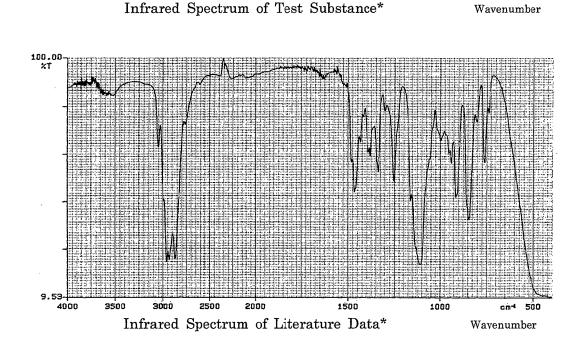
50.0

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4000

3000



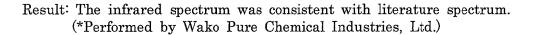


2000

1500

1000

500 cm⁻¹



2. Conclusion: The test substance was identified as butyl 2,3 epoxypropyl ether by mass spectrum and infrared spectrum.

- C. Lot No. : WAK4372
- 1. Spectral Data

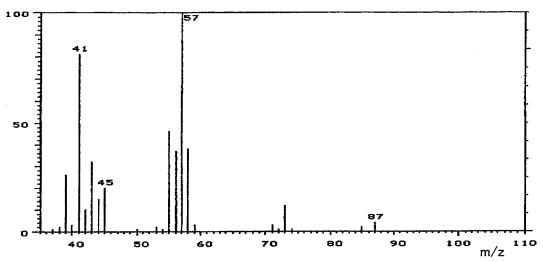
)

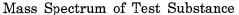
Mass Spectrometry

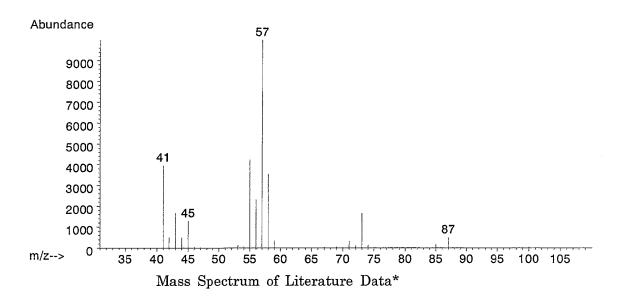
Instrument : Hitachi M-80B Mass Spectrometer

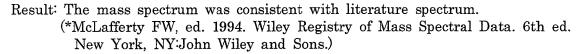
Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV









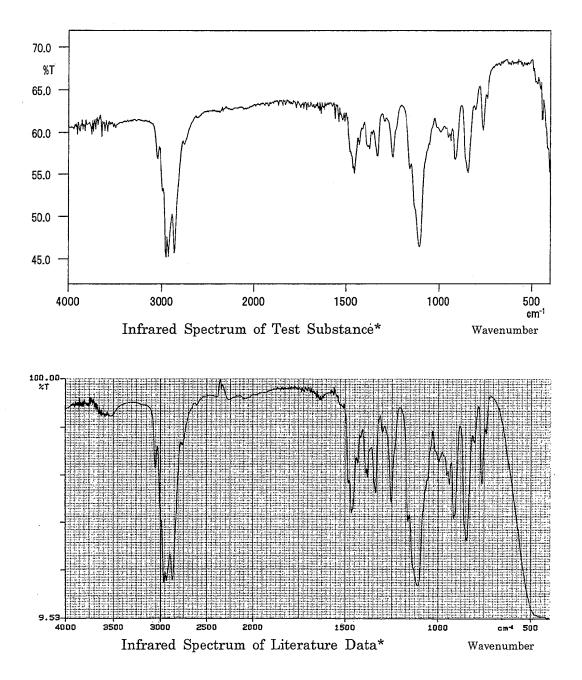
Infrared Spectrometry

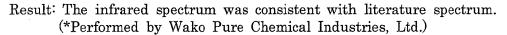
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution $: 4 \text{ cm}^{-1}$

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2. Conclusion: The test substance was identified as butyl 2,3 epoxypropyl ether by mass spectrum and infrared spectrum.

- D. Lot No. : PKQ5714
- 1. Spectral Data

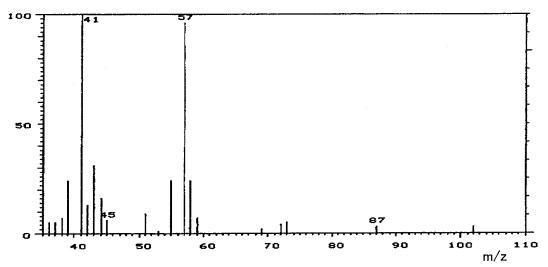
)

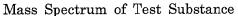
Mass Spectrometry

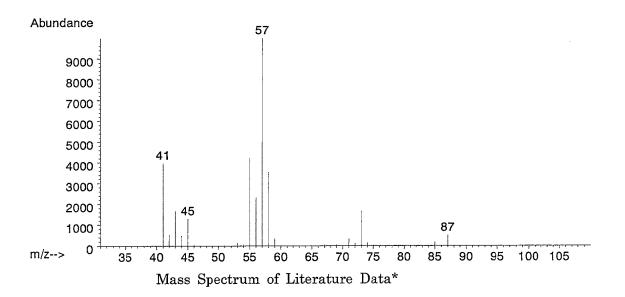
Instrument : Hitachi M-80B Mass Spectrometer

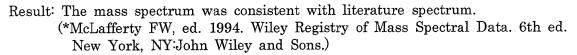
Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV









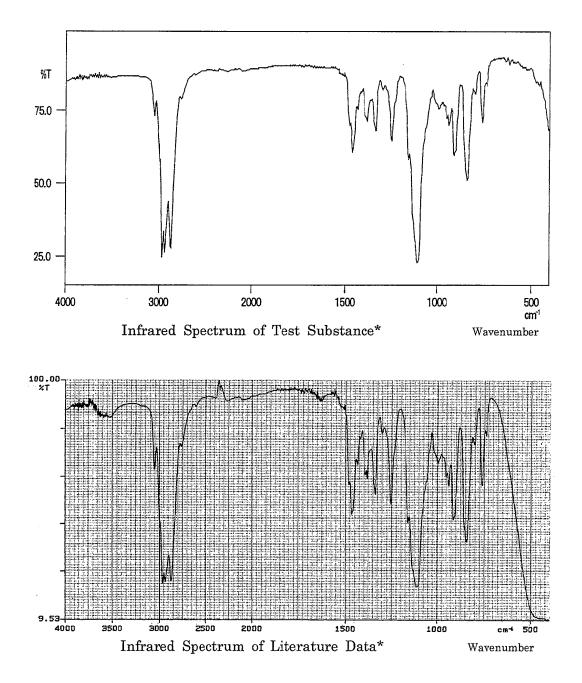
Infrared Spectrometry

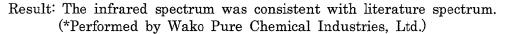
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution $: 4 \text{ cm}^{-1}$

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2. Conclusion: The test substance was identified as butyl 2,3 epoxypropyl ether by mass spectrum and infrared spectrum.

APPENDIX A 2

STABILITY OF BUTYL 2,3-EPOXYPROPYL ETHER IN THE 2-YEAR INHALATION STUDY

STABILITY OF BUTYL 2,3·EPOXYPROPYL ETHER IN THE 2-YEAR INHALATION STUDY

Test Substance	: Butyl 2,3-epoxypropyl ether (Wako Pure Chemical Industries, Ltd.)
A. Lot No.	: LDJ4265

- 1. Sample : This lot was used from 2001.10.15 to 2002.2.18. The test substance was stored in a dark place at room temperature.
- 2. Gas Chromatography

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Instrument	: Hewlett Packard 5890A Gas Chromatograph
Column	: Methyl Silicone (0.53 mm ϕ $ imes$ 60 m)
Column Temperatur	e: 160° C
Flow Rate	: 20 mL/min
Detector	: FID (Flame Ionization Detector)
Injection Volume	:1 μL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
2001.10.10	1	2.893	100
2002.02.19	1	2.899	100

Result: Gas chromatography indicated one major peak (peak No.1) analyzed on 2001.10.10 and one major peak (peak No.1) analyzed on 2002.2.19. No new trace impurity peak in the test substance analyzed on 2002.2.19 was detected.

3. Conclusion: The test substance was stable for about 4 months in a dark place at room temperature.

B. Lot No.	: LDE4969
1. Sample	: This lot was used from 2002.2.19 to 2002.10.7. The test substance was stored in a dark place at room temperature.
2. Gas Chromatography	Ŷ
Instrument	: Hewlett Packard 5890A Gas Chromatograph
Column	: Methyl Silicone (0.53 mm ϕ $ imes$ 60 m)
Column Temperatu	re: 160°C
Flow Rate	: 20 mL/min
Detector	: FID (Flame Ionization Detector)
Injection Volume	: 1 μL

Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
2002.02.18	1	2.901	100
2002.10.09	1	3.135	100

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- Result: Gas chromatography indicated one major peak (peak No.1) analyzed on 2001.2.18 and one major peak (peak No.1) analyzed on 2002.10.9. No new trace impurity peak in the test substance analyzed on 2002.10.9 was detected.
- 3. Conclusion: The test substance was stable for about 7 months in a dark place at room temperature.

C. Lot No.	: WAK4372
1. Sample	: This lot was used from 2002.10.8 to 2003.5.23. The test substance was stored in a dark place at room temperature.
2. Gas Chromatography	y .
Instrument	: Hewlett Packard 5890A Gas Chromatograph
Column	: Methyl Silicone (0.53 mm ϕ $ imes$ 60 m)
Column Temperatur	re: 160° C
Flow Rate	: 20 mL/min
Detector	: FID (Flame Ionization Detector)
Injection Volume	:1 μL

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Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
2002.10.07	1	3.131	100
2003.05.26	1	3.127	100

- Result: Gas chromatography indicated one major peak (peak No.1) analyzed on 2002.10.7 and one major peak (peak No.1) analyzed on 2003.5.26. No new trace impurity peak in the test substance analyzed on 2003.5.26 was detected.
- 3. Conclusion: The test substance was stable for about 7 months in a dark place at room temperature.

D. Lot No.	: PKQ5714
1. Sample	: This lot was used from 2003.5.26 to 2003.10.10. The test substance was stored in a dark place at room temperature.
2. Gas Chromatograph	y
Instrument	: Hewlett Packard 5890A Gas Chromatograph
Column	: Methyl Silicone (0.53 mm ϕ $ imes$ 60 m)
Column Temperatu	re: 160° C
Flow Rate	: 20 mL/min
Detector	: FID (Flame Ionization Detector)
Injection Volume	:1 μL

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Date (date analyzed)	Peak No.	Retention Time (min)	Area (%)
2003.05.23	1	3.129	100
2003.11.19	1	3.113	100

- Result: Gas chromatography indicated one major peak (peak No.1) analyzed on 2003.5.23 and one major peak (peak No.1) analyzed on 2003.11.19. No new trace impurity peak in the test substance analyzed on 2003.11.19 was detected.
- 3. Conclusion: The test substance was stable for about 5 months in a dark place at room temperature.

APPENDIX B

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2-YEAR INHALATION STUDY OF BUTYL 2,3-EPOXYPROPYL ETHER

	$\begin{array}{c} \text{Temperature} \\ (^{\infty}) \end{array}$	Humidity (%)	Ventilati (L/m			hange 1e/h)
Group Name Mean ± S.D. Mean ± S.D.	Mean ± S.D.	Mean \pm S.D.* ¹	Mean \pm S.D.* ²	$Mean^{*1}$	Mean* ²	
Control	23.1 ± 0.2	56.4 ± 1.7	856.8 ± 4.2	1708.3 ± 11.6	6.0	12.1
$10~{ m ppm}$	23.1 ± 0.2	55.1 ± 2.1	854.8 ± 2.8	1704.0 ± 12.1	6.0	12.0
$30~\mathrm{ppm}$	23.0 ± 0.1	54.0 ± 2.3	854.8 ± 3.1	1706.6 ± 11.7	6.0	12.0
$90~\mathrm{ppm}$	23.0 ± 0.1	53.7 ± 3.1	853.3 ± 3.5	1707.1 ± 12.7	6.0	12.1

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 2-YEAR INHALATION STUDY OF BUTYL 2,3-EPOXYPROPYL ETHER

*1:Exposure period *2:After exposure period

APPENDIX C 1

CLINICAL OBSERVATION : MALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Administration Week-day													
<u></u>		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
EATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1	1
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
ATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	1	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNORMAL GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Group Name Administration Week-day													
· · · · · · · · · · · · · · · · · · ·	·	15-7	16-7	17-7	18-7	19–7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
					_			_	_						
EATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
DRIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	Ō	0	Ő	Ő	0	0	Õ	0	Ō	0	0	0
BNORMAL GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	õ	0	0	0	0	0	ů 0	ů 0	0	0	0	ů
ASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	õ	Õ	Ő	ů 0	õ	· Õ	õ	õ	õ	Ő	õ	õ	õ
	30 ppm	õ	Ő	0	Ő	ů	ů	0	Ő	0	0	0	0	ů 0	0
	90 ppm	ő	0 0	0	0	0	0	0	0	0 0	0	0	0	0 0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admin	istration W	leek-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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0 0	Õ	0	0	0	0	Õ	Ő
	90 ppm	0	0	0	0	0	0	0	0	Ő	Õ	õ	Õ	0	Ő
ABNORMAL GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	Ō	ů	0	ů 0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	Õ	Õ	õ
	90 ppm	0	0	0	0	0	0	0	ů 0	0 0	õ	õ	õ	ů	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	Ő	0 0	õ	0	Õ	Õ	ů 0	õ	õ	Ő	0	ů	0 0
	30 ppm	0	Õ	0	Õ	0	Ő	õ	õ	õ	õ	Õ	Ő	· 0	Ő
	90 ppm	Ő	0 0	õ	õ	ů 0	õ	õ	õ	õ	Õ	õ	0	õ	Ő

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admini	istration W	eek-day								<u> </u>			
		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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	.0	0	0	0	0
LATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	Control	0	0	0.	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	Ō	0	Õ	0	1

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admini	istration W	leek-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
NT7 & (70 F 1		•	<u>^</u>							_	_	_			
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0 1	0 2	0	0	0	0	. 0	0	0	0	1	1	1
	90 ppm	1	1	4	2	2	2	2	2	2	2	2	2	2	2
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	2	2	2	2	2	2	2	2
	90 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	1
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	.0	0	0	0	0
	10 ppm	Ő	ů 0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	Ő	õ	ů 0	ů	0	0	Õ	0	0	Ő	0	0	0	0
	90 ppm	ů	0	Ő	ů	ő	õ	õ	õ	0	õ	0	0	0	ő
ATEDAL	0 1	0		•	<u>_</u>					_					
LATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Õ	õ
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ő
PARALYTIC GAIT	Control	0	0	0	0	0		0	0	0	0	•	•	<u>^</u>	•
industrio onti	10 ppm	0	0	0	0	0	0	0 0	0	0	0 0	0	0	0	0
	30 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0
	· · · · · · · · · · · · · · · · · · ·	-	-	÷		č	v	v	~	v	v	v	v	v	U
ABNORMAL GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	1	1	1	1	1	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0 0	ů	ů	0	0	0 0	õ	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	õ	0	0 0	0	0	0	0	0
	90 ppm	1	1	0	0	0	0	õ	0	0	0	0	0	1	1

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admin	istration ₩	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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	1	2	2	3	3	3	3	3
	90 ppm	2	2	2	2	2	3	5	5	6	7	9	9	9	10
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	1	1	1	1	1	1	1	2	2	2	2
	30 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	90 ppm	1	2	2	2	2	2	2	2	3	4	4	5	5	6
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	1	1	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GAIT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1	1	3	3	2	1	1	3	2

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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	97-7	98-7
DEATH	Control	0	0	0	0	0	0	2	2	2	5	6	6	6	7
	10 ppm	1	I	1	1	1	1	1	1	1	1	1	1	2	2
	30 ppm	3	3	3	3	3	3	3	3	3	3	4	4	4	5
	90 ppm	10	11	13	15	16	16	16	16	16	16	19	20	21	23
MORIBUND SACRIFICE	Control	0	1	1	1	1	1	1	2	2	2	3	3	3	3
	10 ppm	2	2	2	2	2	2	2	2	2	2	2	2	6	6
	30 ppm	2	2	2	4	5	5	5	5	5	5	5	5	5	5
	90 ppm	6	7	8	8	9	10	10	11	11	11	11	12	12	12
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LATERAL	Control	0	0	0	0	0	0	0	. 0	0	1	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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	1	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ABNORMAL GAIT	Control	0	0	0	1	1	1	0	0	0	0	0	0	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	2	1	0	0	2	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	1	0	0	Õ	0	1	1	2	1	1	1	1
	90 ppm	2	4	ŝ	2	1	ŏ	Õ	Ō	1	4	2	1	2	ō

SEX : MALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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Clinical sign	Group Name	Admin	istration V	Veek-day				
		99-7	100-7	101-7	102-7	103-7	104-7	
	Construction 1	7	7	7	7	7	8	
DEATH	Control	7 3	7 3	7 3	5	6	о б	
	10 ppm 30 ppm	3 5	5	5 5	5	5	5	
			5 23	5 23	5 24	5 24	5 24	
	90 ppm	23	23	43	24	24	24	
MORIBUND SACRIFICE	Control	4	4	4	4	4	4	
	10 ppm	6	6	6	6	6	6	
	30 ppm	6	6	7	7	7	7	
	90 ppm	12	13	14	14	15	15	
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	
	10 ppm	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	
LATERAL	Control	0	0	0	0	0	0	
	10 ppm	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	
HUNCHBACK POSITION	Control	0	0	0	0	0	0	
	10 ppm	0	0	0	. 0	0	0	
	30 ppm	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	
PARALYTIC GAIT	Control	0	0	0	0	0	0	
	10 ppm	0	0	0	0	0	0	
	30 ppm	1	1	0	0	0	0	
	90 ppm	0	0	0	0	0	0	
ABNORMAL GAIT	Control	0	0	0	0	0	0	
	10 ppm	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	
WASTING	Control	0	1	1	1	2	1	
-	10 ppm	0	ō	ĩ	ō	0	0	
	30 ppm	1	1	Ō	0	0	0	
	90 ppm	Ō	Ō	1	0	0	2	

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : MALE

Clinical sign	Group Name	Admini	stration We	ok-dav			1.00	•							
linical Sign	Group Mame	1-7	2-7	эек цау 3-7	47	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
														-	
OILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	Õ	õ	Ō	Ō	Ō	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0 .	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : MALE

linical sign	Group Name		stration W												
		15-7	16-7	17-7	18-7	197	20~7	21-7	227	237	247	25-7	26-7	27-7	28-7
ILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0.	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0.	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	90 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	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TARACT	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ō

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admini	istration W												
·		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
			<u>^</u>								•				
SOILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm 30 ppm	0 0	0 0	0 0	0	0 0	0	0	0	0	0	0	0	0	0
	30 ppm 90 ppm	0	0	0	0 0	0	0 0	0 0	0	0	0	0 0	0	0	0 0
	20 DDm	U	v	v	. 0	U	v	v	v	0	v	0	U	U	U
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRAUMA	Control	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	. 0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	90 ppm	0	0	1	1	1	1	1	1	1	1	1	1	1	1
SYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	0	0	1	1	1	1	1	1	1	1	1	2	2	2
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	1	2	2	2	2	2	2	2	2	2	2	2	3	3
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	2

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE Clinical sign

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	

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OILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	Õ	Õ	Õ	Ő
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	õ
	30 ppm	0	0	0	0	0	0	0	0	0	0 0	õ	Õ	0	õ
	90 ppm	0	0	0	0	0	0	0	õ	õ	õ	õ	Ő	0 0	0
DILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	Õ	0 0	ů	õ	Ő	ů
	30 ppm	0	0	0	0	0	0	0	0	ĩ	Ő	õ	õ	ů 0	õ
	90 ppm	0	0	0	0	0	0	0	0	0	1	Ő	õ	Ő	õ
OPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	90 ppm	ĩ	1	1	1	1	1	1	1	1	1	1	1	1	1
E OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	ů	Õ	ů	0	0	õ	0	õ	0	Ő	0 0
	30 ppm	0	0	Ő	Ő	0	õ	Ő	Ő	0	0	0	Ő	0	0
	90 ppm	0	0	0	Ő	0	õ	0	0	0	0	0	0	0	0
TARACT	Control	2	2	2	2	2	2	2	2	2	2	2	3	4	4
	10 ppm	1	1	1	1	1	2	2	2	2	2	2	2	2	2
	30 ppm	3	3	3	. 3	4	4	4	5	5	5	5	5	5	5
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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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
OILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	1	1	0	0	0	0	0	0
RAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	1	1	1	1	1	1	1	1	1	1	0	0	0	0
	30 ppm	1	1	1	. 1	1	1	1	1	1	1	1	1	1	1
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
YE OPACITY	Control	0	0	0	0	1	1	. 1	1	1	0	0	0	0	0
	10 ppm	0	0	0	0	1	1	I	1	1	1	1	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATARACT	Control	4	4	4	4	4	4	4	4	4	5	5	5	5	5
	10 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	30 ppm	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	90 ppm	2	2	2	2	2	2	2	$\tilde{2}$	2	$\tilde{2}$	2	$\overset{\circ}{2}$	2	2

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : MALE

PAGE : 14

Clinical sign	Group Name	Administration Week-day													
		71-7	72-7	73-7	74-7	75–7	76~7	777	78-7	79–7	80-7	81-7	82-7	83-7	84-7
OILED	Control	0	0	0	0	0	0	0	0	0	0	0			1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0			0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0			0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0		0
	90 ppm	0	1	1	1	1	1	1	1	1	1	1	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1
TRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0			0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 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 0 0 0 0 0 0	0	
	90 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
	10 ppm	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
XOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	0	0	0	0
	90 ppm	1	1	1	1	1	1	1	1	0	0	0			0
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	.0	0	0
	10 ppm	0	0	Ū.	0	0	0	0	0	0	0	0	0		0
	30 ppm	0	0	0	Ō	0	0	0	Ō	0	0	0	Ō		0
	90 ppm	Ō	0	0	Ō	0	Ő	Ō	0	0	0	Ő	0		0
CATARACT	Control	5	5	6	7	7	7	7	7	7	7	7	7	7	7
-	10 ppm	2	ž	2	2	2	2	3	3	3	3	3	3		3
	30 ppm	5	5	5	5	5	5	5	5	5	4	4	4	4	4
	90 ppm	2	2	5 2	2	2	2	5 2	2	1	1	4	4	4 1	1
	ao hhu	2	4	4	4	4	4	4	4	1	1	L	T	1	1

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Administration Week-day													
		85-7	867	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7

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SOILED	Control	1	1	1	1	1	0	0	0	0	0	0	0	0	0	
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	30 ppm	0	0	1	0	0	0	0	0	0	0	0	1	1	1	
	90 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	1	0	
	10 ppm	0	õ	õ	Õ	ů	õ	õ	Ő	Ő	Õ	õ	õ	Ô	0	
	30 ppm	0	0 0	Ő	0	0	õ	0	0	0	0	0	0	0	0	
	90 ppm	1	1	ĩ	1	0 0	õ	õ	0 0	0	0	0	0	0	0	
		-	-	-	-	·	·	·	Ŭ	Ŭ	v	v	Ũ	v	v	
FRAUMA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10 ppm	0	0	Õ	õ	Ő	õ	õ	ů 0	ů	õ	0	õ	0 0	õ	
	30 ppm	0	Ő	õ	õ	õ	ů	ů	0 0	0	0	0	0	0	0	
	90 ppm	0 0	õ	õ	ů	0	0	õ	0	0	0	õ	0	0	0	
															-	
SOILED PERI-GENITALIA	Control	0	1	1	1	1	0	0	0	1	1	0	0	0	0	
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
	90 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0	
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10 ppm	0	0	0	õ	0	õ	õ	õ	Ö	õ	Õ	0	0	Õ	
	30 ppm	0	õ	Ő	õ	Ő	0 0	0	Ő	0	0	0 0	0	0	0	
	90 ppm	0	õ	õ	õ	0	õ	ů 0	0 0	Ő	0 0	õ	0	0	õ	
										-	•	•	-	·	•	
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10 ppm	0	0	0	0	0	0	Ò	0	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CATARACT	Control	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
*	10 ppm	3	3	3	3	4	8 4	8 4	o 4	8 4	8 5	8 5	8 5			
	30 ppm	4	3 4	3 4	3 4									3	3	
	30 ррш 90 ррт	4	4 1	4	4	4 1	4	4	4							
	ao hhm	T	1	T	1	T	1	L	L	1	1	1	1	1	0	

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admin	istration	Week-day _				 	
		99-7	100-7	101-7	102-7	103-7	104-7	 	
GOILED	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	1	1	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
PILOERECTION	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
TRAUMA	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	ů	ů 0	0		
	90 ppm	õ	0	õ	õ	õ	0		
EDOC DELLY	Canto al	0	0	0	0	0	^		
FROG BELLY	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0 0	0	0	0		
	90 ppm	0	U	U	0	0	1		
SOILED PERI-GENITALIA	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
EXOPHTHALMOS	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
EYE OPACITY	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0 0	Ő	0	0	0	0		
	90 ppm	Ő	0	0	0	0	0		
C474D4C7		0		0					
CATARACT	Control	8	8	8	8	8	8		
	10 ppm	3	3	3	3	3	3		
	30 ppm	4	4	4	4	4	4		
	90 ppm	0	0	0	0	0	0		

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Group Name Clinical sign Administration Week-day 1-7 2-7 3-7 5-7 7-7 4-7 6-7 8-7 9-7 10-7 11-7 12-713-7 14-7 CORNEAL OPACITY Control 10 ppm 30 ppm 90 ppm ANTERIOR CHAMBER OPACITY Control 10 ppm 30 ppm 90 ppm EXTERNAL MASS Control 10 ppm 30 ppm 90 ppm INTERNAL MASS Control 10 ppm Û 30 ppm 90 ppm Û M. NOSE Control 10 рры 30 ppm 90 ppm M. PERI-MOUTH Control 10 ppm 30 ppm 90 ppm M. PERI EAR Control 10 ppm 30 ppm 90 ppm M. NECK Control 10 ppm 30 ppm 90 ppm

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

PAGE : 18 Clinical sign Group Name Administration Week-day _ 16-7 15-7 17-7 18-7 19-7 20-7 21-7 22-7 23-7 26-7 28-7 24-7 25-7 27-7

CORNEAL OPACITY	Control	0	0	0	0	0	0	1	0	0	1	1	1	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	-0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	Õ	0	Õ	õ	0	Ő
	90 ppm	0	0	0	0	0	Ō	Õ	0	õ	Õ	Õ	Õ	0	0
M. PERI EAR	Control	0	0	0	0	0	0	0	. 0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0 0	õ	ů	ů	õ
	30 ppm	0	0	0	0	0	0	0	0	0	õ	õ	0	Õ	0
	90 ppm	0	0	0	0	0	0	0	0	Ő	ů 0	õ	0 0	Ő	0
M. NECK	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0 0	0 0	õ	õ	õ	õ	õ	Ő	0 0	Õ	Õ	õ	Õ	ů
	30 ppm	0	Ő	Ő	Ō	Õ	Õ	0	Õ	0	Ő	0	0 0	Ő	0
	90 ppm	Û	Ő	õ	0	Ő	õ	õ	0	0	0 0	0	õ	0 0	0
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(HAN190)

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ALL ANIMALS

SEX : MALE Clinical

M. NOSE

M. PERI-MOUTH

M.PERI EAR

Control

10 ppm

30 ppm

90 ppm

Clinical sign	Group Name	Admini	stration 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
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TERIOR CILLINER OF CTAVE	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	1	1	1	0	0	1	1	1	1	2	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Ō	0

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M. NECK

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE Clinical sign

CORNEAL OPACITY

Group Name Administration Week-day 43-7 44-7 45--7 46-7 47-7 48-7 49-7 51-7 52-7 53-7 54-7 55-7 56-7 50-7 Control 0 10 nmm 0 0 0 0 0 0 0

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	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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	2	2	2	2	2	2
	10 ppm	1	1	1	1	1	1	2	2	2	2	2	1	1	1
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	90 ppm	1	1	2	2	2	2	2	2	2	2	2	3	3	4
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	. 0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	1
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(HAN190)

ANIMAL : RAT F344/DuCrj

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CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

REPORT TYPE : A1 104

SEX : MALE

STUDY NO. : 0437

Clinical sign	Group Name	Admini	stration W	Veek-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
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	2	2	2	2	2	2	2	2	2	3	3	3	2	2
	10 ppm	1	1	1	1	2	2	2	2	2	2	2	2	2	2
	30 ppm	1	2	1	1	1	1	1	1	1	1	1	1	3	3
	90 ppm	4	4	3	3	3	3	3	4	3	4	4	4	4	5
TERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	90 ppm	1	1	0	0	0	0	0	1	0	0	0	0	0	1
M. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	1	1	1	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4. PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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CEPORT TYPE : AT

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
CORNEAL OPACITY	Control	0	0	1	1	1	1	1	1	1	1	1	1	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	1	1	2	3	2	1	1	2	1
NTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	3	3	3	3	3	3	3	3	4	4	6	5	5	5
	10 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3
	30 ppm	3	3	4	5	5	5	5	5	5	4	4	4	4	4
	90 ppm	5	4	4	5	6	6	6	6	4	3	2	3	3	1
TERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	1
A. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	0	0	0	0	0
	90 ppm	1	0	0	1	1	1	2	2	1	0	0	1	1	0
A. PERI-MOUTH	Control	0	0	0	Ō	0	0	0	0	0	0	1	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	1	1	1	I	1	1	1	1	1	1	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. NECK	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admini	stration W	leek-day 🔄							<u> </u>				
		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
ORNEAL OPACITY	Control	0	0	0	0	1	1	1	0	0	0	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	0	0	0	0	0	0	1	1	0	0	0	0
VTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XTERNAL MASS	Control	5	5	5	5	5	7	6	6	6	5	5	8	8	8
	10 ppm	3	3	3	3	3	3	3	3	3	4	4	6	5	6
	30 ppm	4	4	4	4	4	5	5	6	6	6	5	5	5	5
	90 ppm	2	1	2	1	1	1	1	1	2	2	1	1	1	1
ITERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	30 ppm	0	1	1	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	2	2	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	0	1	0	0	1	1	1	2	2	1	1	1	0
. PERI-MOUTH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. NECK	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	- 1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	Ō	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admin	istration '	Week-day					
		99-7	100-7	101-7	102-7	103-7	104-7		
								<u></u>	
CORNEAL OPACITY	Control	1	1	1	1	1	1		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0		
ANTENION CHAMBER OF ACTTI	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	1		
	20 PDII	v	v	v	v	v	*		
EXTERNAL MASS	Control	8	9	9	9	10	10		
	10 ppm	6	6	6	7	9	10		
	30 ppm	6	6	6	8	8	8		
	90 ppm	1	2	1	2	1	1		
INTERNAL MASS	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
M. NOSE	Control	0	0	0	0	0	0		
in nood	10 ppm	0	0	0	0	0	0		
	30 ppm	õ	0	0 0	Õ	0	õ		
	90 ppm	Ő	1	0	J.	1	1		
M. PERI-MOUTH	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
M. PERI EAR	Control	0	0	0	0	0	0		
	10 ppm	0	Ō	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
M. NECK	Control	1	1	1	1	1	0		
HI. DEPOIL	10 ppm	1 0	0	1	0	1 0	0		
	to ppm				0	0			
	30 ppm	0 0	0 0	0 0	0	0	0 0		
	90 ppm	v	U	U	U	v	U		

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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
L FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	. 30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I. SCROTUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	. 0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX : MALE

M. ANTERIOR. DORSUM

M. POSTERIOR DORSUM

M. HINDLIMB

M. GENITALIA

M. SCROTUM

Control 10 ppm

30 ppm

90 ppm

Control

10 ppm

30 ppm

90 ppm

Control

10 ppm

30 ppm

90 ppm

Control

10 ppm

30 ppm

90 ppm

Control

10 ppm

30 ppm

90 ppm

linical 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
FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	Ő	Ő	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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30 ppm

90 ppm

Control

10 ppm 30 ppm

90 ppm

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SEX : MALE

Clinical sign	Group Name	Admini	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
											_			•	
. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	1	1	1	0	0	1	1	1	1	2	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A. POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	mqq 09	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	. 0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20		0	0	0	0	0	0	0	0	0	0	0	0	0

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M. SCROTUM

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admin	istration 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
			<u> </u>												
. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	1	1	1	1	1	1	2	2	2	2	2	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	2
NTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	Ō	Ō	Ō	0	0	ō
	30 ppm	0	0	0	0	0	0	0	0	0	0	Ō	0	0	Ő
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	õ	0
. SCROTUM	Control	1	1	1	1	1	1	1	- 1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	Ō	õ	. 0	ō	Ō	õ	ō
	30 ppm	0	Õ	Õ	0	Õ	0 0	ů 0	Õ	õ	0	õ	õ	õ	0
	90 ppm	õ	ő	1	ĩ	1	1	1	ı 1	ĩ	1	1	1	1	1

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admini	stration W	eek-dav											
-	-	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
. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	٥	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	90 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
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	. 0	0	0	0	0	Ő	0	ů 0
	90 ppm	0	0 0	õ	0	õ	õ	0	õ	0 0	õ	õ	õ	õ	0
GENITALIA	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	Õ	0	0	0	õ	Ō	0	ō	0	ō
	30 ppm	0	0	0	0	0	0	0	0	Õ	Ő	õ	Õ	ů 0	ő
	90 ppm	0	0	0	õ	ů	õ	0 0	õ	Õ	õ	ő	õ	ů	0
. SCROTUM	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	ō	0	Ô	0	Ō	ō	õ	0
	30 ppm	0	0	Ő	Õ	Ő	õ	Ő	õ	Ő	0	0 0	0	0	0
	90 ppm	1	ı 1	1	ĩ	1	1	1	1	1	1	1	1	1	1

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX	:	MALE

Clinical sign	Group Name	Admini	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
								_	_	_	_				
A. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	90 ppm	0	0	0	. 0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	1	1	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	30 ppm	1	1	2	3	3	3	3	3	3	3	3	3	3	3
	90 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
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	1	1	1	1	1	0	0	0	0	0	0	0	0	0
	90 ppm	2	2	2	2	3	3	3	3	2	1	0	0	0	0
M. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M. POSTERIOR DORSUM	Control	0	0	0	0	0	0	0	0	0	0	2	2	2	2
	10 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. GENITALIA	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. SCROTUM	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	Ō	0	0	0	0	0	õ	ō	0	0	ō	0	0
	30 ppm	Ō	0	0	0	Ō	0	0	Ō	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	õ

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SEX : MALE

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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	947	95-7	96-7	97-7	98-7
. FORELIMB	Control	0	0	0	0	0	0	0	1	1	0	0	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BREAST	Control	0	0	0	0	0	1	. 1	1	1	1	1	1	1	1
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	0	0
	30 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	90 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	1	2	2	2
	10 ppm	1	1	1	1	1	1	2	1	1	2	2	3	3	3
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR. DORSUM	Control	0	0	0	0	0	1	0	0	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	. 0	0	0	0	1	1	2
	30 ppm	0	0	0	0	0	1	1	2	2	2	2	2	2	2
	90 ppm	1	1	1	1	1	õ	ō	0	0	0	0	0	0	1
POSTERIOR DORSUM	Contro1	2	2	2	2	2	2	2	2	2	3	2	2	2	2
	10 ppm	1	1	1	. 1	1	1	1	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	Ō	0	0	0	õ	ō	0	ō	0
	90 ppm	0	0	0	õ	0	Ő	0	õ	0	Õ	0 0	, Õ	ů 0	0
. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	Ō	Ő	0	0	0	Ô
	30 ppm	0	0	0	. 0	0	õ	0 0	õ	õ	0	0	õ	ů 0	ő
	90 ppm	0	0	0	0	0	0	0 0	õ	Õ	Ő	õ	õ	õ	0
. GENITALIA	Control	1	1	1	1	1	. 1	I	0	0	0	0	0	0	0
	10 ppm	õ	ō	ô	Ō	0	0	0	0	0	0	0	0	0	0
	30 ppm	Õ	õ	Õ	Ő	Õ	0	0	0	0	0	0	0	0	0
	90 ppm	0	õ	0	0 0	0	0	0	0	0	0	0	0	0	0
. SCROTUM	Control	1	1	1	1	1	1	1	1	1	1	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	0	0					0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	•	0
	50 ppm	v	U	U	U	U	U	U	U	0	U	0	0	0	0

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CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admin	istration	Week-day _				<u>. </u>	 	
		99-7	100-7	101-7	102-7	103-7	104-7			
							•			
M. FORELIMB	Control	1	1	1	1	1	2			
	10 ppm	0	0	0	0	0	1			
	30 ppm	0	0	0	0	0	0			
	90 ppm	0	0	0	0	0	0			
M. BREAST	Control	1	1	1	2	2	2			
	10 ppm	0	0	0	0	0	0			
	30 ppm	4	4	4	4	4	4			
	90 ppm	Ō	ō	ō	ō	0	Ō			
M ADDOWENI	C+1	0	3	3	3	3	0			
M. ABDOMEN	Control	2		3 3			3			
	10 ppm	3	3		3	4	4			
	30 ppm	0	0	0 0	1	1	1			
	90 ppm	0	0	U	0	0	0			
M. ANTERIOR. DORSUM	Control	1	1	1	0	1	1			
	10 ppm	2	2	2	2	3	3			
	30 ppm	2	2	2	3	3	3			
	90 ppm	1	1	1	1	0	0			
M. POSTERIOR DORSUM	Control	2	2	2	2	2	2			
ATTOFICATION DONDON	10 ppm	1	1	1	1	1	1			
	30 ppm	Ô	0	Ô	0	0	0			
	90 ppm	0	0	0	0	0	Ő			
					_					
M. HINDLIMB	Control	1	1	1	1	1	1			
	10 ppm	0	1	1	2	2	2			
	30 ppm	0	0	0	0	0	0			
	90 ppm	0	0	0	0	0	0			
M. GENITALIA	Control	0	0	0	0	0	0			
	10 ppm	0	0	0	0	0	0			
	30 ppm	Ő	Ő	Ő	Õ	Õ	1			
	90 ppm	Õ	Õ	Õ	0 0	0	0			
	50 bbu	v	v	v	v	Ŷ	v			
M. SCROTUM	Control	0	0	0	0	0	0			
	10 ppm	0	0	0	0	0	0			
	30 ppm	0	0	0	0	0	0			
	90 ppm	0	0	0	0	0	0			

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : MALE

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JEA · MALE															1 4012
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
ANTER A	(0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control 10 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	0	0	0	0	0
	30 ppm 90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ao hhu	U	U	U	Ŭ	U	Ū	. 0	v	U	U	U	v	v	Ū
JAUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	. 0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	a										-				
ULCER	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	. 0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	Ō	0	0	0	0	0	0	0	0	Ō	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0.	ō	Ö	0	0	0	Ō
CRUSTA	0t1	0	0	0	0	0	0	0	0		0	0	0	0	0
CRUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	•	0	0	0
	30 ppm	0	0 0	0	0 0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	U	U	0	0	U	0	U	0	0	0	0	0
HEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROLAPSE OF PENIS	Control	0	0	0	0	0	0	0		0	0	0	0	0	0
TROPH OF OF TEND	Control 10 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
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	U	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	Ő	0	Õ	õ	õ	Õ	Ő	0	õ	0	ů 0
	90 ppm	0 0	õ	õ	õ	Ő	õ	Õ	õ	õ	0 0	0	õ	õ	0 0

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admini	stration We	ek-day				·····							
		15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	247	25-7	26-7	27-7	28-7
VEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LCER	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STON	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0 -	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROLAPSE OF PENIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0 0	Ő
	90 ppm	0	0	0	0	0	0	0	0	0	0	Ó	0	0	0

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : MALE

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Clinical sign	Group Name	Admini	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
NEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	. 0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LCER	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	Õ	0	0	Ö	0
RUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	Ó	0	0	0	0	0	0	0	0	0	0	0	0	Ő
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ő
EMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	.0	ò	Õ	õ	Õ	0 0	0 0	õ	ů	õ
	30 ppm	0	ů	ů 0	0	0	0	õ	0 0	0	0	0	0	0	ŏ
	90 ppm	Õ	õ	õ	0	0	õ	0 0	0	0	0	0	0	0	0
ROLAPSE OF PENIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0 0	0	Õ	0	0	ŏ	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	õ	0	0	0	0	0	0	0	0
	90 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	^	^	^
	10 ppm	0	0	0	0	-			.0	0	0	0	0	0	0
			-			0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX : MALE

linical 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
		_	_												
NEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LCER	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	. 0	0	0	0	0	0	0	0	0	0	0	ů.	Ő
	30 ppm	0	0	0	0	0 .	0	0	0	0	0	0	0	0	Ő
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	Ó	0	0	0	0	Ô	õ	Ő	ñ
	30 ppm	0	0	0	Ō	Õ	Õ	Ő	0	õ	0 0	Õ	Ő	0	n N
	90 ppm	0	0	0 0	õ	õ	õ	õ	õ	0	õ	0 0	0 0	õ	0
RUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	٥
	10 ppm	0	0	Õ	Ő	õ	õ	õ	0	õ	0	0	1	1	1
	30 ppm	õ	õ	0	0	0	0	0	0	0	ñ	ñ	n n	0	0
	90 ppm	ů 0	Õ	0	õ	0	0	Ő	0	0	0	~	0	0	0

	10 ppm	0	0	0	0	0	0	0	0	0	0	0	1	1	
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	,
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	;
HEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	90 ррш	0	0	0	0	0	0	0	0	0	0	0	0	0	:
PROLAPSE OF PENIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	:
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	
	90 ppm	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	
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Ô	
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Ô	
	90 ppm	0	0	0	0	0	0	0	0	0	0	ō	0	0	

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SEX : MALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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
NEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	1	1	1	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	. 0	0	0
	90 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ILCER	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	. 0
	10 ppm	1	1	1	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IEMORRHAGE	Control	0	0	0	0	0	. 0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0 0	Ő	0	Õ
	90 ppm	0	0	0	0	0	õ	Ő	õ	ů.	õ	õ	ů	ő	0
PROLAPSE OF PENIS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	Ő	0	õ	õ	0	0	Ő	0	0
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	Õ	Õ	0	Õ	õ	0	Õ	0 0	Õ	Ô	0 0	0
	30 ppm	0 0	õ	0 0	0 0	0	0	0	0	0	0	0	0	0	0 0
	90 ppm	0	ů 0	0	0	0	0	0	0	0	0	0	0	0	0

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NEMIA	Control 10 ppm 30 ppm 90 ppm	71-7 0 0	0	73-7	74-7	75-7	76-7	77-7	78-7	79–7	80-7	81-7	82-7	83-7	84-7
	10 ppm 30 ppm	0		0							· · · ·				
	10 ppm 30 ppm	0		0											
	30 ppm			0	0	0	0	0	0	0	0	0	0	0	1
UDDIAE			0	1	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UDDIAD		0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
LCER	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Ō	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	Ō	Ő	0	Ő	Õ	0 0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	. 0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	ō
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	Õ	õ	Õ	0	0	0	ů	ů 0	õ	0	0	0 0
	30 ppm	0	0	0	0	0	0	0	Õ	1	Õ	0 0	0 0	0 0	Ő
	90 ppm	0	0	0	0	0	0	0	. 0	ō	0	0	ů	ů 0	ů
ROLAPSE OF PENIS	Control	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	10 ppm	õ	0	Ő	õ	õ	õ	0	õ	Ő	0	0	0	0	0
	30 ppm	0 0	0	õ	õ	õ	õ	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	ů 0	ů	ů 0	0	Ő	õ	õ	0	0
REGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	1	2	1	1	1	1	1	1	1	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0		0
	90 ppm	0	1	1	1	1	2	1	3	3	1	1	2	0 2	2

CLINICAL OBSERVATION (SUMMARY)

ALL ANIMALS

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

ANEMIA

Clinical sign Group Name Administration Week-day _ 85-7 86-7 93-7 95-7 96-7 97-7 87-7 88-7 89-7 90-7 91-7 92-7 94--7 98-7 Control 10 ppm 30 ppm 90 ppm

TAL BOD T OP	0	0	^	0	0	0	0	0	0	0	0	0	^	0
JAUNDICE	Control	0 0	0	0 0	0 0	0 0	0	0	0	0 0	0 0	0	0	0
	10 ppm		•				0	0	0	0	-	0	1	0
	30 ppm	0	0	2	1 1	0	0	0	0	0	0 0	0	0 0	0
	90 ppm	1	1	1	1	0	U	Ų	0	U	0	0	0	0
ULCER	Control	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	õ	0	Ő	0	0	0	õ	0	Ō	0	0	0 0
	30 ppm	0	0	õ	0	Õ	0	0	0	õ	Ő	0	0	Ő
	90 ppm	0	0	0	0	0	0	0	0	Ō	0	0	Ō	0
EROSION	C	0	0	0	0	0	0	0	0	0	0	0	0	,
ENOSTON	Control			•	0	0		0	0	0	0	0	0	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0 0	0 0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	U	U	0	0	0	0	0	0
CRUSTA	Contro1	1	1	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	. 0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
HEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	õ	0	Õ	õ	õ	õ	ů	0 0	õ	0	õ	Ő	0
	30 ppm	õ	õ	Õ	õ	Õ	õ	ů 0	Ő	ů 0	0 0	ů 0	Ő	0
	90 ppm	0	õ	0	õ	0	ů	ů	ů	0 0	0	0	Õ	0
PROLAPSE OF PENIS	C	0	0	0	•	0	•	0	•		•	•	<u>^</u>	_
PROLAPSE OF PENIS	Control	0	0	0	0	0	0	0	0	1	1	0	0	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	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	1	0	1	0
	10 ppm	0	0	0	0	0	0	0	0	0	Ō	0	ō	0
	30 ppm	0	0	1	0	0	0	0	0	0	0	0	0	0
	90 ppm	4	3	1	3	1	0	1	Ō	õ	2	2	2	2

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : MALE

Clinical sign	Group Name	Admin	istration	∦eek-day _				
		99-7	100-7	101-7	102-7	103-7	104-7	
				· _ · · · · · · · · · · · · · · · · · ·				
ANEMIA	Control	0	0		0	0	0	
AINEMIA	10 ppm	0	0	0	0 1	1	0 1	
	30 ppm	0	0	0	0	0	0	
	90 ppm	õ	0	0	0	0	0	
	ao hhu	0	0	U	0	U	U	
JAUNDICE	Control	0	0	0	0	0	0	
	10 ppm	0	0	1	0	0	0	
	30 ppm	0	0	0 0	0	0	0	
	90 ppm	0	0	0	0	0	0	
ULCER	Control	0	0	0	0	0	0	
	10 ppm	1	1	1	1	1	1	
	30 ppm	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	
EROSION	Control	1	1	1	1	1	1	
ENOSION	10 ppm	0	0	0	1 0	0	0	
	30 ppm	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	
	20 ppm	v	v	0	v	v	v	
CRUSTA	Control	0	0	0	0	0	0	
	10 ppm	0	0	0	2	2	2	
	30 ppm	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	
HEMORRHAGE	Control	. 0	0	0	0	0	0	
	10 ppm	0	0	0	0	0	0	
	30 ppm	0	0	0	0	0	0	
	90 ppm	0	0	0	0	0	0	
PROLAPSE OF PENIS	Control	1	1	1	т	· 1	0	
TROPHIDE OF TENED	10 ppm	1 0	0	1 0	1	1	0	
					0	0	0	
	30 ppm	0	0 0	0	0	0	0	
	90 ppm	0	U	0	0	0	0	
IRREGULAR BREATHING	Control	0	0	0	0	0	0	
	10 ppm	0	0	0	0	ů 0	Õ	
	30 ppm	1	1	0	Ő	0	ŏ	
	90 ppm	Ô	ô	0	ů	0	ů	
		-	-	-	-	~	-	

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

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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
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LESI INATORI SOUND ADNOR	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	Õ	0	0	0	0	0	0	0	0
	90 ppm	Ö	0	0	0 .	0	õ	0	0	. 0	0	0	0	0	0
	oo ppm	Ū	U U	°,	č	Ũ	Ŭ	v	v	Ŭ	0	Ū	· ·	Ŭ	v
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0 -	0	0	0	0	Õ
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
JER BREATHING	10 ppm	0	0	0	õ	0 0	õ	ŏ	ŏ	õ	0	0	õ	0	0
	30 ppm	Ő	0	0	Ő	Ő	ů	õ	Õ	0	Ő	Ô	0	Ő	Ő
	. 90 ppm	0	0	0	Õ	ů 0	ů 0	Õ	0	ů	0	0	0 0	õ	0
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	õ	õ	0 0	õ	õ	ů 0	õ	õ	0	Ô	0	Õ	ů	Ő
	30 ppm	Õ	Õ	Ő	0 0	0	õ	õ	õ	õ	0	Ő	õ	Ő	0 0
	90 ppm	0	0	0	0	0	0	0	0	Ō	ō	0	0	0	0
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	õ	0	õ	õ	0 0	ů	õ	ů	õ	õ	õ	õ	0	0
	30 ppm	0	0	0	Õ	0	Ő	0	0	0	Ő	Õ	0	ů	õ
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	õ	0 0	Õ

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

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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
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	. 0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	õ
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

Clinical sign	Group Name	Admini	stration W	/eek-day											
		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
DICEDTRATION COTRES ADMON	Control I	<u>^</u>	0		<u>^</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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	U	0	0	0	0	0	0	0	0	0	0	0	0
VOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	õ
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	Û	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
	10 ppm	0	0	0	0	0	õ	0	õ	õ	õ	õ	0	0 0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	õ
	90 ppm	0	0	0	0	0	0	0	0	0	0	Ō	0	Õ	0 0
ABNORMAL RESPIRA, SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	Ō	Ō	õ	Ő	Õ	õ	Õ	Õ	õ	0	0	0
	30 ppm	0	0	0	0	Õ	Õ	Õ	õ	õ	0 0	0	0	Ő	0
	90 ppm	0	0	0	0	0	Ő	Õ	Ő	ů	0	0	0	0 0	0
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	õ	Õ	õ	0	0 0	0	0	0	0	0	0	0	0
	30 ppm	Õ	õ	õ	õ	Ů	0	0	Ő	õ	0	0	n	0	0
	90 ppm	Ō	Õ	Õ	õ	ů	õ	õ	õ	õ	0 0	Ő	0	0	0

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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 5 RESPIRATORY SOUND ABNOR Control 0 <td< th=""><th>Clinical sign</th><th>Group Name</th><th>Admini</th><th>stration W</th><th>eek-day</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	Clinical sign	Group Name	Admini	stration W	eek-day											
10 ppm 0 <th>-</th> <th></th> <th></th> <th></th> <th></th> <th>46-7</th> <th>47-7</th> <th>48-7</th> <th>49-7</th> <th>50-7</th> <th>51-7</th> <th>52-7</th> <th>53-7</th> <th>54-7</th> <th>55-7</th> <th>56-7</th>	-					46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
10 ppm 0 <td></td>																
30 ppm 0 <td>RESPIRATORY SOUND ABNOR</td> <td>Control</td> <td>0</td>	RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 ppm 0 <td></td> <td>10 ppm</td> <td>0</td>		10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOISY Control 0 <th< td=""><td></td><td>30 ppm</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></th<>		30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 ppm 0 <td></td> <td>90 ppm</td> <td>0</td>		90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 ppm 0 <td>VOISY</td> <td>Control</td> <td>0</td>	VOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 ppm 0 <td></td> <td>10 ppm</td> <td>0</td>		10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 ppm 0 0 0 0 0 0 0 0 0 0 0 1 1 DEEP BREATHING Control 0 <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>Ó</td>			0	0	0		0	0	0	0	0	0	0	0	0	Ó
10 ppm 0 <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td>			0	0	0		0	0	0	0	0	0	0	1	1	1
10 ppm 0 <td>DEEP BREATHING</td> <td>Control</td> <td>0</td>	DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 ppm 0 <td></td> <td>10 ppm</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td>0</td> <td>õ</td> <td>0</td> <td>-</td> <td>õ</td> <td>Ő</td>		10 ppm	0	0	0			0			0	õ	0	-	õ	Ő
90 ppm 0 <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>ñ</td> <td>0</td>			0	0	0	0	0	0	0		0	0	0	0	ñ	0
10 ppm 0 <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td>-</td> <td></td> <td>Ő</td> <td>ů 0</td>			0	0	0	0					0	0	-		Ő	ů 0
10 ppm 0 <td>ABNORMAL RESPIRA. SOUND</td> <td>Control</td> <td>0</td>	ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 ppm 0 <td></td> <td>10 ppm</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>0 0</td> <td>Ő</td> <td></td> <td>Ő</td> <td>Ő</td>		10 ppm	0	0	0						0	0 0	Ő		Ő	Ő
90 ppm 0 <td></td> <td></td> <td>0</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Õ</td> <td>0</td> <td>Õ</td> <td>-</td> <td>0</td> <td>ů 0</td>			0	0							Õ	0	Õ	-	0	ů 0
10 ppm 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0									-		0	Ő
10 ppm 0 0 0 0 0 0 0 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
30 ppm 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0											-		-	•	ñ	0
									-		-	-	•	Ŷ	ñ	0 0
		90 ppm	õ	õ	õ	0	ŏ	0	Ő	0	0	Ő	0	0	0	0

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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
ESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	. 0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	. 0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	1	1	1	1	1	0	0	0	0	0	0
DISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	1	1	1	1	1	0	0	0	0	0	0
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Ō	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	Ó	0	0	0

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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

RESPIRATORY SOUND ABNOR	Control	0	0	0	Ö	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	Ó	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	1	2	1	1	T	1	0 0	0	Ō	0	Ō
			-	-	-	-	-	-	-	-	·	·	·	· ·	Ť
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	1	2	1	1	2	2	1	2	2	2
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	1	0	2	1	1	0	0	1	0
ABNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	0	0	0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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Clinical sign	Group Name	Administration Week-day													
-	-	85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	1	1	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	· 0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	3	5	4	2	1	1	0	2	3	6	7	5	4	4
OISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	Ō	0	0	0	0
	90 ppm	2	1	1	1	1	1	3	1	2	2	0	0	1	Õ
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	10 ppm	ñ	õ	0 0	ů	0 0	0	õ	õ	0 0	0	0	0 0	0	0
	30 ppm	õ	ů	Õ	õ	0	õ	Ő	ů	0	0	0	Õ	õ	0
	90 ppm	0	0	2	1	õ	Õ	ů 0	0	Õ	3	1	0	0 0	2
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	Ō	Ō	ů 0	0	Õ	ů	õ	ñ	ů.	Õ	ů	ñ
	30 ppm	0	Ő	Õ	ů	0	0	õ	õ	0	0	0	0	0 0	0
	90 ppm	0	0	0	0	0	õ	0	Ő	õ	õ	Ő	Ő	Õ	ŏ
SUBNORMAL TEMP	Control	0	0	0	0	0	0	0	0	Q	1	0	0	0	0
	10 ppm	õ	ů 0	õ	0	õ	Õ	ů	0	0	n n	0	0	0	0
	30 ppm	õ	ů 0	õ	0 0	0	0	õ	0 0	0	0	0	õ	0	0
	90 ppm	ŏ	0	õ	õ	0	0	Ô	0	0	0	0	0	0	0
	oo ppm	Ŭ	v	Ŭ	U	Ŷ	v	Ū	U	Ū	Ū	v	v	v	v

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : MALE

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Clinical sign	Group Name	Admin	istration N	∛eek-day _				 <u> </u>	 	
		99-7	100-7	101-7	102-7	103-7	104-7			
					e.			 		
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0			
	10 ppm	0	0	0	0	0	0			
	30 ppm	0	0	0	0	0	0			
	90 ppm	4	3	3	2	2	3			
OISY	Control	0	0	0	0	0	0			
	10 ppm	0	0	0	0	0	0			
	30 ppm	0	0	0	0	0	0			
	90 ppm	0	1	0	0	0	0			
DEEP BREATHING	Control	0	0	0	0	0	0			
	10 ppm	0	0	0	0	0	0			
	30 ppm	0	0	0	0	0	0			
	90 ppm	2	2	1	0	0	0			
BNORMAL RESPIRA. SOUND	Control	0	0	0	0	0	0			
	10 ppm	0	0	0	0	0	0			
	30 ppm	0	0	0	0	0	0			
	90 ppm	0	0	0	0	0	0			
SUBNORMAL TEMP	Control	0	0	0	0	0	0			
	10 ppm	0	0	0	0	0	0			
	30 ppm	0	0	0	0	0	0			
	90 ppm	0	0	0	0	0	0			

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APPENDIX C 2

CLINICAL OBSERVATION : FEMALE

SEX : FEMALE

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	. 0	0	0	0	0	0 0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	ō	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	õ	Õ	õ	Õ	õ	ů 0	0 0	õ	õ	õ	ů
	30 ppm	0	0	0	Ō	0	Ō	0	õ	Ő	Õ	Õ	Õ	Õ	0
	90 ppm	0	0	0	0	0	õ	õ	õ	õ		· Ő	0	ů	õ
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		-	-		-			~		č	, v	v	•	•	v

SOILED PERI-GENITALIA

10 ppm

30 ppm

90 ppm

Control

10 ppm

30 ppm

90 ppm

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

linical sign	Group Name	p Name Administration Week-day													
		15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
EATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	. 0	0	0	0	0	0	0	0	0	0
WASTING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
·	30 ppm	0	0	Ó	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	Ő	Ő	õ	Ő	ů 0	Õ	Ő	Ő	ů	0	ů 0	Ő	ů 0	0
	90 ppm	Ő	õ	ů 0	0	0	0	Ő	Ő	õ	0	0	0 0	0 0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

linical sign	Group Name		istration W										· · · · · · · · · · · · · · · · · · ·		
		29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	407	41-7	42-7
		•													
EATH	Control	0	0	0	0	0	0	0	0	Ö	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0 ·	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	Ó	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROG BELLY	Contro1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	Õ	0	0	Ō	0	0	0	0	0	Ō	0	0
	30 ppm	Õ	0	õ	Õ	ů 0	Ő	Õ	Õ	ů 0	Ő	0 0	Ő	0	0
	90 ppm	0 0	õ	0 0	0	0 0	õ	õ	õ	0 0	õ	0	ů 0	ŏ	ő

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admin	istration W	leek-dav											
finital Sign	diodp hame	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
	<u> </u>	. <u>-</u> . ,										· <u> </u>			
EATH	Control	0	0	0	. 0	0	0	0	0	0	0	0	0	0	0
	10 ppm	õ	ů	õ	0	õ	õ	õ	Õ	0	0	0	0	0	0
	30 ppm	õ	Ő	õ	Õ	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	Õ	0 0	Õ	Ő	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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	1	1	1	1	1	1	1	0
	10 ppm	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	. 0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admin	istration V	∛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
S 1 (9) 1	0 . 1	0	0	^	Ô	0	0	0	0	0	0	0	0	0	0
EATH	Control	0	0	0	0	0	0	0 0	0	0 0	0 0	0 0	0	0	0
	10 ppm	0	0	0 0	0 0	0 0	0	0	0	0	0	0	0	1	0
	30 ppm 90 ppm	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	ao hhu	0	U	U	U	0	0	0	Ū	1	T	1	1	1	T
ORIBUND SACRIFICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	. 1	1	1
OCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	. 0	0	0	0	0	0	Ō
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	Ő	õ	õ	0	0	0	0	0	0	0 0	0	0	ŏ	. 0
	30 ppm	Ő	õ	0	0	0	0	0	0	0	0	0	0	0	Ő
	90 ppm	0	0	0	Ő	0	0	0	õ	Ő	ő	õ	0	0	0 0
ROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	· 0	0	0
	10 ppm	õ	õ	0 0	Ő	0	ů	0	õ	0	Ő	0 0	Ő	õ	0 0
	30 ppm	ů	0	ů	Ő	Ő	ů 0	0 0	Ő	0	0	0	0 0	õ	Ő
	90 ppm	0	õ	Ő	0	0	ů	ů	õ	Ő	0 0	0	ů 0	0	0
OILED PERI-GENITALIA	Control	0	0	0	0	0	0	0	0	1	1	1	1	1	1
The southing	10 ppm	õ	0	0	0	0	0	1	1	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	1	0	0	0	0	1	0 1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-dav											
		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
EATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	2	2	2	2	2	2	2
	90 ppm	1	1	1	1	1	1	2	3	3	4	4	4	4	5
RIBUND SACRIFICE	Control	1	1	1	1	1	1	2	3	3	3	3	3	3	3
	10 ppm	0	0	0	0	0	0	0	· 0	0	0	0	0	1	1
	30 ppm	0	0	0	0	1	1	1	1	1	1	2	2	2	2
	90 ppm	1	1	1	1	1	1	1	2	4	4	4	4	4	4
COMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	. 0	1	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STING	Control	0	0	0	1	1	2	2	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	1	1	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	2	1	0	0	1	1	1
DILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOERECTION	Control	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	1	1	1	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DILED PERI-GENITALIA	Control	1	1	0	1	1	1	0	0	0	0	0	0	0	0
	10 ppm	Ō	ō	1	ō	0	0	õ	Ō	õ	õ	1	1	ů 0	0
	30 ppm	Ő	Ő	0	ů	ů 0	Ő	ů	0	0	0	0	0	0	0
	90 ppm	0	0	õ	ů	ů 0	1	1	1	ů 0	0	0	Õ	1	0 0

Group Name

SEX : FEMALE

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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-

EATH	Control	0	0	0	1	1	2	2	2	2	2	2	2	2	3
	10 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	30 ppm	2	3	3	4	4	4	5	5	5	5	6	6	6	6
	90 ppm	6	8	8	8	8	9	11	13	13	13	14	14	15	15
DRIBUND SACRIFICE	Control	3	3	3	4	4	4	4	4	4	4	5	5	5	5
	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	30 ppm	2	2	2	2	2	.2	2	2	2	2	2	2	2	2
	90 ppm	5	5	5	5	5	5	6	7	7	7	8	8	8	10
DCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ASTING	Control	1	1	1	1	1	1	1	1	1	2	1	1	1	2
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	1	1	1	3	0	0	2	1	1	2	3
OILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ILOERECTION	Control	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	2
ROG BELLY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	1	0	1	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admin	istration	Week-day _								 	
		99-7	100-7	101-7	102-7	103-7	104-7		.,	 	<u></u>	 	
DEATH	Control	3	3	4	4	4	4						
	10 ppm	1	1	2	2	2	2						
	30 ppm	6	6	6	6	6	6						
	90 ppm	15	16	18	19	20	21						
ORIBUND SACRIFICE	Control	5	5	6	6	6	6						
	10 ppm	1	1	2	2	2	3						
	30 ppm	2	2	2	2	2	3	•					
	90 ppm	12	12	12	13	13	14						
LOCOMOTOR MOVEMENT DECR	Control	0	0	0	0	0	0						
	10 ppm	0	1	0	0	0	0						
	30 ppm	0	0	0	0	0	0						
	90 ppm	0	0	0	0	0	0						
WASTING	Control	2	3	2	2	2	2						
	10 ppm	0	1	0	1	1	0						
	30 ppm	0	0	0	0	0	1						
	90 ppm	2	3	1	1	1	1						
SOILED	Control	0	0	0	0	0	0				•		
	10 ppm	0	0	0	0	0	0						
	30 ppm	0	0	0	0	0	0						
	90 ppm	0	0	0	0	0	0						
PILOERECTION	Control	0	0	0	0	0	0						
	10 ppm	0	0	0	0	0	0						
	30 ppm	0	0	0	0	0	0						
	90 ppm	0	0	0	0	0	1						
FROG BELLY	Control	0	0	0	0	0	0						
	10 ppm	õ	0	0	0	0	0						
	30 ppm	Ő	Õ	°0	ů 0	Õ	Ő						
	90 ppm	0	Ő	0	0 0	0	õ						
SOILED PERI-GENITALIA	Control	0	1	0	0	0	0						
SATER I FUT OFFICIAL	10 ppm	0	0	1	1	1	0						
	30 ppm			0	0								
		0	0	0		0	1						
	90 ppm	0	0	U	1	0	1						

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

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
EXOPHTHALMOS	Control	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	. 0	0	0	0	0	0	C
	30 ppm	0	0	0	0	0	0	0 -	0	0	0	0	0	0	0
	90 ppm	0	0	0	. 0	0	0	0	0	0	0	0	0	0	C

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 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
XOPHTHALMOS	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	90 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	1	1	1	1	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	0	0	0	1	1	1	1	1	1	- 1	1	1	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	c
	10 ppm	0	0	0	0	0	0	0	0	· 0	0	0	0	0	C
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
NTERIOR CHAMBER OPACITY	Control	1	1	1	1	1	1	1	1	1	0	0	0	0	C
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
XTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	Ó	0	Ċ
	90 ppm	0	0	0	0	0	0	0	0	õ	0	0	0	0	C
NTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	90 ppm	0	0	0	0	0	0	0	0	õ	0	0	0	0	Ċ
1. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	C
	10 ppm	0	0	0	0	0	Õ	Ō	Ō	Õ	Õ	Ő	Õ	Ő	í
	30 ppm	õ	Ő	0	Ő	ů 0	ů	Õ	Ő	Õ	0	ů 0	ů	Ő	Ċ
	90 ppm	ů	õ	õ	õ	ů 0	0 0	õ	ů 0	õ	0 0	0	0	0	(

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-day							······································	. <u></u>			
		29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
EXOPHTHALMOS	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	2	2	2	2	2	2	2	2	2	2	2	2	2
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	1	1	2	2	2	2	2	2	2	2	2	2	2	2
-	10 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	2
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	2	2	2
	90 ppm	1	1	1	1	1	1	1	2	2	2	2	2	2	2
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	õ	0	õ	õ	ő	ů	õ	0	0	Ő	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	Ō	Õ	0	0	· 0	0	0	0	0	0	0	0	0
	90 ppm	0	õ	ů	õ	0 0	ů ů	0	0 0	ů ů	0	0	0	ů 0	0
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	Ō	Õ	õ	0	ō	0	0	0	0	0	0	0	0
	30 ppm	õ	0 0	Ő	0 0	Ő	Õ	Õ	õ	õ	Ő	Õ	0 0	Ō	0
	90 ppm	0 0	0	0	0	0 0	Ő	õ	õ	0	0	0	0	0	Õ
M. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	ů	Õ	0 0	Õ	ů 0	0 0	ů	Ő	ů	õ	Õ	ů 0	ů	Õ
	30. ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ő
	90 ppm	0	0	0	0	0	0	0	0	0	· 0	0	0	0	0
	ao bhu	v	v	v	U	v	v	v	v	v	v	v	v	v	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

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Clinical sign	Group Name	Admini	istration W												
		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
XOPHTHALMOS	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATARACT	Control	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10 ppm	2	2	2	3	3	3	3	3	3	3	3	3	3	3
	30 ppm	2	2	2	2	2	2	2	2	2	2	2	2	3	3
	90 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	Ō	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	90 ppm	0	0	0 0	0	0	ĩ	1	0	0	0	0	0	ō	0
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	õ	0	0	0	0	0	0	0	0	0	0
1. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	Ō	Ō	0	0	0	0	0	0	0	0
	30 ppm	Õ	Õ	0 0	0	Ő	Ő	0	Õ	Ő	õ	0	Õ	0 0	Õ
	90 ppm	ů 0	0	0	õ	ů	ō	Õ	Õ	õ	ů 0	Ő	ů	ů	õ

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

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
XOPHTHALMOS	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	2	2	2	2	2	2	2	2	2	1	1	1	1	1
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	0	0	0	0	0	0	0
	90 ppm	1	1	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	30 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	90 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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	2	2	2	2
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	90 ppm	0	0	0	ō	0	0	0	0	ō	ō	1	0	0	ō
INTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	ō	0	0
I. NOSE	Control	0	0	0	0	0	0	0	. 0	0	0	0	0	0	0
	10 ppm	Ő	0	õ	Ő	0	õ	Õ	Ő	Ő	Õ	Õ	Ő	0	0
	30 ppm	õ	Ő	õ	ů 0	0	ů	Ő	õ	0	0	0	Õ	Ő	0 0
	90 ppm	ů	ů	ů	0	0	õ	ů	ů	0 0	0 0	1	ů	ů	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

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Clinical sign	Group Name	Admini	stration W	eek-dav											
		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
	<u></u>														
XOPHTHALMOS	Control	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	0	0	0	0	0	0	0	0	1	1	1	1	1
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
ATARACT	Control	2	2	2	2	2	2	2	2	2	2	2	2	2	3
	10 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	30 ppm	3	3	3	3	3	3	3	2	2	2	2	2	2	2
	90 ppm	2	2	2	2	2	2	2	2	1	2	2	2	2	2
ORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	1	1	1	1	1	1	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	2	3	2	1	0	0	1	1	0
NTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTERNAL MASS	Control	2	3	3	3	4	4	3	3	3	3	3	3	3	3
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1	2	1	1	1	1	1	3	2
NTERNAL MASS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	1	0	0	1	1	1	1	1	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	Õ	0	Õ	Õ	Õ	Ő
	90 ppm	0	0	0	0	0	0	1	1	1	1	1	1	2	1

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

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
N I															
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
YE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	Control	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	10 ppm	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	30 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	90 ppm	2	2	2	2	2	2	1	1	1	1	1	1	1	1
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	1	0	0	1	0	0	0	1
NTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	1	1	0	0	0	0
EXTERNAL MASS	Control	3	3	4	3	3	3	3	3	3	3	4	5	5	6
	10 ppm	0	0	0	1	1	1	1	2	2	2	2	3	3	4
	30 ppm	0	0	0	0	0	2	2	2	2	2	2	2	2	2
	90 ppm	1	1	1	1	1	4	4	2	2	2	1	1	3	2
NTERNAL MASS	Control	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	· 0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	0	0	0	0	0	1	1	0	0	0	0
	90 ppm	1	0	1	1	1	2	0	0	1	1	0	0	1	1
I. NOSE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	3	3	. 1	1	1	0	0	1	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

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Clinical sign	Group Name	Admin	istration	Week-dav					
		99-7	100-7	101-7	102-7	103-7	104-7		
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EXOPHTHALMOS	Control	1	1	0	0	0	1		
EAGIIIIIALMOO	10 ppm	0	0	0	0	0	0		
	30 ppm		0	0	0	0	0		
	90 ppm	0 0	0	0	0	0	0		
	90 ppm	U	0	0	U	U	0		
EYE OPACITY	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
CATARACT	Control	3	3	3	3	3	3		
on manon	10 ppm	3	3	3	3	3	3		
	30 ppm	2	2	2	2	2	2		
	90 ppm	1	1	1	1	1	1		
	ao hhu	1	T	1	1	1.	I		
CORNEAL OPACITY	Control	1	1	0	0	0	1		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	0		
ANTERIOR CHAMBER OPACITY	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	0	0	0	0	1		
EVERDMAL MACC	O e te 1	c	C	-	F	-	-		
EXTERNAL MASS	Control	6	6	5	5	5	5		
	10 ppm	4	7	5	5	5	4		
	30 ppm	2	2	3	3	3	3		
	90 ppm	2	2	2	2	2	3		
INTERNAL MASS	Control	1	1	1	1	2	2		
	10 ppm	0	0	0	0	0	0		
	30 ppm	0	0	1	1	1	1		
	90 ppm	0	0	1	2	2	0		
M. NOSE	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0			
	30 ppm	0	0	0	· 0		0		
		0				0	0		
	90 ppm	U	0	0	0	0	0		

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	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
I. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	• 0	0	0	0	0
I. HEAD	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ō

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 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
M. EYE	Control	Û	0	0	n	0	0	0	0	0	0	0	Û	n	0
M. L11	0000000	0	0	0	0	0	0	0	0	0	0	0	0	0	v

M. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0 0	0	Ō	0	õ
	30 ppm	0	0	0	0	0	0	0	0	0	õ	0	0 0	0	õ
	90 ppm	0	Ō	0	0	0	Õ	õ	õ	Ő	õ	Ő	Õ	õ	0
M. HEAD	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. HEAD			0	0	0	0 0	0	0		0	0	0	0	0	0
	10 ppm	0	-	-			•	-	0		0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	.90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	õ	0	õ	0	õ	0 0	Ő	0	0	0	0	õ	0	0
	30 ppm	Ő	0 0	õ	0	õ	0 0	õ	0	0	0	0	0	0	0
	90 ppm	õ	0	0 0	0	0	õ	0	õ	0 0	0	0	0 0	0	0
	ao bhu	U	0	U	Ū	U	U	0	U	U	U	U	U	0	U
M. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : FEMALE

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	42-7
I. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. HEAD	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Õ	0
	90 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
	10 ppm	0	0	0	· 0	0	0	0	0	0	0	0	0	0	Ő
	30 ppm	0	0	0	0	0	0	0	0	Õ	õ	0	ů	ů	0
	90 ppm	0	Ő	0	0	Ő	õ	õ	õ	0	õ	0	0	õ	0
. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	Ő	Õ	Ő	õ	Õ	0	0	õ	0	Ő	0	0	0
	30 ppm	Ő	ů	õ	0	0	0 0	0	0	0	0	0	0	0	0
	90 ppm	. 0	0	ů 0	0	0	0	0	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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
EVE.		â	<u>^</u>	0	0	0	<u>^</u>	0	<u>^</u>	0	0	0	<u>^</u>	<u>^</u>	0
I. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	. 0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	1	1	0	0	0	0	0	0	0
.PERI EAR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A LINE LANC	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0 0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	Ū	Ū	0	0	U	v	0	v	Ŭ	0	v	U	Ū	0
. HEAD	Control	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	õ	Ő	0	0	0	0	Ő	0	0	0	0	0 0	0	0
	30 ppm	0	0	0	0	0	0	. 0	0	0	0	1	1	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	oo bhu	v	v	v	v	v	v	v	v	v	U	v	v	v	U
. ABDOMEN	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
,	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	ů.	0	Ō	Õ	Õ	õ	Õ	õ	Ő
	30 ppm	õ	Õ	Ő	Õ	0	ů	ů	0 0	0	0	0	0	0	0
	90 ppm	ů 0	Ő	Õ	ů	0 0	ů	0	ů	õ	Ő	õ	ů	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	eek-dav											
		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
. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAD	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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	1	1	1	1
	10 ppm	0	0	0	0	0	0	.0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	. 0	0	Ō	Õ	õ	Ő
	90 ppm	0	Ō	Ū.	0	0	Õ	Ō	õ	0	õ	õ	õ	õ	ŏ

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX : FEMALE

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Clinical sign	Group Name	Admini	stration W	'eek-dav											
		71-7	72-7	73–7	74-7	75–7	76-7	77-7	78-7	79-7	807	81-7	82-7	83-7	84-7
M. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. PERI-MOUTH	Control	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	. 0	0	0	0	0	0	0
	30 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
á. Head	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. BREAST	Control	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	õ	Õ	0	0	0
M. ABDOMEN	Control	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	Ô	0	0	0	0	ō	Ō
	30 ppm	0	0	0	0	0	0	0	0	0	Ő	0	0	0	0 0
	90 ppm	0	0	0	õ	Õ	0	0	õ	0	õ	0	õ	õ	Ő
M. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	Õ	õ	Ő	Ő	õ	õ	0	0	0	0	Ő	Õ	0
	30 ppm	Ő	Ő	õ	Ő	0 0	ů 0	Õ	0	Ő	0	0	0	õ	0
	90 ppm	1	1	1	1	1	1	1	0	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

SEX : FEMALE

PAGE : 71

Clinical sign	Group Name	Admini	stration W	leek-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
. EYE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	· 0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
.PERI-MOUTH	Control	1	1	1	1	1	1	1	1	1	I	2	2	2	2
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAD	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	1	1	1	1	1	1	1	1	2	2	2
	30 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. ABDOMEN	Control	1	1	1	1	1	1	1	1	1	1	1	1	1	2
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
. ANTERIOR. DORSUM	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	. 0	0	ů.	0	0	õ	Ő	Ő	Õ	ů 0	Ő

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admin	istration	Week-day			
-	-	99-7	100-7	101-7	102-7	103-7	104-7
	,						
M. EYE	Control	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1
M. PERI-MOUTH	Control	2	2	1	1	1	1
A. I DALI MOOTH	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	Ő	Ő	0	0
	90 ppm	0	0	0	0	0	0
M. PERI EAR	Control	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0
M. HEAD	Control	1	1	1	1	1	1
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0
M. NECK	Control	0	0	0	0	0	0
M. NEOK	10 ppm	1	1	1	1	0 1	0
	30 ppm	0	0	0	0	0	0
	90 ppm	Ő	0	0	0	Ő	0
M. BREAST	Control	0	0	0	0	0	0
	10 ppm	2	5	4	4	4	4
	30 ppm	1	1	2	2	2	2
	90 ppm	0	0	0	0	0	0
M. ABDOMEN	Control	2	2	2	2	2	2
	10 ppm	. 0	0	õ	0	1	1
	30 ppm	0	0	0 0	0	0	0
	90 ppm	õ	õ	0 0	ů	Õ	1
M. ANTERIOR, DORSUM	Control	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Adminis	stration We	ek-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. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	. 0	0	0	0	0	0	0	0	0	0	0
IEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	õ	0	ů 0	0 0	0	õ	0	õ	0	õ	0	õ	ů 0	0
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	Ő	õ	õ	Õ	0	ů 0	ů	õ	Õ	Õ	õ	õ
	30 ppm	õ	ů	0	0	0	0	0	0	0	0	0	0	0	õ
	90 ppm	0	0	0	0	0	õ	0 0	õ	ů 0	0	õ	0	0 0	ů 0

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admini	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
. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	. 0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	Ő	Ő	ů	õ	õ	ŏ	Ő	õ	õ	õ	0	ŏ	õ	õ

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : FEMALE

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Clinical sign	Group Name	Admin	istration W												
		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
. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. IIIIIDDIRD	10 ppm	ů	õ	0	0	õ	ů 0	Ő	ŏ	õ	õ	0	0	õ	0
	30 ppm	Ő	ů	Õ	õ	ů	Õ	0	õ	Õ	õ	Õ	ů 0	ů	0 0
	90 ppm	0	õ	0 0	Ő	Õ	õ	0	0	õ	Õ	0	0	õ	ů 0
. GENITALIA	Control	0	0	0	0	0	0	0	. 0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	. 0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IEMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : FEMALE

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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
(.HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	. 0	0	0	0	0	0	0	0	0	Ő	0 0
	90 ppm	0	0	0	0	0	0	ů 0	õ	0	Ő	ů	0	Ő	Õ
EMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	Õ	0	. 0	0	0	õ	0	ů	õ	õ
	30 ppm	0	0	Õ	õ	Ő	Ő	õ	ů	0 0	Ő	õ	0	0	Ő
	ý ppm	0	õ	0	0	0	õ	õ	ő	0	0	0	0	0	0
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	õ	Ő	õ	õ	Ő	0	0	0	0	0	õ	0	0	0
	30 ppm	0	0	0	0 -	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 ppm	v	v	v	v	v	v	v	v	U	v	v	U	U	0

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : FEMALE

Clinical sign	Group Name	Admini	stration W	leek-dav											
		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
A. HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	ō	1
AUNDICE	Control	. 0	0	0	0	0	0	0	0	0	0	0	0	· 0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RUSTA	Control	0	0	0	0	0	0	0	. 0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMORRHAGE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	30 ppm	1	0	0	0	0	0	0	0	0	1	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	Õ	Õ	Ő
	90 ppm	0	0	0	Û	0	0	0	0	Ő	0 0	0 0	0 0	0	Ő

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

linical sign	Group Name	Admini	stration W	leek-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
HINDLIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	Ó	0	0	0	0	0	Ő
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	Ő	ů
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	Ő
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	Ő	0	0
RUSTA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	Ō	0	Õ	Ő	0	Õ	Õ	õ	õ
	30 ppm	0	0	Õ	õ	Ő	ů 0	õ	0	0	0	0	Ő	0	0
	90 ppm	0	0	0	õ	0	ů	0	ů	õ	õ	0	0	0	0
EMORRHAGE	Control	0	0	1	0	0	0	0	0	0	1	2	0	0	0
	10 ppm	0	ō	0	õ	0	Ő	õ	Ő	õ	Ô	0	õ	0	0
	30 ppm	0 0	õ	Õ	õ	0	ő	Ő	0	- 0	0	0	0 0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
RREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0 0	0	0	0		0	
	30 ppm	0	0	0	0	0							1	-	0
		0	0	0	0		0	0	0	1	1	0	0	0	0
	90 ppm	U	U	U	U	0	1	1	0	0	0	0	1	1	2

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admin	istration W												
······		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-
HINDLIMB	Control	- 0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
	30 ppm	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GENITALIA	Control	0	0	1	0	0	0	0	0	0	0	0	1	1	1
	10 ppm	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	30 ppm	0	0	0	0	0	1	1	1	1	1	0	0	0	0
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NEMIA	Control	0	0	1	0	1	0	0	0	0	0	0	0	0	2
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	C
	30 ppm	1	0	0	0	0	0	1	1	0	0	0	0	0	C
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
AUNDICE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
ROSION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
RUSTA	Control	0	0	0	0	· 0	0	0	0	0	0	0	0	0	(
	10 ppm	0	0	0	0	0	0	0	0	0	. 0	0	0	0	(
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
EMORRHAGE	Control	0	0	0	0	1	0	0	0	0 .	1	1	0	0	(
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	30 ppm	0	0	0	0	0	0	1	0	1	0	0	0	0	(
	90 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	t
RREGULAR BREATHING	Control	0	0	1	0	0	0	0	0	0	0	0	0	0	(
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	90 ppm	0	Ō	0	0	0	3	1	õ	1	1	õ	ŏ	Ő	Ċ

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Admin	istration	Week-day _				 	
		99-7	100-7	101-7	102-7	103-7	104-7	 	
M. HINDLIMB	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	0	0		
	30 ppm	1	1	1	1	1	1		
	90 ppm	0	0	0	0	0	0		
M. GENITALIA	Control	1	1	1	1	1	1		
	10 ppm	1	1	0	0	0	0		
	30 ppm	0	0	0	0	0	1		
	90 ppm	1	1	1	1	1	1		
ANEMIA	Control	2	3	1	1	1	1		
	10 ppm	0	0	ō	ō	0	ō		
	30 ppm	0	0	0	0	0	0		
	90 ppm	0	1	1	1	1	0		
JAUNDICE	Control	0	0	0	0	0	0		
•	10 ppm	Ō	0	Õ	õ	0	õ		
	30 ppm	. 0	0	0	0	0	Õ		
	90 ppm	0	0	0	1	1	0		
EROSION	Control	0	0	0	0	0	0		
	10 ppm	0	0	0	0	õ	õ		
	30 ppm	0	0	1	0	0	0		
	90 ppm	0	0	0	0	0	0		
CRUSTA	Control	0	0	0	0	0	0		
	10 ppm	õ	Ő	0	0	- 0	0		
	30 ppm	Ő	0	0	1	1	1		
	90 ppm	Õ	0	õ	0 0	0	0		
HEMORRHAGE	Control	0	0	0	. 0	0	0		
	10 ppm	ő	0	0	0	0	0		
	30 ppm	ő	0	0	0	0	0		
	90 ppm	Ő	õ	0 0	0	0	0		
IRREGULAR BREATHING	Control	ſ	t	0	0	0	٥		
Indesseling Dreathing	10 ppm	1 0	1	0	0	0	0		
	30 ppm	0	0	0 0	0 0	0	0		
	30 ppm 90 ppm	0	0	0	1	0 0	0 0		
	ao hhm	v	v	T	1	U	U		

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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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
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

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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
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	U	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IOISY	Control	0	0	0	Q	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

SEX : FEMALE

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Clinical sign	Group Name	Admini	stration W	leek-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
						<u>,</u>	<u>,</u>	<u>^</u>	â		<u>^</u>	<u>,</u>	<u>^</u>	â	
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	U	0	0	0	U	0
	10 ppm	0	0	0	0	0	0	0	U O	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0		0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	U	0	Ų	U	0	0	U
IOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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(HAN190)

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

PAGE : 84

linical 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
ESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	. 0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	U	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	U
DISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	Ó	0	0	0	0	0	0	0	0	0	0

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(HAN190)

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

PAGE : 85

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
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

Clinical sign	Group Name	Administration Week-day													
		71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79–7	80-7	81-7	82-7	83-7	84-7
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	1
NOISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	1	0	0	0	1	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	. 0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	1	1	1	0	0	0	0	0	0

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

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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
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	1	1	1	1	0	0	2	3	2	5	6	4
OISY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	1	0	0	0	0	0	0	1	0
TACHYPNEA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	0	0	0	0	2	3	0	0	2	1	2	1	4

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(HAN190)

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj REPORT TYPE : A1 104

CLINICAL OBSERVATION (SUMMARY) ALL ANIMALS

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SEX : FEMALE

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Clinical sign	Group Name	Admin	istration	Week-day _			
		99-7	100-7	101-7	102-7	103-7	104-7
RESPIRATORY SOUND ABNOR	Control	0	0	0	0	0	0
	10 ppm	0	1	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	4	5	4	2	1	1
			<u>,</u>				•
NOISY	Control	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0
TACHYPNEA	Control	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0
DEEP BREATHING	Control	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	4	3	1	Õ	Õ	ĩ

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APPENDIX D 1

BODY WEIGHT CHANGES : MALE

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : MALE					ODY WEIGHT LL ANIMALS	CHANGES	(SUMMARY)							PAGE	: 1
Group Name	· Admini 0-0	strati	on week-day 1-7		2-7		3-7		4-7		5-7		6-7		
Control	127±	5	159±	8	189±	10	215±	10	235±	11	251±	11	266±	12	
10 ppm	127±	5	156±	8	$187\pm$	10	211±	11	231±	12	248±	12	262±	12	
30 ppm	127±	5	$155\pm$	7	183±	9*	208±	9**	227±	10**	243土	11**	258±	11**	
90 ppm	127±	5	145±	11**	168±	17**	191±	10**	207±	10**	220±	11**	230±	12**	
Significant difference ;	*:P≦(). 05	** : P ≦ 0.	01			Test of D	innett							
(HAN260)								. <u></u>					·		BAIS 4

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : MALE					BODY WEIGHT ALL ANIMALS	CHANGES	(SUMMARY)								PAGE : 2
Group Name	Admin 7-7		week-day 8-7		9-7		10-7		11-7		12-7		13-7		
Control	280±	13	293±	13	304±	14	313±	14	321±	14	328±	15	334±	14	
10 ppm	275土	12	288±	12	297±	12** .	$305\pm$	12*	314±	12*	319±	14**	327±	13*	
30 ppm	$270\pm$	12**	$282\pm$	13**	292±	12**	300±	12**	308±	12**	317±	13**	$323\pm$	13**	
90 ppm	240±	12**	247±	12**	254±	12**	$259\pm$	12**	266±	12**	283±	13**	280±	14**	
Significant difference ;	*:P≦	0.05	** : P ≦ 0.	01			Test of Du	nnett				<u>.</u>			
(HAN260)	<u> </u>				·										BAIS 4

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : MALE					BODY WEIGHT ALL ANIMALS	CHANGES	(SUMMARY)							PI	AGE: 3
Group Name	Admin 14-7		n week-day 18-7		22-7		26-7		30-7	w	34-7		38-7		
Control	$339\pm$	15	357±	18	372±	19	384±	21	393±	22	404±	23	412±	24	
10 ppm	332±	13*	$351\pm$	14	367±	16	379±	17	388±	18	399±	20	408土	22	
30 ppm	330±	14**	$348\pm$	16*	363±	17*	375±	19*	385±	19	$394\pm$	21	402±	22*	
90 ppm	280±	14**	294±	15**	304土	17**	314±	16**	320±	17**	326±	18**	332±	19**	
Significant difference ;	*:P≦	0.05	** : P ≤ 0.0)1			Test of D	unnett							
(HAN260)	- — -										· · ·				BAIS 4

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up Name	Admin	istration	week-day											<u>.</u>
	42-7		46-7		50-7		54-7		58-7		62-7		66-7	
Control	422±	25	429土	26	435±	26	439±	27	442±	27	444±	27	448±	27
10 ppm	418±	22	424±	22	431±	23	433±	23	436±	23	437土	22	440±	22
30 ppm	413±	22	419±	24	$424\pm$	25	424±	26	431±	26	$429\pm$	28*	434±	29*
90 mgg	343±	19**	342±	19**	$348\pm$	18**	351±	18**	349±	27**	348土	26**	354±	22**

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						<u></u>						- .		PAGE
p Name	Admini 70-7		week~day 74-7		78-7		82-7		86-7	- <u></u>	90-7		94-7	
Control	451±	27	454±	27	454±	28	452±	29	447±	31	441±	29	434±	38
10 ppm	443±	23	447±	22	449±	23	451±	23	449±	21	447±	25	440±	29
30 ppm	436±	28*	437±	28**	438±	28*	439±	30	435±	38	436±	39	431±	44
90 ppm	352±	26**	347±	31**	338±	38**	337±	35**	322±	44**	334±	26**	311±	43**

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : MALE					BODY WEIGHT ALL ANIMALS	CHANGES	(SUMMARY)		PAGE : 6
Group Name	Admin 98-7		n week-day 102-7		104-7		· · · · · · · · · · · · · · · · · · ·	 	
Control	432±	34	431±	30	422±	34			
10 ppm	434±	27	$428\pm$	26	423±	26			
30 ppm	423±	38	$421\pm$	30	418±	31			
90 ppm	319±	27**	310±	37**	294±	32**			
Significant difference ;	*:P≦	0.05	** : P ≦ 0.0	1	<u>-</u>		Test of Dunnett	 	
(HAN260)							<u> </u>	 	BAIS 4

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APPENDIX D 2

BODY WEIGHT CHANGES : FEMALE

roup Name	Admini	stration	week-day											
· · · · · · · · · · · · · · · · · · ·	0-0	<u> </u>			2-7		3-7		4-?		5-7		6-7	
Control	95±	3	110±	5	123±	5	133±	6	141土	6	149±	7	154±	8
10 ppm	95±	3	$108\pm$	5	121±	6	131±	7	139±	7	147±	8	$152\pm$	9
30 ppm	95±	3	108±	4	119±	5*	$130\pm$	6	136±	6**	1 45 ±	7*	149±	7**
90 ppm	95±	3	102±	5**	113±	6**	$124\pm$	7**	131±	7**	140±	8**	143±	8**

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : FEMALE					BODY WEIGHT ALL ANIMALS	CHANGES	(SUMMARY)							7	AGE: 8
Group Name	Admin: 7-7		week-day 8-7		9-7		10-7		11-7		12-7		13-7		
Control	159±	9	162±	8	168±	9	171±	9	176±	10	178±	10	180土	10	
10 ppm	158±	10	160±	9	165±	10	168±	10	172±	11	176±	11	178±	11	
30 ppm	$153\pm$	8**	156±	7**	$161\pm$	7**	$165\pm$	8**	169±	8**	173±	9*	174±	9**	
90 ppm	148±	8**	151±	8**	$155\pm$	8**	157±	9 * *	162±	9**	168±	9**	$166\pm$	9**	
Significant difference ;	*:P≦	0.05	** : P ≦ 0.0	01			Test of Du	nnett							
(HAN260)												=.	· •	· · · ·	BAIS 4

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : FEMALE					BODY WEIGHT ALL ANIMALS	CHANGES	(SUMMARY)							I	PAGE : 9
Group Name	Admin 14-7	istration	week-day 18-7		22-7		26-7		30-7		34-7		38-7		
Control	181±	11	188±	12	$195\pm$	13	199±	14	203±	14	207±	15	210±	16	
10 ppm	$180\pm$	11	187±	11	194土	12	197±	13	202±	14	207±	13	210土	13	
30 ppm	175±	9*	183土	10	189±	11*	194土	10	200±	12	205±	12	209±	13	
90 mqq	165±	9 * *	170±	9**	175±	9**	179±	9 * *	182±	9**	$185\pm$	9**	188±	10**	
Significant difference ;	*: P ≦	0.05	** : P ≦ 0.()1			Test of Du	nnett					<u>.</u>		
(HAN260)															BAIS 4

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : FEMALE				BODY WEIGHT ALL ANIMALS	CHANGES	(SUMMARY)						PAGE : 10
Group Name	Admin 42-7		n week-day 46-7	50	7	54-7		58-7	62-7		66-7	
Control	217±	16	222± 17	7 226±	18	229±	18	233± 20	234±	21	239±	23
10 ppm	216±	13	220± 14	4 228±	16	229±	16	232± 16	236±	18	$242\pm$	19
30 ppm	216±	14	218± 14	4 227±	15	$229\pm$	16	233± 17	$235\pm$	17	$241\pm$	18
90 ppm	195±	11**	195± 11	1 ** 201±	13**	201±	11**	201± 12**	203±	12**	210±	12**
Significant difference ;	*:P≦	0.05	** : P ≦ 0.01			Test of D	innett					
(HAN260)					<u></u>							BAIS 4

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : FEMALE					BODY WEIGHT ALL ANIMALS	CHANGES	(SUMMARY)							1	PAGE: 11
Group Name	Admin 70-7		n week-day 74-7		78-7		82-7		86-7		90-7	·	94-7		
Control	242±	24	249±	27	255土	29	258±	30	261±	31	267±	28	269±	30	
10 ppm	248±	21	$255\pm$	21	260±	22	$262\pm$	21	267±	20	271±	22	272±	20	
30 ppm	245±	19	$251\pm$	21	256±	24	260±	22	263±	21	266±	22	271±	25	
90 ppm	212±	12**	212±	13**	211±	19**	213±	14**	214±	11**	210±	17**	211±	13**	
Significant difference ;	*:P≦	0.05	** : P ≦ 0.0	1			Test of Du	innett			<u></u>			<u>.</u>	
(HAN260)	<u></u>														BAIS 4

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g	BODY WEIGHT CHANGES (SUMMARY) ALL ANIMALS							
REPORT TYPE : A1 104 SEX : FEMALE								PAGE : 12
Group Name	Admin 98-7		week-day 102-7		104-7			
Control	271±	33	271±	30	$269\pm$	35		
10 ppm	274±	21	274±	23	272±	24		
30 ppm	274±	21	274±	25	270±	28		
90 ppm	206土	21**	207±	24**	206±	24**		
Significant difference ;	*:P≦	0.05	** : P ≦ 0.	01			Test of Dunnett	
(HAN260)				<u></u>				BAIS 4

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APPENDIX E 1

FOOD CONSUMPTION CHANGES : MALE

Name		week-day(effective)				······································	
	1-7(4)	2–7 (7)	3-7 (7)	4-7(7)	5-7 (7)	6-7 (7)	7-7 (7)
Control	15.6± 1.1	16.4± 1.0	17.4± 1.3	17.4± 1.1	17.3± 1.2	17.1± 1.0	17.0± 1.0
10 ppm	15.4 \pm 1.2	16.1± 1.1	16.8± 1.3*	17.2± 1.1	16.6± 0.9**	16.6± 0.9**	16.6± 1.0
30 ppm	14.9± 1.2*	15.7± 1.0*	16.5± 1.2**	16.6± 1.1**	16.4± 1.1**	16.4± 0.9 **	16.4± 1.0**
90 ppm	12.3± 1.5 * *	13.7土 1.6**	14.6± 1.0**	14.9± 1.0**	14.7± 1.0**	14.6± 0.9**	14.9± 1.0**
ignificant difference	• • • P < 0.05	** : P ≤ 0.01		Test of Dunnett	<u> </u>		

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

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up Name	Administration	week-day(effective)					
<u> </u>	8-7(7)	9-7(7)	10-7 (7)	11-7(7)	12-7(7)	13-7(7)	14-7 (7)
Control	16.9± 0.9	17.1± 1.0	16.7± 0.9	16.2± 0.9	16.7± 1.0	16.3± 1.0	16.5± 1.0
10 ppm	16.4± 1.0*	16.4土 0.8**	16.4± 0.8	15.8± 1.0	16.2± 0.9*	15.6± 1.0**	16.0± 0.9*
30 ppm	16.0± 0.9**	16.3± 0.9 * *	16.1± 0.9**	16.0± 1.0	16.5± 1.0	16.0± 0.9	15.8土 0.8**
90 ppm	14.0± 0.7**	14.0± 0.9**	14.1± 0.7**	14.5土 0.9**	16.1± 1.1**	14.3± 0.9 * *	13.7± 0.7**

FOOD CONSUMPTION CHANGES (SUMMARY)

STUDY NO. : 0437

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : MALE	FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS								
Group Name	Administration 18-7(7)	week-day(effective) 22-7(7)	26-7(7)	30-7(7)	34-7 (7)	38-7(7)	42-7(7)		
Control	16.4± 1.0	16.6± 1.1	16.8± 1.1	16.5± 0.9	16.9± 1.2	17.0± 1.0	17.2± 1.0		
10 ppm	16.1± 1.0	16.2 ± 1.5	16.3± 1.1	16.5± 1.0	16.7± 1.1	16.9± 1.1	17.0± 1.1		
30 ppm	15.9± 1.0*	16.1± 1.0	15.9± 1.1**	16.2± 1.0	16.5± 1.1	16.6± 1.3	16.8± 1.1		
90 mqq	14.5± 0.9**	14.4± 0.9**	14.7± 1.0**	15.3± 1.0¥≭	15.2± 1.0**	15.5± 1.1 * *	15.9± 1.0**		
Significant difference ;	* : P ≤ 0.05	** : P ≦ 0.01		Test of Dunnett					
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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104		FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS									
SEX : MALE							PAGE: 4				
Group Name	Administration 46-7(7)	week-day(effective) 50-7(7)	54-7(7)	58-7(7)	62-7 (7)	66-7(7)	70-7(7)				
Control	16.9± 1.1	17.0± 1.1	16.7 \pm 0.9	16.9± 0.9	17.0± 1.1	17.2± 0.9	17.5± 1.1				
10 ppm	16.8± 0.9	16.9± 0.9	16.7± 1.0	16.9± 0.9	16.9± 1.0	17.3± 1.1	17.5± 1.0				
30 ppm	16.6± 1.2	16.7± 1.0	16.4± 1.1	16.7± 1.0	16.5± 1.4	16.8土 1.3	17.2± 1.2				
90 ppm	15.3± 1.0**	15.9± 1.0 * *	15.4± 0.8**	15.5± 1.4**	15.4土 1.8**	15.4± 1.0 * *	16.0± 1.2**				
Significant difference ;	* : P ≦ 0.05	** : P ≤ 0.01		Test of Dunnett							
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STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : MALE

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FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

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PAGE : 5

BAIS 4

Name	Administration 74-7(7)	week-day(effective) 78-7(7)	82-7 (7)	86-7(7)	90-7(7)	94-7 (7)	98-7 (7)
Control	17.2± 1.1	16.8± 1.0	17.0 \pm 1.1	16.6± 1.1	16.0 \pm 1.7	15.6± 3.0	16.6± 1.3
10 ppm	17.4± 1.2	17.6± 1.5	17.6± 1.4	16.9± 1.1	16.6土 1.2	16.7± 2.5*	16.5± 1.8
30 ppm	16.6± 1.2*	16.7± 1.9	16.9± 1.5	15.9± 2.8	16.6± 1.9	16.4± 1.9	16.4± 1.6
90 ppm	14.8± 1.2**	14.7± 2.7**	14.8± 1.8**	13.9± 2.9**	14.9± 1.2**	13.9± 2.9**	15.0± 1.3**

TUDY NO. : 0437 NIMAL : RAT F344/DuCrj NIT : g EPORT TYPE : A1 104 EX : MALE			OOD CONSUMPTION CHANGES (SUMMARY) LL ANIMALS	PAGE : 6
oup Name	Administration 102-7(7)	week-day(effective) 104-7(7)		
Control	17.1± 1.8	16.3± 1.9		
10 ppm	16.8± 2.0	16.6± 1.8		
30 ppm	16.6± 1.7	16.7± 1.4		
90 ppm	15.0± 2.6**	13.6± 2.1 **		
Significant difference ;	* : P ≦ 0.05	** : P ≦ 0.01	Test of Dunnett	
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APPENDIX E 2

FOOD CONSUMPTION CHANGES : FEMALE

Name	Administration	week-day(effective)						
	1-7(4)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)	
Control	10.9 ± 0.7	11.0± 0.8	11.2± 0.8	11.1± 0.7	11.6± 1.2	10.9± 0.9	11.0± 0.9	
10 ppm	10.8± 0.8	10.9± 0.8	11.3± 0.9	11.2± 1.0	11.6± 1.5	10.9± 0.9	11.1± 1.3	
30 ppm	10.7± 0.7	10.5± 0.6**	10.8± 0.6	10.8± 0.5	11.2± 0.8	10.5± 0.7*	10.7± 0.9	
90 ppm	9.2± 0.6**	9.9± 0.7**	10.6± 1.0**	10.4± 0.7**	11.0± 0.8*	10.4± 0.7**	10.9± 1.0	
ignificant difference	; *:P≦ 0.05	⊷ : P ≤ 0.01		Test of Dunnett				

FOOD CONSUMPTION CHANGES (SUMMARY)

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104 SEX : FEMALE

ALL ANIMALS

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PAGE : 7

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104			OD CONSUMPTION CHANG L ANIMALS	es (summary)				
SEX : FEMALE								PAGE : 8
Group Name	Administration we	ek-day(effective)	······································					
	8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)	14-7(7)	

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Control	10.2± 0.8	10.9± 0.9	10.1 ± 1.1	10.7 \pm 1.1	10.4 ± 1.1	10.5± 0.9	10.2 ± 0.9
10 ppm	10.2± 0.7	10.4± 0.8**	10.1± 0.8	10.4± 0.9	10.2± 1.0	10.4 ± 1.2	10.1± 1.1
30 ppm	10.0± 0.7	10.6± 1.0	10.1± 0.9	10.7± 1.2	10.4± 1.0	10.2± 0.8	10.1± 0.9
90 ppm	9.6± 0.7**	10.0± 0.8**	9.8± 0.9	10.7± 1.0	10.6± 1.0	10.0± 0.9	9.3± 0.9**

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

Test of Dunnett

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BAIS 4

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104		FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS										
SEX : FEMALE								PAGE : 9				
Group Name	Administration 18-7(7)	n week-day(effective) 22-7(7)	26-7(7)	30-7 (7)	34-7(7)	38-7 (7)	42-7 (7)					
Control	9.9± 0.8	10.2 ± 1.2	10.2± 1.1	10.4± 1.0	10.2± 0.8	10.4± 1.1	10.8± 0.9					
10 ppm	10.0± 1.1	10.3± 1.1	10.1± 0.9	10.3± 0.9	10.5± 0.8	10.5± 0.8	10.7 \pm 0.7					
30 ppm	10.0 ± 0.7	10.1± 1.0	10.1± 0.7	10.6± 1.1	10.6± 0.8	10.7± 1.1	10.8± 1.0					
90 ppm	9.9± 1.0	10.0± 1.0	10.2± 1.0	10.4± 0.7	10.5± 0.9	10.5± 0.8	11.0± 1.3					
Significant difference ;	* : P ≤ 0.05	** : P ≤ 0.01		Test of Dunnett								
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p Name	Administratio 46-7(7)	on week-day(effective) 50-7(7)	54-7(7)	58-7(7)	62-7(7)	66-7(7)	70-7(7)
			JI (()		02 1(1)		
Control	10.7± 0.9	10.9± 1.0	10.7± 0.8	10.8± 1.1	10.7± 1.3	11.5± 1.2	11.3± 1.1
10 ppm	10.6± 0.9	11.1± 1.0	11.0± 0.8	10.9± 0.8	11.1± 1.0	12.0± 1.1	12.0土 1.2**
30 ppm	10.4± 0.8	11.3± 1.2	10.9± 1.1	10.8± 1.4	10.9± 1.0	11.6± 1.0	11.8± 1.1*
90 ppm	10.5 ± 0.7	11.3± 1.2	10.2± 0.6**	10.4± 0.8	10.7± 0.8	11.1± 1.0	11.7± 0.9
Significant difference ;	*:P≦ 0.05	** : P ≤ 0.01		Test of Dunnett			

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

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STUDY NO. :	0437
ANIMAL :	RAT F344/DuCrj
UNIT :	g
REPORT TYPE	: A1 104
SEX : FEMAL	Е

FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS

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PAGE : 11

Name	Administration 74-7(7)	week-day(effective) 78-7(7)	82-7(7)	86-7(7)	90-7(7)	94-7(7)	98-7 (7)	
Control	11.5± 1.5	11.5± 1.3	11.6± 1.3	11.5± 1.2	11.4± 1.4	12.3± 1.8	12.2± 2.2	
10 ppm	12.2± 1.1*	12.1± 1.4	11.8± 1.0	12.1± 1.0*	12.1± 1.0*	12.0± 1.1	12.2 ± 1.1	
30 ppm	11.8± 1.2	11.8± 1.4	11.9± 1.3	11.5± 1.0	11.7± 1.2	12.3± 2.1	12.2± 1.1	
90 ppm	10.7± 0.9**	10.5± 1.9**	10.8± 0.9**	10.8± 0.7**	10.1± 2.0**	10.7± 1.2**	9.9± 2.0**	

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BAIS 4

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrj UNIT : g REPORT TYPE : A1 104			FOOD CONSUMPTION CHANGES (SUMMARY) ALL ANIMALS	
SEX : FEMALE				PAGE : 12
Group Name	Administration 102-7(7)	week-day(effective) 104-7(7)		
Control	11.7± 1.3	11.5± 2.7		
10 ppm	12.3± 1.3	11.9± 1.2		
30 ppm	12.4± 1.8	11.7± 2.0		
90 ppm	10.5± 3.3	10.3± 2.8		
		<u> </u>		
Significant difference ;	* : P ≦ 0.05	** : P ≦ 0.01	Test of Dunnett	
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APPENDIX F 1

HEMATOLOGY : MALE

roup Name	NO. of Animals	RED BLOOD CELL 1 0 ⁵ /µl	HEMOGLOBIN g⁄dl	HEMATOCRIT %			MCHC g ⁄dl	PLATELET 1 0³/µl	
Control	38	8.49± 1.44	14.5± 2.3	41.7± 5.6	49.9± 6.6	17.3± 1.5	34.7± 1.8	828± 218	
10 ppm	37	8.21± 1.53	14.0± 2.7	40.2± 6.6	49.3± 3.3	17.0± 1.2	34.6± 2.0	876± 248	
30 ppm	38	8.08± 1.69	13.7± 2.8	39.8± 6.5	50.4± 7.7	17.1± 1.9	34.1± 2.2	882± 319	
90 ppm	8	6.93± 2.27	10.6± 3.0**	33.2± 7.0**	50.5± 11.4	15.8± 3.2**	31.4生 2.7**	997 ± 399	

HEMATOLOGY (SUMMARY)

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STUDY NO. : 0437

BAIS 4

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oup Name	NO. of Animals	₩BC 1 0³∕µ)	L	Dif N-BAND	ferentia	1 WBC (% N-SEG	(⁽)	EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	38	5.94±	1.99	0±	1	48±	8	2土	1	0±	0	5±	2	44 <u>-</u>	9	2±	
10 ppm	37	7.71±	6. 45	0±	1	45±	11	$2\pm$	1	0±	0	5土	2	44±	10	4土	
30 ppm	38	7.26±	6.05	0±	1	45±	9	2±	1	0土	0	4土	2	45±	9	4土	
90 ppm	8	9.74±	5.56	1±	1	37±	13*	2±	2	0±	0	3±	2	$45\pm$	14	13±	

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APPENDIX F 2

HEMATOLOGY : FEMALE

oup Name	NO. of Animals	RED BLOOD CELL 1 0 ⁶ /µl	HEMOGLOBIN g⁄dl	HEMATOCRIT %	MCV f 2	MCH рg	MCHC g∕dl	PLATELET 1 0³/µℓ
Control	38	7.86± 1.39	14.5 ± 2.6	40.4± 5.8	52. 0± 4. 3	18.4± 1.2	35.5± 2.6	621± 153
10 ppm	45	8.16± 0.75	14.9± 1.3	41.2± 3.1	50.7± 2.5	18.3± 0.8	36.0± 0.8	622± 82
30 ppm	41	7.94± 1.20	14.7± 1.9	40.9± 4.5	52.5± 8.3	18.8± 1.8	35.9± 1.5	636 ± 155
90 ppm	15	8.00 ± 1.46	14.5 \pm 2.8	41.1± 6.6	51.9± 3.6	18.1± 1.3	35.0± 2.5	624± 161

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BAIS 4

of mals	WBC		D.C		1 100 /0	/\	·····						. n		· · ·	
na19	1 0 ³ /µ.	ę	N-BAND	ferentia	1 WBC (% N-SEG	o)	EOSINO		BASO		MONO		LYMPHO		OTHER	
38	3.51±	2. 10	1±	2	42±	10	2±	1	0±	0	4±	2	$49\pm$	9	2±	6
45	7.04± 2	20. 51	0土	1	38±	11	$2\pm$	1	0±	0	4土	2	51土	12	4土	15
41	5.91±	9.57	0±	1	38±	12	2±	1	0±	0	4土	2	49土	15	8土	23
15	5.17±	4.98	0土	1	40土	8	1±	1	0±	0	3±	2	$52\pm$	4	3±	6
48 41	5	5 7.04 \pm 3 1 5.91 \pm	5 7.04 \pm 20.51 1 5.91 \pm 9.57	5 7.04 \pm 20.51 0 \pm 1 5.91 \pm 9.57 0 \pm	5 7.04 \pm 20.51 0 \pm 1 1 5.91 \pm 9.57 0 \pm 1	5 7.04 \pm 20.51 0 \pm 1 38 \pm 1 5.91 \pm 9.57 0 \pm 1 38 \pm	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 2 \pm 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12 2 \pm	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 2 \pm 1 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12 2 \pm 1	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 2 \pm 1 0 \pm 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12 2 \pm 1 0 \pm	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 2 \pm 1 0 \pm 0 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12 2 \pm 1 0 \pm 0	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 2 \pm 1 0 \pm 0 4 \pm 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12 2 \pm 1 0 \pm 0 4 \pm	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 2 \pm 1 0 \pm 0 4 \pm 2 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12 2 \pm 1 0 \pm 0 4 \pm 2	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 2 \pm 1 0 \pm 0 4 \pm 2 51 \pm 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12 2 \pm 1 0 \pm 0 4 \pm 2 49 \pm	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 2 \pm 1 0 \pm 0 4 \pm 2 51 \pm 12 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12 2 \pm 1 0 \pm 0 4 \pm 2 49 \pm 15	5 7.04 \pm 20.51 0 \pm 1 38 \pm 11 2 \pm 1 0 \pm 0 4 \pm 2 51 \pm 12 4 \pm 1 5.91 \pm 9.57 0 \pm 1 38 \pm 12 2 \pm 1 0 \pm 0 4 \pm 2 49 \pm 15 8 \pm

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APPENDIX G 1

BIOCHEMISTRY : MALE

X : MALE	REPORT T	YPE : A1													PAGE :
oup Name	NO. of Animals	TOTAL F g∕dl	PROTEIN	ALBUMIN g⁄dl		A/G RAT	010	T−BILI mg∕dℓ		GLUCOSE mg⁄dl		T−CHOLE mg∕dl	STEROL	TRIGLYC. mg∕d£	ERIDE
Control	38	6.7±	0.4	2.9±	0.2	0.8±	0.1	0.23±	0. 41	150±	27	190±	84	154±	173
10 ppm	37	6.6±	0.4	2.8±	0.2	0.8±	0.1	0.16±	0.04	$147\pm$	22	194±	76	146±	107
30 ppm	38	6.5±	0.4	2.8±	0.3	0.8±	0.1	0.21±	0.19	$152\pm$	23	172±	54	112±	62
90 ppm	8	6.3土	0.2	2.5±	0.3**	0.7±	0.1	0.39±	0.74	$129\pm$	33	94±	22**	44±	41**

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coup Name	NO. of Animals	PHOSPHO mg⁄dl	DLIPID	AST IU/A	2	ALT IU/L		LDH IU/J	٤	ALP IU/J	e	G-GTP IU∕£		CK IU/S	!
Control	38	275±	130	103±	121	42±	19	194±	88	$205\pm$	57	6±	3	119±	146
10 ppm	37	280±	110	91±	55	42±	24	186±	49	351±	849	7±	4	109±	48
30 ppm	38	$250\pm$	63	87±	67	38±	17	198±	112	237±	94	8土	5	111±	73
90 ppm	8	164±	34**	$156\pm$	111**	62±	32	202±	93	370±	144**	6±	4	169±	105**

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TUDY NO. : 0437 NIMAL : RAT F EASURE. TIME : 1 EX : MALE		CYPE : A1				BIOCHEMISTRY (SU ALL ANIMALS (105									PAGE : 3
roup Name	NO. of Animals	UREA NI mg∕dl	TROGEN	CREATIN mg⁄dl	INE	SODIUM mEq⁄2		POTASSI mEq⁄s		CHLORIDE mEq∕ £		CALCIUN mg∕dℓ	1	INORGAN mg∕dℓ	IIC PHOSPHORUS
Control	38	20.7±	8.6	0.6±	0.1	1 42 ±	2	3.8±	0.3	104土	2	10.4±	0.4	4.0±	0.8
10 ppm	37	19.3±	2.4	0.6±	0.1	142±	2	3.8±	0.3	104±	2	10.3±	0.4	4.2±	0.5
30 ppm	38	19.7±	3.1	0.6±	0.1	142土	1	3.9±	0.3	105±	1	10.2±	0.3	4.2±	0. 7
90 ppm	8	18 . 9±	2. 1	0.5±	0.0	143±	1	4.2土	0.4*	104±	2	10.0±	0.2*	4.9±	0.5**

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APPENDIX G 2

BIOCHEMISTRY : FEMALE

up Name	NO. of Animals	TOTAL F g∕dl	PROTEIN	ALBUMIN g⁄dl	. <u></u>	A/G RAT	`I0	T−BILI mg∕dℓ		GLUCOSE mg⁄dl		T−CHOLE mg∕d£	STEROL	TRIGLYCH mg/dl	RIDE
Control	38	6.7±	0.6	3.4±	0.4	1.1±	0. 1	0.16±	0. 18	140土	14	126±	23	62±	62
10 ppm	45	7.0±	0. 4**	3.5±	0. 3	1.0±	0.2	0.14±	0.06	$135\pm$	20	138±	28*	62±	30
30 ppm	41	7.0±	0. 4	3.5±	0.4	1.0±	0.1	0.22±	0. 47	140±	19	150±	53**	81±	65*
90 ppm	15	6.4±	0.7	3.1±	0.5*	0.9±	0.2	0.15±	0.09	$126\pm$	32	104±	38	35±	20

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oup Name	NO. of	PHOSPHO	LIPID	AST		ALT		LDH		ALP		G-GTP		СК	
	Animals	mg⁄dl		I U / 4	2	IU/£		IU/2	e	I U / J	2	IU/L		IU/J	2
Control	38	226±	38	$115\pm$	40	54±	19	214±	64	$142\pm$	59	$2\pm$	1	95±	18
10 ppm	45	$245\pm$	43	$150\pm$	107	66±	34	242±	97	140±	62	3±	2	108±	62
30 ppm	41	$267\pm$	81**	192±	210	70土	49	436±	871	170±	150	4±	4	117±	82
90 ppm	15	$192\pm$	62	$135\pm$	73	71±	47	233±	94	236±	150**	4土	4 *	181±	188**

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(HCL074)

SEX : FEMALE	REPORT	TYPE : A1													PAGE : 6
Group Name	NO. of Animals	UREA N mg∕dl	ITROGEN	CREATIN mg⁄dℓ	INE	SODIUM mEq∕£		POTASSI mEq⁄.		CHLORIDE mEq 🖊 🞗		CALCIUM mg⁄dl	1	INORGAN mg∕dℓ	IIC PHOSPHORUS
Control	38	17.7±	3.5	0.5±	0.1	141±	2	3.8±	0.4	102±	2	10.1±	0.3	3.9±	0.8
10 ppm	45	17.2±	2. 3	$0.5\pm$	0.1	$140\pm$	2	3.7±	0.4	101±	2	10.3±	0.3**	3,8±	0.8
30 ppm	41	17.2±	2.8	0.5±	0.1	141±	1	3.7±	0.4	102±	2	10.4土	0.4**	4.1±	0.9
90 ppm	15	22.4±	15.8	0.5±	0.1	140土	2*	4.0±	0.5	102±	2	10.0±	0.3	4.5±	1.0

(HCL074)

APPENDIX H 1

URINALYSIS : MALE

roup Name	NO. of	_Hq							1001	Protein	Glucose	Ketone body	Bilirubin
-	Animals	5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	$-\pm +2+3+4+$ CHI	$-\pm+2+3+4+$ CHI	$-\pm +2+3+4+$ CHI	- + 2+ 3+ CHI
										· · · · · · · · · · · · · · · · · · ·		• - , , , , , ,<u>,,</u>,,, ,, , , , , , , , , , , , , , , ,	
Control	38	0	0	2	7	15	14	0		0 0 1 3 17 17	38 0 0 0 0 0	38 0 0 0 0 0	38 0 0 0
10 ppm	38	0	2	4	7	15	10	0		0 0 0 2 12 24	38 0 0 0 0 0	38 0 0 0 0 0	37 0 0 1
30 ppm	38	0	0	2	1	27	8	0	*	0 0 0 0 16 22	38 0 0 0 0 0	35 3 0 0 0 0	35 2 1 0
90 ppm	11	0	0	3	1	5	2	0		0 0 1 4 3 3	11 0 0 0 0 0	920000 **	10 0 1 0

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(HCL101)

		TYPE : A1		
roup Name	NO. of Animals	Occult blood $-\pm+2+3+$ CHI	Urobilinogen ± + 2+ 3+ 4+ CHI	
Control	38	37 1 0 0 0	38 0 0 0 0	
10 ppm	38	38 0 0 0 0	38 0 0 0 0	
30 ppm	38	38 0 0 0 0	38 0 0 0 0	
90 ppm	11	74000 **	11 0 0 0 0	

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(HCL101)

APPENDIX H 2

URINALYSIS : FEMALE

roup Name	NO. of	Ha								Prote	in				Glu	cose_		· · ·	Ket	one b	vho		e	Bilirub	in .	
	Animals		6.0	6.5	7.0	7.5	8.0	8.5	CHI		_	2+ 3-	+ 4+	CHI				3+ 4+ CHI			2+ 3	+ 4+	CHI	- + 2		CHI
Control	39	0	1	0	9	C	21	c		1 5		10 1			90	0 0	0	0 0	07	10 6	2 0	0 0		39 0	. .	
Control	39	U	1	4	3	0	21	0		1 0	• f	10 1.	b		39	0 0	U	0 0	21	10 2	5 0	0 0		39 0	0 0	
10 ppm	46	1	1	2	5	7	27	3		04	8	13 14	4 7		46	0 0	0	0 0	39	7 (0 (0 0		46 0	0 0	
30 ppm	42	0	3	2	5	6	21	5		04	1 3	9 2	ι 5		42	0 0	0	0 0	30	11 1	0	0 0		42 0	0 0	
90 ppm	15	0	1	3	1	5	3	2		1 5	5 7	2	0 0	*	15	0 0	0	0 0	12	2 () 1	0 0		15 0	0 0	

(HCL101)

coup Name	NO. of Animals	Occult blood $-\pm +2+3+$ CHI	Urobilinogen ± + 2+ 3+ 4+ CHI	· · · · · · · · · · · · · · · · · · ·
Control	39	36 0 1 0 2	39 0 0 0 0	
10 ppm	46	40 0 2 1 3	46 0 0 0 0	
30 ppm	42	39 0 0 0 3	42 0 0 0 0	
90 ppm	15	15 0 0 0 0	15 0 0 0 0	

APPENDIX I 1

GROSS FINDINGS : MALE

ALL ANIMALS

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

forestomach ulcer

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

Organ	Findings	Group Name NO. of Animals	50	Control (%)	50	10 ppm (%)	50	30 ppm (%)	50	90 ppm (%)
skin/app	nodule		3	(6)	6	(12)	2	(4)	1	(2)
	scab		0	(0)	1	(2)	0	(0)	0	(0)
subcutis	jaundice		2	(4)	1	(2)	1	(2)	2	(4)
	dry		0	(0)	0	(0)	0	(0)	1	(2)
	mass		11	(22)	9	(18)	8	(16)	4	(8)
trachea	nodule		0	(0)	0	(0)	1	(2)	0	(0)
lung	red		1	(2)	1	(2)	0	(0)	0	(0)
	white zone		1	(2)	0	(0)	. 0	(0)	1	(2)
	red zone		0	(0)	0	(0)	1	(2)	4	(8)
	yellow zone		0	(0)	0	(0)	0	(0)	1	(2)
	brown zone		2	(4)	. 0	(0)	0	(0)	2	(4)
	edema		0	(0)	2	(4)	0	(0)	0	(0)
	nodule		2	(4)	. 3	(6)	1	(2)	2	(4)
lymph node	enlarged		2	(4)	1	(2)	1	(2)	1	(2)
spleen	enlarged		6	(12)	6	(12)	8	(16)	7	(14)
	pale		0	(0)	0	(0)	0	(0)	1	(2)
	nodule		0	(0)	1	(2)	0	(0)	0	(0)
heart	white zone		0	(0)	1	(2)	0	(0)	1	(2)
oral cavity	nodule		0	(0)	1	(2)	0	(0)	0	(0)
tongue	nodule		1	(2)	0	(0)	0	(0)	0	(0)
salivary gl	nodule		0	(0)	0	(0)	0	(0)	1	(2)

1 (2) 1 (2) 0 (0)

PAGE : 1

0 (0)

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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Organ	Findings	Group Name NO. of Animals	Contr 50 (%)	ol 10 ppm 50 (%)	30 ppm 50 (%)	50	90 ppm (%)
stomach	gas		0 (0)	0 (0)	0 (0)	10	(20)
small intes	nodule		1 (2)	0 (0)	0 (0)	0	(0)
	gas		0 (0)	0 (0)	0 (0)	14	(28)
cecum	gas		0 (0)	0 (0)	0 (0)	2	(4)
large intes	gas		0 (0)	0 (0)	0 (0)	9	(18)
liver	enlarged		1 (2)	0 (0)	0 (0)	0	(0)
	pale		0 (0)	0 (0)	0 (0)	1	(2)
	yellow		1 (2)	0 (0)	0 (0)	0	(0)
	white zone		0 (0)	1 (2)	0 (0)	0	(0)
	red zone		0 (0)	0 (0)	1 (2)	0	(0)
	nodule		0 (0)	2 (4)	5 (10)	1	(2)
	cyst		0 (0)	0 (0)	0 (0)	1	(2)
	deformed		0 (0)	0 (0)	1 (2)	0	(0)
	rough		0 (0)	2 (4)	2 (4)	1	(2)
	nodular		1 (2)	0 (0)	0 (0)	0	(0)
	herniation		3 (6)	5 (10)	4 (8)	9	(18)
pancreas	nodule		0 (0)	1 (2)	0 (0)	0	(0)
kidney	white zone		1 (2)	0 (0)	1 (2)	0	(0)
	yellow zone		0 (0)	1 (2)	0 (0)	0	(0)
	granular		4 (8)	5 (10)	5 (10)	0	(0)
urin bladd	urine:marked retention		0 (0)	1 (2)	2 (4)	0	(0)
	urine:red		0 (0)	0 (0)	1 (2)	1	(2)

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GROSS FINDINGS (SUMMARY)

ALL ANIMALS (0-105W)

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

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PAGE : 3

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rgan	Findings	Group Name NO. of Animals	Control 50 (%)	10 ppm 50 (%)	30 ppm 50 (%)	90 ppm 50 (%)
ituitary	enlarged		5 (10)	9 (18)	3 (6)	0 (0)
	red zone		1 (2)	0 (0)	1 (2)	0 (0)
	nodule		1 (2)	7 (14)	5 (10)	2 (4)
	cyst		0 (0).	0 (0)	1 (2)	0 (0)
hyroid	enlarged		1 (2)	2 (4)	4 (8)	2 (4)
	nodule		1 (2)	1 (2)	0 (0)	0 (0)
ndrenal	enlarged		3 (6)	3 (6)	3 (6)	1 (2)
testis	enlarged		0 (0)	1 (2)	0 (0)	0 (0)
	atrophic		1 (2)	0 (0)	0 (0)	4 (8)
	nodule		44 (88)	39 (78)	38 (76)	23 (46)
prostate	nodule		0 (0)	0 (0)	1 (2)	0 (0)
orain	red zone		1 (2)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	1 (2)	1 (2)	0 (0)
spinal cord	red zone		1 (2)	0 (0)	0 (0)	0 (0)
эуе	turbid		0 (0)	0 (0)	1 (2)	5 (10)
	white		8 (16)	5 (10)	4 (8)	1 (2)
	red		0 (0)	0 (0)	0 (0)	1 (2)
nediastinum	mass		0 (0)	0 (0)	0 (0)	1 (2)
eritoneum	nodule		0 (0)	1 (2)	3 (6)	1 (2)
	mass		1 (2)	1 (2)	0 (0)	0 (0)
retroperit	mass		0 (0)	1 (2)	3 (6)	0 (0)
abdominal c	ascites		1 (2)	0 (0)	2 (4)	4 (8)

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

GROSS FINDINGS (SUMMARY)

ALL ANIMALS (0-105W)

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PAGE	:	4
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Organ	Findings	Group Name Control NO. of Animals 50 (%)	10 ppm 50 (%)	30 ppm 50 (%)	90 ppm 50 (%)
thoracic ca	hemorrhage	0 (0)	0 (0)	0 (0)	1 (2)
	pleural fluid	1 (2)	3 (6)	0 (0)	2 (4)
other	hindlimb:nodule	0 (0)	2 (4)	0 (0)	0 (0)
	forelimb:swollen	0 (0)	1 (2)	0 (0)	0 (0)
	lower jaw:nodule	0 (0)	0 (0)	0 (0)	1 (2)
	nose:elevated	0 (0)	0 (0)	0 (0)	6 (12)
	nose:nodule	0 (0)	0 (0)	0 (0)	15 (30)
whole body	anemic	0 (0)	1 (2)	0 (0)	0 (0)

(HPT080)

APPENDIX I 2

GROSS FINDINGS : MALE DEAD AND MORIBUND ANIMALS

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

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1

SEX : MALE

)rgan	Findings	Group Name Control NO. of Animals 12 (%)	10 ppm 12 (%)	30 ppm 12 (%)	90 ppm 39 (%)
skin/app	nodule	0 (0)	1 (8)	0 (0)	1 (3)
subcutis	jaundice	1 (8)	1 (8)	1 (8)	2 (5)
	dry	0 (0)	0 (0)	0 (0)	1 (3)
	mass	3 (25)	1 (8)	2 (17)	4 (10)
lung	red	1 (8)	1 (8)	0 (0)	0 (0)
	white zone	0 (0)	0 (0)	0 (0)	1 (3)
	red zone	0 (0)	0 (0)	1 (8)	4 (10)
	yellow zone	0 (0)	0 (0)	0 (0)	. 1 (3)
	brown zone	0 (0)	0 (0)	0 (0)	1 (3)
	edema	0 (0)	2 (17)	0 (0)	0 (0)
	nodule	2 (17)	0 (0)	0 (0)	2 (5)
lymph node	enlarged	1 (8)	1 (8)	0 (0)	1 (3)
spleen	enlarged	4 (33)	3 (25)	3 (25)	4 (10)
	pale	. 0 (0)	0 (0)	0 (0)	1 (3)
	nodule	0 (0)	1 (8)	0 (0)	0 (0)
neart	white zone	0 (0)	1 (8)	0 (0)	1 (3)
tongue	nodule	1 (8)	0 (0)	0 (0)	0 (0)
salivary gl	nodule	0 (0)	0 (0)	0 (0)	1 (3)
forestomach	ulcer	1 (8)	1 (8)	0 (0)	0 (0)
stomach	gas	0 (0)	0 (0)	0 (0)	7 (18)
small intes	gas	0 (0)	0 (0)	0 (0)	11 (28)
cecum	gas	0 (0)	0 (0)	0 (0)	2 (5)

PAGE: 1

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

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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Organ	Findings	Group Name NO. of Animals	Control 12 (%)	10 ppm 12 (%)	30 ppm 12 (%)	90 ppm 39 (%)
large intes	gas		0 (0)	0 (0)	0 (0)	6 (15)
liver	enlarged		1 (8)	0 (0)	0 (0)	0 (0)
	pale		0 (0)	0 (0)	0 (0)	1 (3)
	yellow		1 (8)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (8)	0 (0)
	cyst		0 (0)	0 (0)	0 (0)	1 (3)
	rough		0 (0)	1 (8)	0 (0)	0 (0)
	herniation		0 (0)	0 (0)	0 (0)	7 (18)
pancreas	nodule		0 (0)	1 (8)	0 (0)	0 (0)
kidney	white zone		1 (8)	0 (0)	1 (8)	0 (0)
	yellow zone		0 (0)	1 (8)	0 (0)	0 (0)
urin bladd	urine:marked retention		0 (0)	1 (8)	2 (17)	0 (0)
	urine:red		0 (0)	0 (0)	1 (8)	1 (3)
pituitary	enlarged		1 (8)	3 (25)	1 (8)	0 (0)
	nodule		0 (0)	1 (8)	0 (0)	1 (3)
	cyst		0 (0)	0 (0)	1 (8)	0 (0)
thyroid	enlarged		0 (0)	1 (8)	0 (0)	2 (5)
	nodule		1 (8)	0 (0)	0 (0)	0 (0)
adrenal	enlarged		1 (8)	1 (8)	1 (8)	1 (3)
testis	atrophic		0 (0)	0 (0)	0 (0)	4 (10)
	nodule		8 (67)	7 (58)	3 (25)	12 (31)
brain	red zone		1 (8)	0 (0)	0 (0)	0 (0)

PAGE : 2

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

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

rgan	Findings	Group Name Control NO. of Animals 12 (%)	10 ppm 12 (%)	30 ppm 12 (%)	90 ppm 39 (%)
rain	nodule	0 (0)	1 (8)	1 (8)	0 (0)
oinal cord	red zone	1 (8)	0 (0)	0 (0)	0 (0)
re	turbid	0 (0)	0 (0)	1 (8)	4 (10)
	white	0 (0)	2 (17)	0 (0)	1 (3)
	red	0 (0)	0 (0)	0 (0)	1 (3)
ediastinum	mass	0 (0)	0 (0)	0 (0)	1 (3)
ritoneum	nodule	0 (0)	0 (0)	0 (0)	1 (3)
	mass	1 (8)	0 (0)	0 (0)	0 (0)
otroperit	mass	0 (0)	0 (0)	3 (25)	0 (0)
odominal c	ascites	0 (0)	0 (0)	0 (0)	4 (10)
horacic ca	hemorrhage	0 (0)	0 (0)	0 (0)	1 (3)
	pleural fluid	1 (8)	3 (25)	0 (0)	2 (5)
ther	lower jaw:nodule	0 (0)	0 (0)	0 (0)	1 (3)
	nose:elevated	0 (0)	0 (0)	0 (0)	6 (15)
	nose:nodule	0 (0)	0 (0)	0 (0)	13 (33)
ole body	anemic	0 (0)	1 (8)	0 (0)	0 (0)

PAGE: 3

APPENDIX I 3

GROSS FINDINGS : MALE

SACRIFICED ANIMALS

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 38 (%)	10 ppm 38 (%)	30 ppm 38 (%)	90 ppm 11 (%)
skin/app	nodule		3 (8)	5 (13)	2 (5)	0 (0)
	scab		0 (0)	1 (3)	0 (0)	0 (0)
subcutis	jaundice		1 (3)	0 (0)	0 (0)	0 (0)
	mass		8 (21)	8 (21)	6 (16)	0 (0)
trachea	nodule		0 (0)	0 (0)	1 (3)	0 (0)
lung	white zone		1 (3)	0 (0)	0 (0)	0 (0)
	brown zone		2 (5)	0 (0)	0 (0)	1 (9)
	nodule		0 (0)	3 (8)	1 (3)	0 (0)
lymph node	enlarged		1 (3)	0 (0)	1 (3)	0 (0)
spleen	enlarged		2 (5)	3 (8)	5 (13)	3 (27)
oral cavity	nodule		0 (0)	1 (3)	0 (0)	0 (0)
stomach	gas		0 (0)	0 (0)	0 (0)	3 (27)
small intes	nodule		1 (3)	0 (0)	0 (0)	0 (0)
	gas		0 (0)	0 (0)	0 (0)	3 (27)
large intes	gas		0 (0)	0 (0)	0 (0)	3 (27)
liver	white zone		0 (0)	1 (3)	0 (0)	0 (0)
	red zone		0 (0)	0 (0)	1 (3)	0 (0)
	nodule		0 (0)	2 (5)	4 (11)	1 (9)
	deformed		0 (0)	0 (0)	1 (3)	0 (0)
	rough		0 (0)	1 (3)	2 (5)	1 (9)

1 (3)

3 (8)

0 (0)

5 (13)

0 (0)

4 (11)

0 (0)

2 (18)

nodular

herniation

PAGE: 1

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

GROSS FINDINGS (SUMMARY)

SACRIFICED ANIMALS (105W)

PAGE : 2

Organ	Findings	Group Name NO. of Animals	38 (Control %)	38	10 ppm (%) :	38	30 ppm (%)	11	90 ppm (%)
	· · · · · · · · · · · · · · · · · · ·	····								
kidney	granular		4 ([11)	5	(13)	5	(13)	0	(0)
pituitary	enlarged		4 ((11)	6	(16)	2	(5)	0	(0)
	red zone		1 ((3)	0	(0)	1	(3)	0	(0)
	nodule		1 ((3)	6	(16)	5	(13)	1	(9)
thyroid	enlarged		1 ((3)	1	(3)	4	(11)	0	(0)
	nodule		0 ((0)	1	(3)	0	(0)	0	(0)
adrenal	enlarged		2 ((5)	2	(5)	2	(5)	0	(0)
testis	enlarged		0 ((0)	1	(3)	0	(0)	0	(0)
	atrophic		1	(3)	0	(0)	0	(0)	0	(0)
	nodule		36	(95)	32	(84)	35	(92)	11	(100)
prostate	nodule		· 0	(0)	0	(0)	1	(3)	0	(0)
еуе	turbid		0	(0)	0	(0)	0	(0)	1	(9)
	white		8	(21)	3	(8)	4	(11)	0	(0)
peritoneum	nodule		0	(0)	1	(3)	3	(8)	0	(0)
	mass		0	(0)	1	(3)	0	(0)	0	(0)
retroperit	mass		0	(0)	1	(3)	0	(0) .	0	(0)
abdominal c	ascites		1	(3)	0	(0)	2	(5)	0	(0)
other	hindlimb:nodule		0	(0)	2	(5)	0	(0)	0	(0)
	forelimb:swollen		0	(0)	1	(3)	0	(0)	0	(0)
	nose:nodule		0	(0)	0	(0)	0	(0)	2	(18)

APPENDIX I 4

GROSS FINDINGS : FEMALE

ALL ANIMALS

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : FEMALE

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

Group Name 90 ppm Control 10 ppm 30 ppm NO. of Animals 50 (%) 50 (%) 50 (%) 50 (%) Organ____ Findings_ 1 (2) 0 (0) 0 (0) 2 (4) skin/app nodule 0 (0) 0 (0) 0 (0) scab 1 (2) 2 (4) subcutis jaundice 0 (0) 0 (0) 0 (0) 2 (4) mass 6 (12) 10 (20) 6 (12) 0 (0) 0 (0) 0 (0) 1 (2) nasal cavit nodule lung red1 (2) 0 (0) 1 (2) 1 (2) 0 (0) 2 (4) 1 (2) 1 (2) white zone 0 (0) 1 (2) 0 (0) 3 (6) red zone 0 (0) 0 (0) 0 (0) 1 (2) brown zone 0 (0) 0 (0) 0 (0) 1 (2) edema nodule 1 (2) 1 (2) 1 (2) 0 (0) enlarged 0 (0) 1(2)1 (2) 3 (6) lymph node spleen enlarged 4 (8) 6 (12) 5 (10) 7 (14) white zone 0 (0) 0 (0) 0 (0) 1 (2) 2 (4) 0 (0) 0 (0) nodule 0 (0) 0 (0) nodule 1 (2) 0 (0) 0 (0) heart 0 (0) 0 (0) forestomach nodule 1 (2) 0 (0) 0 (0) 0 (0) 0 (0) 1 (2) ulcer 0 (0) 0 (0) stomach 0 (0) 5 (10) gas 0 (0) small intes nodule 1 (2) 0 (0) 0 (0) 0 (0) 0 (0) 0 (0) 4 (8) gas 0 (0) 3 (6) large intes 0 (0) 0 (0) gas

PAGE: 5

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : FEMALE

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

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PAGE : 6

Organ	Findings	Group Name NO. of Animals	Control 50 (%)	10 ppm 50 (%)	30 ppm 50 (%)	90 ppm 50 (%)
liver	white zone		0 (0)	1 (2)	0 (0)	0 (0)
	yellow zone		1 (2)	0 (0)	0 (0)	0 (0)
	nodule		1 (2)	1 (2)	1 (2)	0 (0)
	deformed		0 (0)	1 (2)	0 (0)	0 (0)
	rough		2 (4)	2 (4)	2 (4)	0 (0)
	nodular		0 (0)	2 (4)	0 (0)	0 (0)
	herniation		9 (18)	10 (20)	6 (12)	12 (24)
pancreas	nodule		0 (0)	1 (2)	0 (0)	0 (0)
cidney	nodule		0 (0)	1 (2)	0 (0)	0 (0)
	granular		0 (0)	1 (2)	2 (4)	0 (0)
	hydronephrosis		1 (2)	0 (0)	0 (0)	0 (0)
urin bladd	urine:marked retention		0 (0)	0 (0)	1 (2)	0 (0)
pituitary	enlarged		7 (14)	15 (30)	11 (22)	2 (4)
	red zone		5 (10)	4 (8)	0 (0)	3 (6)
	nodule		10 (20)	10 (20)	9 (18)	6 (12)
	cyst		0 (0)	0 (0)	0 (0)	1 (2)
thyroid	enlarged		1 (2)	0 (0)	5 (10)	1 (2)
	nodule		0 (0)	1 (2)	1 (2)	0 (0)
adrenal	enlarged		2 (4)	0 (0)	0 (0)	0 (0)
ovary	enlarged		0 (0)	0 (0)	2 (4)	1 (2)
	nodule		0 (0)	1 (2)	0 (0)	0 (0)
uterus	nodule		6 (12)	5 (10)	6 (12)	8 (16)

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1

GROSS FINDINGS (SUMMARY)

ALL ANIMALS (0-105W)

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SEX : FEMALE PAGE: 7

Organ	Findings	Group Name NO. of Animals	Control 50 (%)	10 ppm 50 (%)	30 ppm 50 (%)	90 ppm 50 (%)
uterus	cyst		0 (0)	1 (2)	0 (0)	1 (2)
	dilated lumen		0 (0)	0 (0)	1 (2)	0 (0)
	fluid:black		0 (0)	0 (0)	1 (2)	0 (0)
vagina	nodule		1 (2)	0 (0)	0 (0)	0 (0)
spinal cord	brown zone		1 (2)	0 (0)	0 (0)	0 (0)
еуе	turbid		1 (2)	0 (0)	0 (0)	8 (16)
	white		3 (6)	4 (8)	2 (4)	2 (4)
	nodule		0 (0)	0 (0)	0 (0)	2 (4)
Zymbal gl	nodule		0 (0)	0 (0)	1 (2)	0 (0)
bone	nodule		0 (0)	0 (0)	0 (0)	1 (2)
peritoneum	nodule		2 (4)	0 (0)	0 (0)	0 (0)
retroperit	mass		0 (0)	1 (2)	1 (2)	0 (0)
abdominal c	hemorrhage		0 (0)	1 (2)	2 (4)	0 (0)
	ascites		2 (4)	0 (0)	0 (0)	0 (0)
thoracic ca	pleural fluid		1 (2)	0 (0)	0 (0)	0 (0)
other	lip:nodule		1 (2)	0 (0)	0 (0)	0 (0)
	nose:elevated		0 (0)	0 (0)	0 (0)	4 (8)
	nose:nodule		0 (0)	0 (0)	0 (0)	11 (22)

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APPENDIX I 5

GROSS FINDINGS : FEMALE DEAD AND MORIBUND ANIMALS

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1

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

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SEX : FEMALE

PAGE: 4

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	10 ppm 5 (%)	30 ppm 9 (%)	90 ppm 35 (%)
subcutis	jaundice		1 (10)	0 (0)	0 (0)	0 (0)
	mass		2 (20)	3 (60)	2 (22)	2 (6)
lung	red		1 (10)	0 (0)	1 (11)	1 (3)
	white zone		0 (0)	0 (0)	0 (0)	1 (3)
	red zone		0 (0)	0 (0)	0 (0)	3 (9)
	edema		0 (0)	0 (0)	0 (0)	1 (3)
	nodule		1 (10)	1 (20)	0 (0)	0 (0)
lymph node	enlarged		0 (0)	1 (20)	1 (11)	2 (6)
spleen	enlarged		0 (0)	2 (40)	2 (22)	5 (14)
	nodule		1 (10)	0 (0)	0 (0)	0 (0)
forestomach	nodule		0 (0)	1 (20)	0 (0)	0 (0)
	ulcer		0 (0)	0 (0)	0 (0)	1 (3)
stomach	gas		0 (0)	0 (0)	0 (0)	5 (14)
small intes	gas		0 (0)	0 (0)	0 (0)	4 (11)
large intes	gas		0 (0)	0 (0)	0 (0)	3 (9)
liver	white zone		0 (0)	1 (20)	0 (0)	0 (0)
	yellow zone		1 (10)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (11)	0 (0)
	herniation		0 (0)	1 (20)	0 (0)	10 (29)
pancreas	nodule		0 (0)	1 (20)	0 (0)	0 (0)
urin bladd	urine:marked retention		0 (0)	0 (0)	1 (11)	0 (0)
pituitary	enlarged		3 (30)	3 (60)	3 (33)	2 (6)

STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1

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

SEX : FEMALE

Group Name Control 10 ppm 30 ppm 90 ppm 5 (%) 9 (%) 10 (%) 35 (%) Organ_ Findings_ NO. of Animals 1 (10) 1 (20) 0 (0) 3 (9) pituitary red zone 2 (20) 0 (0) 2 (22) 2 (6) nodule cyst 0 (0) 0 (0) 0 (0) 1 (3) thyroid enlarged 0 (0) 0 (0) 1 (11) 0 (0) adrenal enlarged 1 (10) 0 (0) 0 (0) 0 (0) 0 (0) 0 (0) ovary enlarged 1 (11) 1 (3) 0 (0) nodule 1 (20) 0 (0) 0 (0) nodule 1 (10) 1 (20) 2 (22) 4 (11) uterus nodule 1 (10) 0 (0) 0 (0) 0 (0) vagina 0 (0) 0 (0) 0 (0) spinal cord brown zone 1 (10) turbid 0 (0) 0 (0) 0 (0) 7 (20) eye white 0 (0) 0 (0) 0 (0) 1 (3) nodule 0 (0) 0 (0) 0 (0) 2 (6) Zymbal gl nodule 0 (0) 0. (0) 1 (11) 0 (0) bone nodule 0 (0) 0 (0) 0 (0) 1 (3) retroperit mass 0 (0) 1 (20) 1 (11) 0 (0) abdominal c hemorrhage 0 (0) 1 (20) 2 (22) 0 (0) pleural fluid thoracic ca 1 (10) 0 (0) 0 (0) 0 (0) other nose:elevated 0 (0) 0 (0) 0 (0) 4 (11) nose:nodule 0 (0) 0 (0) 0 (0) 10 (29)

PAGE: 5

APPENDIX I 6

GROSS FINDINGS : FEMALE

SACRIFICED ANIMALS

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1

GROSS FINDINGS (SUMMARY)

SACRIFICED ANIMALS (105W)

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SEX : FEMALE

Organ	Findings	Group Name NO. of Animals	Control 40 (%)	10 ppm 45 (%)	30 ppm 41 (%)	90 ppm 15 (%)
skin/app	nodule		1 (3)	0 (0)	0 (0)	2 (13)
	scab		0 (0)	0 (0)	1 (2)	0 (0)
subcutis	jaundice		1 (3)	0 (0)	0 (0)	0 (0)
	mass		4 (10)	7 (16)	4 (10)	0 (0)
nasal cavit	nodule		0 (0)	0 (0)	0 (0)	1 (7)
lung	white zone		2 (5)	0 (0)	1 (2)	0 (0)
	red zone		0 (0)	1 (2)	0 (0)	0 (0)
	brown zone		0 (0)	1 (2)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (2)	0 (0)
lymph node	enlarged		0 (0)	0 (0)	0 (0)	1 (7)
spleen	enlarged		4 (10)	4 (9)	3 (7)	2 (13)
	white zone		0 (0)	0 (0)	0 (0)	1 (7)
	nodule		1 (3)	0 (0)	0 (0)	0 (0)
heart	nodule		1 (3)	0 (0)	0 (0)	0 (0)
small intes	nodule		0 (0)	1 (2)	0 (0)	0 (0)
liver	nodule		1 (3)	1 (2)	0 (0)	0 (0)
	deformed		0 (0)	1 (2)	0 (0)	0 (0)
	rough		2 (5)	2 (4)	2 (5)	0 (0)
	nodular		0 (0)	2 (4)	0 (0)	0 (0)
	herniation		9 (23)	9 (20)	6 (15)	2 (13)
kidney	nodule		0 (0)	1 (2)	0 (0)	0 (0)
	granular		0 (0)	1 (2)	2 (5)	0 (0)

PAGE : 3

STUDY NO. : 0437 ANIMAL : RAT F : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : FEMALE

GROSS FINDINGS (SUMMARY) SACRIFICED ANIMALS (105W)

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PAGE: 4

Organ	Findings	Group Name NO. of Animals	Control 40 (%)	10 ppm 45 (%)	30 ppm 41 (%)	90 ppm 15 (%)
kidney	hydronephrosis		1 (3)	0 (0)	0 (0)	0 (0)
pituitary	enlarged		4 (10)	12 (27)	8 (20)	0 (0)
	red zone	·	4 (10)	3 (7)	0 (0)	0 (0)
	nodule		8 (20)	10 (22)	7 (17)	4 (27)
thyroid	enlarged		1 (3)	0 (0)	4 (10)	1 (7)
	nodule		0 (0)	1 (2)	1 (2)	0 (0)
adrenal	enlarged		1 (3)	0 (0)	0 (0)	0 (0)
ovary	enlarged		0 (0)	0 (0)	1 (2)	0 (0)
uterus	nodule		5 (13)	4 (9)	4 (10)	4 (27)
	cyst		0 (0)	1 (2)	0 (0)	1 (7)
	dilated lumen		0 (0)	0 (0)	1 (2)	0 (0)
	fluid:black		0 (0)	0 (0)	1 (2)	0 (0)
еуе	turbid		1 (3)	0 (0)	0 (0)	1 (7)
	white		3 (8)	4 (9)	2 (5)	1 (7)
peritoneum	nodule		2 (5)	0 (0)	0 (0)	0 (0)
abdominal c	ascites		2 (5)	0 (0)	0 (0)	0 (0)
other	lip:nodule		1 (3)	0 (0)	0 (0)	0 (0)
	nose:nodule		0 (0)	0 (0)	0 (0)	1 (7)

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APPENDIX J 1

ORGAN WEIGHT, ABSOLUTE : MALE

STUDY NO. : 0437 ANIMAL : RAT REPORT TYPE : A1 SEX : MALE UNIT: g	F344/DuCrj		ORGAN WEIGHT:ABSOLUTE (SUMMARY) SURVIVAL ANIMALS (105W)										PAGE : 1	
Group Name	NO. of Animals	Body 1	Veight	ADREN	IALS	TESTI	ES	HEAR	T	LUNGS	3	KIDN	3YS	
Control	38	396±	33	0.155±	0.519	3.435±	1. 140	1.176±	0.094	1.476±	0.343	2.771±	0.217	
10 ppm	38	$395\pm$	27	0.104±	0.141	3.371±	2. 326	1.249±	0.116	1.620±	0.470*	2.819±	0.228	
30 ppm	38	390±	32	0.103±	0.164	3.765±	1.384	1.214±	0.091	1.498±	0.252	2.844±	0.278	
90 ppm	11	275±	35**	0.068±	0.016	2.702±	1.063	1.204±	0.162	$1.810\pm$	0.498**	2.470±	0.209**	
Significant	difference ;	* : P ≦ 0.	05 **	: P ≦ 0.01			Tes	t of Dunnett	<u> </u>					

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(HCL040)

BAIS 4

| STUDY NO. : 0437<br>ANIMAL : RAT<br>REPORT TYPE : A1<br>SEX : MALE<br>UNIT: g | NIMAL : RAT F344/DuCrj SURVIVAL ANIMALS (105%)<br>REPORT TYPE : A1<br>SEX : MALE |            |        |              | PAGE : 2 |            |                 |        |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------|--------|--------------|----------|------------|-----------------|--------|
| Group Name                                                                    | NO. of<br>Animals                                                                | SPLE       | EEN    | LIVI         | ER       | BRAI       | N               |        |
| Control                                                                       | 38                                                                               | 1.276±     | 1.895  | $11.561\pm$  | 2. 041   | 2.068±     | 0.051           |        |
| 10 ppm                                                                        | 38                                                                               | 1.192±     | 0. 633 | 11.752 $\pm$ | 1.680    | 2.083±     | 0.052           |        |
| 30 ppm                                                                        | 38                                                                               | 1.445±     | 1.634  | 11.790±      | 2. 997   | $2.097\pm$ | 0.063           |        |
| 90 ppm                                                                        | 11                                                                               | $1.512\pm$ | 1.972  | 9.581±       | 3.890    | $2.036\pm$ | 0.067           |        |
|                                                                               | difference ;                                                                     | *:P≦0.0    | )5 **  | : P ≤ 0.01   |          |            | Test of Dunnett |        |
| (HCL040)                                                                      |                                                                                  |            |        |              |          |            |                 | BAIS 4 |

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## APPENDIX J 2

## ORGAN WEIGHT, ABSOLUTE : FEMALE

| STUDY NO. : 0437<br>ANIMAL : RAT D<br>REPORT TYPE : A1<br>SEX : FEMALE | NIMAL : RAT F344/DuCrj SURVIVAL.<br>BPORT TYPE : A1<br>EX : FEMALE |            |        |            |       | WEIGHT:ABSOLUT<br>AL ANIMALS (10 |        | Y)           |        |            |        |            |       |          |
|------------------------------------------------------------------------|--------------------------------------------------------------------|------------|--------|------------|-------|----------------------------------|--------|--------------|--------|------------|--------|------------|-------|----------|
| UNIT: g<br>Group Name                                                  | NO. of<br>Animals                                                  | Body       | Yeight | ADREM      | NALS  | OVAR.                            | IES    | HEAR         | ſ      | LUNG       | 6      | KIDN       | BYS   | PAGE : 3 |
| Control                                                                | 40                                                                 | 251±       | 35     | $0.082\pm$ | 0.097 | 0.164±                           | 0. 332 | 0.858±       | 0.106  | 1.017±     | 0.123  | 1.710±     | 0.136 |          |
| 10 ppm                                                                 | 45                                                                 | 254±       | 24     | 0.068±     | 0.010 | 0.116±                           | 0.023  | 0.837±       | 0.052  | 1.039±     | 0.218  | $1.754\pm$ | 0.134 |          |
| 30 ppm                                                                 | 41                                                                 | $252\pm$   | 27     | 0.065±     | 0.013 | 0.192 $\pm$                      | 0. 490 | 0.862±       | 0.087  | $1.050\pm$ | 0.234  | $1.816\pm$ | 0.309 |          |
| 90 ppm                                                                 | 15                                                                 | 195±       | 24**   | 0.065±     | 0.009 | 0.106±                           | 0.015  | 0.796±       | 0.048* | 1.043±     | 0. 179 | 1.610±     | 0.140 |          |
| Significant                                                            | difference ;                                                       | * : P ≤ 0. | 05 **  | : P ≦ 0.01 |       | · · · · · · · · ·                | Tes    | t of Dunnett |        |            |        |            |       |          |

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(HCL040)

BAIS 4

| STUDY NO. : 0437<br>ANIMAL : RAT<br>REPORT TYPE : A1<br>SEX : FEMALE<br>UNIT: g | ANIMAL : RAT F344/DuCrj SURVIVAL ANIMALS (105W)<br>REPORT TYPE : A1<br>SEX : FEMALE<br>UNIT: g |                                                                                                                                         |              |                 | PAGE: 4                               |        |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|---------------------------------------|--------|
| Group Name                                                                      | NO. of<br>Animals                                                                              | SPLEEN                                                                                                                                  | LIVER        | BRAIN           |                                       |        |
| Control                                                                         | 40                                                                                             | 0.877± 1.416                                                                                                                            | 6.474± 1.279 | 1.864± 0.046    |                                       |        |
| 10 ppm                                                                          | 45                                                                                             | 0.779± 1.076                                                                                                                            | 6.831± 1.292 | 1.866± 0.046    |                                       |        |
| 30 ppm                                                                          | 41                                                                                             | 0.928± 1.854                                                                                                                            | 6.814± 1.601 | 1.872± 0.042    |                                       |        |
| 90 ppm                                                                          | 15                                                                                             | 0.745± 0.796                                                                                                                            | 5.695± 0.989 | 1.864± 0.033    |                                       |        |
| Significant                                                                     | difference ;                                                                                   | * : P ≤ 0.05 **                                                                                                                         | : P ≦ 0.01   | Test of Dunnett | · · · · · · · · · · · · · · · · · · · |        |
| (HCL040)                                                                        |                                                                                                | - · · - · · - · · - · · - · · - · · - · · - · · - · · - · · - · · - · · · - · · - · · - · · · - · · · · · · · · · · · · · · · · · · · · |              |                 | <u> </u>                              | BAIS 4 |

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## APPENDIX K 1

## ORGAN WEIGHT, RELATIVE : MALE

| REPORT TYPE : A1      | F344/DuCrj        |                    |                 | WEIGHT:RELATIVE (SUMMAR<br>AL ANIMALS (105W) | Y)             |                |                |          |
|-----------------------|-------------------|--------------------|-----------------|----------------------------------------------|----------------|----------------|----------------|----------|
| SEX : MALE<br>UNIT: % |                   |                    |                 |                                              |                |                |                | PAGE : 1 |
| Group Name            | NO. of<br>Animals | Body Weight<br>(g) | ADRENALS        | TESTES                                       | HEART          | LUNGS          | KIDNEYS        |          |
| Control               | 38                | 396± 33            | 0.047± 0.182    | 0.868± 0.293                                 | 0.298± 0.023   | 0.376± 0.101   | 0.705± 0.072   |          |
| 10 ppm                | 38                | 395± 27            | 0.026± 0.035    | 0.853± 0.595                                 | 0.317± 0.038*  | 0.413± 0.134   | 0.715± 0.071   |          |
| 30 ppm                | 38                | $390 \pm 32$       | 0.026± 0.038    | 0.965± 0.350                                 | 0.312± 0.023*  | 0.384± 0.046   | 0.732± 0.078   |          |
| 90 ppm                | 11                | 275± 35**          | 0.025± 0.007    | 0.979± 0.394                                 | 0.446± 0.097** | 0.682± 0.270** | 0.909± 0.129** |          |
| Significant           | difference ;      | * : P ≤ 0.05 **    | $: P \leq 0.01$ | Tes                                          | st of Dunnett  |                |                |          |

(HCL042)

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BAIS 4

| STUDY NO. : 0437<br>ANIMAL : RAT F<br>REPORT TYPE : A1<br>SEX : MALE | 344/DuCrj         |                                       | ORGAN<br>SURVIV |                         |            |
|----------------------------------------------------------------------|-------------------|---------------------------------------|-----------------|-------------------------|------------|
| JNIT: %                                                              |                   |                                       |                 |                         | <br>PAGE : |
| Group Name                                                           | NO. of<br>Animals | SPLEEN                                | LIVER           | BRAIN                   | <br>       |
| Control                                                              | 38                | 0.328± 0.521                          | 2.921± 0.481    | 0.526± 0.045            |            |
| 10 ppm                                                               | 38                | 0.304± 0.181                          | 2.977± 0.421    | 0.529± 0.039            |            |
| 30 ppm                                                               | 38                | 0.357± 0.324                          | 3.016± 0.685    | 0.540± 0.042            |            |
| 90 ppm                                                               | 11                | 0.498± 0.576                          | 3.460± 1.297    | 0.752± 0.113 <b>*</b> * |            |
| Significant (                                                        | difference ;      | *:P≦0.05 **:                          | P ≤ 0.01        | Test of Dunnett         | <br>       |
| (HCL042)                                                             |                   | · · · · · · · · · · · · · · · · · · · |                 |                         | <br>BAIS 4 |

## APPENDIX K 2

## ORGAN WEIGHT, RELATIVE : FEMALE

| roup Name | NO. of<br>Animals | Body Weight<br>(g) | ADRENALS         | OVARIES           | HEART          | LUNGS             | KIDNEYS        | · · · · · · · · · · · · · · · · · · · |
|-----------|-------------------|--------------------|------------------|-------------------|----------------|-------------------|----------------|---------------------------------------|
|           |                   |                    |                  | · · · · ·         |                |                   |                |                                       |
| Control   | 40                | 251± 35            | 0.034± 0.044     | 0.070± 0.159      | 0.347± 0.056   | 0.413± 0.076      | 0.691± 0.088   |                                       |
| 10 ppm    | 45                | 254± 24            | $0.027\pm~0.006$ | 0.046± 0.009      | 0.332± 0.025   | 0.413± 0.096      | 0.697± 0.085   |                                       |
| 30 ppm    | 41                | $252 \pm 27$       | 0.026± 0.005     | $0.071 \pm 0.159$ | 0.345± 0.050   | $0.425 \pm 0.146$ | 0.726± 0.120   |                                       |
| 90 ppm    | 15                | 195± 24**          | 0.034± 0.007**   | 0.055± 0.010**    | 0.415± 0.055** | 0.544± 0.115**    | 0.836± 0.096** |                                       |

BAIS 4

(HCL042)

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| STUDY NO. : 0437<br>ANIMAL : RAT<br>REPORT TYPE : A1<br>SEX : FEMALE<br>UNIT: % | F344/DuCrj        |                   |              | WEIGHT:RELATIVE (SUMMARY)<br>AL ANIMALS (105W) | PAGE: 4    |
|---------------------------------------------------------------------------------|-------------------|-------------------|--------------|------------------------------------------------|------------|
| Group Name                                                                      | NO. of<br>Animals | SPLEEN            | LIVER        | BRAIN                                          | <br>       |
| Control                                                                         | 40                | 0.356± 0.560      | 2.590± 0.418 | 0.757± 0.107                                   |            |
| 10 ppm                                                                          | 45                | $0.310 \pm 0.440$ | 2.703± 0.487 | 0.742± 0.072                                   |            |
| 30 ppm                                                                          | 41                | 0.413± 1.043      | 2.710± 0.545 | 0.751± 0.083                                   |            |
| 90 ppm                                                                          | 15                | 0.378± 0.394      | 2.936± 0.414 | 0.976± 0.163**                                 |            |
| Significant                                                                     | difference ;      | *:P≦0.05 **:      | P ≤ 0.01     | Test of Dunnett                                | <br>       |
| (HCL042)                                                                        |                   |                   |              |                                                | <br>BAIS 4 |

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## APPENDIX L 1

# HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : MALE ALL ANIMALS

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

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| rgan          | Group Name<br>No. of Animals<br>Grade<br>Findings | Control<br>on Study 50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|---------------|---------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Integumentary | system/appandage)                                 |                                                             |                                                   |                                                   |                                                   |
| kin/app       | mineralization                                    | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                      | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|               | scab                                              | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                              | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 0 0 0 0 0 ( 0) ( 0) ( 0)                        | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|               | epidermal cyst                                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                              | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 0 0 0<br>(0)(0)(0)(0)(0)                        |
| ubcutis       | abscess                                           | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                      | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| Respiratory s | ystem}                                            |                                                             |                                                   |                                                   |                                                   |
| asal cavit    | exudate                                           | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                      | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 3 0 0<br>( 0) ( 6) ( 0) ( 0)            |
|               | squamous cell hyperplasia with atypia             | 0 0 0 0<br>(0)(0)(0)(0)                                     | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)                           | 1 30 1 0 ₩<br>(2)(60)(2)(0)                       |

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

(HPT150)

BATS4

.

Findings\_\_\_

Organ\_\_\_\_

Group Name

Grade

No. of Animals on Study

1

(%)

(%)

(%) (%)

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

 Control
 10 ppm
 30

 50
 50
 50

 2
 3
 4
 1
 2
 3
 4
 1
 2
 3

(%) (%)

(%)

(%)

30 ppm

|     |     | ~~ P       |     |     |     | •• P1 |     |
|-----|-----|------------|-----|-----|-----|-------|-----|
|     | 50  | 0          |     |     | 5   | 0     |     |
| 1   | 2   | 3          | 4   | 1   | 2   | 3     | 4   |
| (%) | (%) | (%)        | (%) | (%) | (%) | (%)   | (%) |
|     |     |            |     |     |     |       |     |
|     |     |            |     |     |     |       |     |
|     |     |            |     |     |     |       |     |
|     | 15  | <b>0</b> 2 |     |     | 15  | 0     |     |

PAGE : 2

90 ppm

| {Respiratory | system)                                         |                                        |                                            |                                                                        |                                           |
|--------------|-------------------------------------------------|----------------------------------------|--------------------------------------------|------------------------------------------------------------------------|-------------------------------------------|
| nasal cavit  | eosinophilic change:olfactory epithelium        | <50><br>18 23 1 0<br>(36) (46) (2) (0) | <50><br>20 20 1 0<br>( 40) ( 40) ( 2) ( 0) | <50><br>11 22 1 0<br>( 22) ( 44) ( 2) ( 0)                             | <50><br>9 6 0 0 **<br>(18) (12) ( 0) ( 0) |
|              | eosinophilic change:respiratory epithelium      | 2 3 0 0<br>(4)(6)(0)(0)                | 4 0 0 0<br>(8)(0)(0)(0)                    | 2 0 0 0<br>(4)(0)(0)(0).                                               | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|              | inflammation:foreign body                       | 7 17 0 0<br>(14) (34) (0) (0)          | 8 15 0 0<br>(16) (30) (0) (0)              | 6       23       0       0         (12)       (46)       (0)       (0) | 2 7 0 0 **<br>(4)(14)(0)(0)               |
|              | inflammation:respiratory epithelium             | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 1 1 0 0<br>(2) (2) (0) (0)                 | 0 2 0 0<br>( 0) ( 4) ( 0) ( 0)                                         | 4 17 1 0 **<br>( 8) ( 34) ( 2) ( 0)       |
|              | respiratory metaplasia:olfactory epithelium     | 3 0 0 0<br>(6)(0)(0)(0)                | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)             | 4 1 0 0<br>(8)(2)(0)(0)                                                | 2 6 0 0 *<br>(4)(12)(0)(0)                |
|              | respiratory metaplasia:gland                    | 5 14 0 0<br>(10) (28) (0) (0)          | 9 10 0 0<br>(18) (20) (0) (0)              | 5 12 0 0<br>(10) (24) (0) (0)                                          | 3 17 1 0<br>(6)(34)(2)(0)                 |
|              | squamous cell metaplasia:respiratory epithelium | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 1 1 0 0<br>(2)(2)(0)(0)                    | 4 6 0 0 **<br>(8)(12)(0)(0)                                            | 4 38 0 0 ★★<br>(8)(76)(0)(0)              |
|              | squamous cell metaplasia:olfactory epithelium   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 0 0 0<br>(0)(0)(0)(0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                         | 5 0 0 0<br>(10) (0) (0) (0)               |

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

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

 b
 b: Number of animals with lesion

 (c)
 c: b / a \* 100

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

(HPT150)

#### STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1

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

|             | No                                       | oup Name<br>. of Animals on Study | Control<br>50                   | 10 ppm<br>50                                                     | 30 ppm<br>50                                | mקק 90<br>50                                           |
|-------------|------------------------------------------|-----------------------------------|---------------------------------|------------------------------------------------------------------|---------------------------------------------|--------------------------------------------------------|
| )rgan       | Gr<br>Findings                           | ade <u>1</u><br>(%)               | <u>2 3 4</u><br>(%) (%) (%)     | $\frac{1}{(\%)}  \frac{2}{(\%)}  \frac{3}{(\%)}  \frac{4}{(\%)}$ | $\frac{1  2  3  4}{(\%)  (\%)  (\%)  (\%)}$ | <u>1</u> <u>2</u> <u>3</u> <u>4</u><br>(%) (%) (%) (%) |
| Respiratory | system)                                  |                                   |                                 |                                                                  |                                             |                                                        |
| asal cavit  | hyperplasia with atypia:respiratory epit | helium 0<br>(0)                   | <50><br>0 0 0<br>( 0) ( 0) ( 0) | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                           | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)      | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                 |
|             | hyperplasia:submucosal gland             | 0<br>( 0)                         | 0 0 0<br>(0)(0)(0)              | 0 0 0 0<br>(0)(0)(0)(0)(0)                                       | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)              | 0 3 0 0<br>(0)(6)(0)(0)                                |
|             | hyperplasia:transitional epithelium      | 0<br>( 0)                         | 0 0 0<br>( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                   | 5 3 0 0*<br>(10) (6) (0) (0)                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                         |
|             | atrophy:olfactory epithelium             | 0<br>( 0)                         | 0 0 0<br>( 0) ( 0) ( 0)         | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                                   | 7 2 0 0 ***<br>(14) (4) (0) (0)             | 10 14 0 0 **<br>(20)(28)(0)(0)                         |
| ung         | congestion                               | 0<br>( 0)                         | <50><br>1 0 0<br>) (2) (0) (0)  | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                           | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)      | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                 |
|             | hemorrhage                               | 0<br>( 0)                         | 0 0 0<br>) ( 0) ( 0) ( 0)       | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)              | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                         |
|             | inflammatory infiltration                | 0<br>( 0)                         | 0 0 0<br>) ( 0) ( 0) ( 0)       | 1 0 0 0<br>(2)(0)(0)(0)(0)                                       | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)              | 1 0 0 0<br>(2)(0)(0)(0)(0)                             |
|             | accumulation of foamy cells              | 1                                 | 0 0 0                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)              | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                         |

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

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

b b : Number of animals with lesion

c:b/a\*100 (c)

| SEX :         | MALE                                  |                                                         |                                                                                                                |                                                                                                |                                        | PAGE :                                   |
|---------------|---------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------|
| _             |                                       | Group Name<br>No. of Animals on Study<br>Grade <u>1</u> | $\begin{array}{c} \text{Control} \\ 50 \\ \underline{2} & \underline{3} & \underline{4} \\ \hline \end{array}$ | $\begin{array}{c} 10 \text{ ppm} \\ 50 \\ \underline{1  2  3  4} \\ (1)  (2)  (2) \end{array}$ | 30 ppm<br>50<br><u>1 2 3 4</u>         | 90 ppm $50$ $1$ $2$ $3$ $4$ $(3)$        |
| )rgan         | Findings                              | (%)                                                     | (%) (%) (%)                                                                                                    | (%) (%) (%) (%)                                                                                | (%) (%) (%) (%)                        | (%) (%) (%) (%)                          |
| {Respiratory  | system)                               |                                                         |                                                                                                                |                                                                                                |                                        |                                          |
| lung          | bronchiolar-alveolar cell hyperplasia | a 0<br>( 0)                                             | <50><br>3 0 0<br>( 6) ( 0) ( 0)                                                                                | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                                                         | <50><br>0 2 0 0<br>( 0) ( 4) ( 0) ( 0) | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)   |
|               | inflammation:foreign body             | 0<br>( 0)                                               | 0 0 0<br>( 0) ( 0) ( 0)                                                                                        | 0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                               | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 1 8 0 0 <b>**</b><br>(2) (16) (0) (0)    |
| (Hematopoieti | c system}                             |                                                         |                                                                                                                |                                                                                                |                                        |                                          |
| bone marrow   | thrombus                              | 1<br>( 2)                                               | <50><br>0 0 0<br>( 0) ( 0) ( 0)                                                                                | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                         | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <50><br>0 0 0 0 .<br>( 0) ( 0) ( 0) ( 0) |
|               | granulation                           | 1<br>( 2)                                               | 0 0 0<br>( 0) ( 0) ( 0)                                                                                        | 3 1 0 0<br>(6)(2)(0)(0)                                                                        | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)           |
|               | increased hematopoiesis               | 4<br>( 8)                                               | 0 0 0<br>( 0) ( 0) ( 0)                                                                                        | 5 0 0 0<br>(10) (0) (0) (0)                                                                    | 5 0 0 0<br>(10) (0) (0) (0)            | 14 0 0 0 *<br>(28) (0) (0) (0)           |
|               | decreased hematopoiesis               | 0<br>( 0)                                               | 1 0 0<br>(2)(0)(0)                                                                                             | 1 0 0 0<br>(2)(0)(0)(0)(0)                                                                     | 0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)       | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)           |
| lymph node    | lymphadenitis                         | 0<br>( 0)                                               | <50><br>0 0 0<br>( 0) ( 0) ( 0)                                                                                | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                         | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)   |

 $\langle a \rangle$  a : Number of animals examined at the site

b b: Number of animals with lesion

(c) c:b/a\*100

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

| SEX :         | MALE                                |                                                      |                                          |                                                   |                                                   | PAGE : 5                                          |
|---------------|-------------------------------------|------------------------------------------------------|------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Organ         | Findings                            | Group Name<br>No. of Animals on Study<br>Grade<br>(9 | Control<br>50<br>2 3 4<br>6) (%) (%) (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| {Hematopoieti | ic system)                          |                                                      |                                          |                                                   |                                                   |                                                   |
| spleen        | congestion                          | (                                                    | <50><br>) 6 0 0<br>)) (12) (0) (0)       | <50><br>1 3 0 0<br>( 2) ( 6) ( 0) ( 0)            | <50><br>1 3 0 0<br>(2) (6) (0) (0)                | <50><br>0 0 0 0 *<br>( 0) ( 0) ( 0) ( 0)          |
|               | deposit of hemosiderin              | ( (                                                  | ) 0 0 0<br>)) ( 0) ( 0) ( 0)             | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|               | inflammatory cell nest              | ( (                                                  | ) 0 0 0<br>))(0)(0)(0)                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    |
|               | fibrosis                            | · · · (                                              | 0 0 0 0<br>0) ( 0) ( 0) ( 0)             | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|               | increased extramedullary hematopoie | esis ( :                                             | 1 3 0 0<br>2)(6)(0)(0)                   | 0 4 0 0<br>( 0) ( 8) ( 0) ( 0)                    | 2 1 1 0<br>(4)(2)(2)(0)                           | 0 2 0 0<br>( 0) ( 4) ( 0) ( 0)                    |
| {Circulatory  | system)                             |                                                      |                                          |                                                   |                                                   |                                                   |
| heart         | thrombus                            |                                                      | <50><br>0 1 0 0<br>0) ( 2) ( 0) ( 0)     | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 2 0<br>( 0) ( 0) ( 4) ( 0)            |
|               | necrosis:focal                      |                                                      | 0 1 0 0<br>0)(2)(0)(0)                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)                           | 1 1 0 0<br>(2) (2) (0) (0)                        |

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

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

b b : Number of animals with lesion

(c) c:b/a\*100

## ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj]

REPORT TYPE : A1 SEX : MALE

STUDY NO. : 0437

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

| rgan                | Findings                                                                                          | Group Name         Contr           No. of Animals on Study         50           Grade         1         2         3           (%)         (%)         (%)         (%) | $\frac{4}{(\%)} \qquad \frac{1}{(\%)} \frac{2}{(\%)}$ | 10 ppm<br>50<br><u>3 4</u><br>) (%) (%) (9 | 30 ppm<br>50<br><u>L 2 3 4</u><br>6) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|---------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|--------------------------------------------------|---------------------------------------------------|
|                     |                                                                                                   | · · · · · · · · · · · · · · · · · · ·                                                                                                                                 |                                                       |                                            |                                                  |                                                   |
| Circulatory         | system}                                                                                           |                                                                                                                                                                       |                                                       |                                            |                                                  |                                                   |
| eart                | mineralization                                                                                    | <50><br>0 0 0<br>( 0) ( 0) ( 0)                                                                                                                                       | 0 0 0                                                 | <50><br>0 0 :<br>) ( 0) ( 0) ( •           | <50><br>2 0 0 0<br>4) ( 0) ( 0) ( 0)             | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|                     | inflammatory cell nest                                                                            | 3 0 0<br>(6)(0)(0)                                                                                                                                                    | 0 1 0<br>( 0) ( 2) ( 0                                | 0 0<br>) ( 0) ( 0) ( ;                     | 1 0 0 0<br>2) ( 0) ( 0) ( 0)                     | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|                     | myocardial fibrosis                                                                               | 14 36 0<br>(28) (72) (0)                                                                                                                                              | 0 15 31<br>( 0) ( 30) ( 62                            | 0 0 2<br>) ( 0) ( 0) ( 4                   | 2 27 0 0<br>4) (54) (0) (0)                      | 24 21 0 0 *<br>(48)(42)(0)(0)                     |
|                     | subendocardial fibrosis                                                                           | 1 0 0<br>(2) (0) (0)                                                                                                                                                  | 0 0 1<br>( 0) ( 0) ( 2                                | 0 0<br>() ( 0) ( 0) (                      | 0 0 0 0<br>0) ( 0) ( 0) ( 0)                     | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|                     | arteritis                                                                                         | 2 0 0<br>( 4) ( 0) ( 0)                                                                                                                                               | 0 0 0<br>( 0) ( 0) ( 0                                | 0 0<br>() ( 0) ( 0) (                      | 0 0 0 0<br>0)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| Digestive sy        | rstem)                                                                                            |                                                                                                                                                                       |                                                       |                                            |                                                  |                                                   |
| ral cavity          | squamous cell hyperplasia                                                                         | <50><br>0 0 0<br>( 0) ( 0) ( 0)                                                                                                                                       | 0 0 0                                                 |                                            | <50><br>0 0 0 0<br>0) ( 0) ( 0) ( 0)             | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            |
| cooth               | inflammation                                                                                      | <50><br>0 1 0<br>( 0) ( 2) ( 0)                                                                                                                                       | 0 0 0                                                 |                                            | <50><br>0 1 0 0<br>0) ( 2) ( 0) ( 0)             | <50><br>1 2 0 0<br>( 2) ( 4) ( 0) ( 0)            |
| Grade<br>( a ><br>b | 1 : Slight 2 : Moderate<br>a : Number of animals examined at<br>b : Number of animals with lesion | 3 : Marked 4 : Severe<br>the site                                                                                                                                     |                                                       |                                            |                                                  |                                                   |

(HPT150)

#### SEX : MALE

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

| rgan        | Findings                  | Group Name         Control           No. of Animals on Study         50           Grade         1         2         3         4           (%)         (%)         (%)         (%)         (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|-------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| )igestive s | ystem)                    |                                                                                                                                                                                               |                                                   |                                                   |                                                   |
| ngue        | inflammatory infiltration | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                        | <49><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <pre></pre>                                       | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0)            |
| omach       | mineralization            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                        | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>1 1 0 0<br>( 2) ( 2) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|             | epidermal cyst            | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                                | 0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                  | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)(0)                        |
|             | atrophy:glandular mucosa  | 1 0 0 0<br>(2)(0)(0)(0)                                                                                                                                                                       | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|             | erosion:forestomach       | 2 0 0 0<br>(4)(0)(0)(0)                                                                                                                                                                       | 1 0 0 0<br>(2)(0)(0)(0)                           | 1 1 0 0<br>(2)(2)(0)(0)                           | 4 0 0 0<br>(8)(0)(0)(0)                           |
|             | ulcer:forestomach         | 0 2 0 0<br>( 0) ( 4) ( 0) ( 0)                                                                                                                                                                | 1 3 0 0<br>(2)(6)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)                           |
|             | hyperplasia:forestomach   | 0 4 0 0<br>( 0) ( 8) ( 0) ( 0)                                                                                                                                                                | 2 3 0 0<br>(4)(6)(0)(0)                           | 1 2 0 0<br>(2) (4) (0) (0)                        | 3 0 0 0*<br>(6)(0)(0)(0)                          |
|             | erosion:glandular stomach | $\begin{array}{cccccccccccccccccccccccccccccccccccc$                                                                                                                                          | 1 0 0 0 *<br>(2)(0)(0)(0)                         | 3 0 0 0<br>(6)(0)(0)(0)                           | 8 1 0 0<br>(16) (2) (0) (0)                       |

(c) c:b/a\*100

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

#### STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1 : MALE SEX

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

| Organ          | Findings                | Group Name         Control           No. of Animals on Study         50           Grade         1         2         3         4           (%)         (%)         (%)         (%) | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$                                                                                                     | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|----------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| {Digestive sys | sten)                   |                                                                                                                                                                                   |                                                                                                                                                           |                                                   |
| stomach        | ulcer:glandular stomach | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                            | <50> <50><br>1 0 0 0 0 0 0<br>( 2) ( 0) ( 0) ( 0) ( 0) ( 0) ( 0) ( 0)                                                                                     | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| small intes    | inflammation            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                                                                                                                                            | <50> <50><br>0 0 0 0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0) ( 0                                                                                                   | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| liver          | herniation              | <50><br>3 0 0 0<br>( 6) ( 0) ( 0) ( 0)                                                                                                                                            | <50>     <50>       5     0     0     4     0     0       (10)     (0)     (0)     (0)     (8)     (0)     (0)                                            | <50><br>9 0 0 0<br>(18) (0) (0) (0)               |
|                | hemorrhage              | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                                                                                                                                                    | 0       0       0       0       0       0       0         (       0)       (       0)       (       0)       (       0)       (       0)       (       0) | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|                | necrosis:central        | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0) ( 0)                                                                                                               | 0 2 0 0<br>( 0) ( 4) ( 0) ( 0)                    |
|                | necrosis:focal          | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 1 0 0 0 0 0 0<br>( 0) ( 2) ( 0) ( 0) ( 0) ( 0) ( 0) ( 0)                                                                                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|                | fatty change            | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0 0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0) (                                                                                                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |

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

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

b b : Number of animals with lesion

c:b/a\*100 (c)

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

(HPT150)

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

|            |                        | Group Name Control                        |                                                             |                                        | 90 ppm                                                                                        |
|------------|------------------------|-------------------------------------------|-------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------|
| gan        | Findings               | No. of Animals on Study 50<br>Grade 1 2 3 |                                                             |                                        | $ \begin{array}{c} 50 \\ \underline{1 \ 2 \ 3 \ 4} \\ (\%) \ (\%) \ (\%) \ (\%) \end{array} $ |
| igestive s | :ystem)                |                                           |                                                             |                                        |                                                                                               |
| ver        | fatty change:central   | <50><br>0 0 1<br>( 0) ( 0) ( 2) (         | <pre>&lt;50&gt; 0 0 0 0 0 0) ( 0) ( 0) ( 0) ( 0) ( 0)</pre> | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                        |
|            | granulation            | 3 1 0<br>(6)(2)(0)(                       | 0 2 0 0 0<br>0) ( 4) ( 0) ( 0) ( 0)                         | 2 1 0 0<br>(4)(2)(0)(0)                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                |
|            | inflammatory cell nest | 1 0 0<br>(2)(0)(0)(                       | 0 0 0 0 0 0<br>0) ( 0) ( 0) ( 0) ( 0)                       | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                |
|            | clear cell focus       | 7 4 0<br>(14) (8) (0) (                   | 0 5 8 0 0<br>0) (10) (16) (0) (0)                           | 3 5 0 0<br>(6)(10)(0)(0)               | 1 1 0 0 · · · · · · · · · · · · · · · ·                                                       |
|            | acidophilic cell focus | 0 0 0<br>( 0) ( 0) ( 0) (                 | 0 1 0 0 0<br>0) ( 2) ( 0) ( 0) ( 0)                         | 1 0 0 0<br>(2)(0)(0)(0)                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                |
|            | basophilic cell focus  | 3 1 0<br>(6)(2)(0)(                       | 0 0 1 0 0<br>0) ( 0) ( 2) ( 0) ( 0)                         | 1 1 0 0<br>(2)(2)(0)(0)                | 1 0 0 0<br>(2)(0)(0)(0)                                                                       |
|            | spongiosis hepatis     | 3 0 0<br>(6)(0)(0)(                       | 0 1 1 0 0<br>0) (2) (2) (0) (0)                             | 7 0 0 0<br>(14) (0) (0) (0)            | 2 0 0 0<br>( 4) ( 0) ( 0) ( 0)                                                                |
|            | bile duct hyperplasia  | 0 48 0<br>( 0) ( 96) ( 0) (               | 0 1 47 1 0<br>0) ( 2) ( 94) ( 2) ( 0)                       | 5 44 0 0<br>(10) (88) (0) (0)          | 5 43 0 0<br>(10) (86) (0) (0)                                                                 |

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

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

b b : Number of animals with lesion

(c) c:b/a\*100

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

| )rgan                  | No                                                                                                                       | coup Name         Control           p. of Animals on Study         50           rade         1         2         3         4           (%)         (%)         (%)         (%)         (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| )igestive              | system}                                                                                                                  |                                                                                                                                                                                            |                                                   |                                                   |                                                   |
| iver                   | biliary cyst                                                                                                             | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                     | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            |
| ancreas                | atrophy                                                                                                                  | <50><br>1 7 1 0<br>( 2) ( 14) ( 2) ( 0)                                                                                                                                                    | <50><br>4 11 1 0<br>( 8) ( 22) ( 2) ( 0)          | <50><br>5 8 0 0<br>(10) (16) (0) (0)              | <50><br>1 2 0 0<br>( 2) ( 4) ( 0) ( 0)            |
|                        | islet cell hyperplasia                                                                                                   | 0 2 0 0<br>( 0) ( 4) ( 0) ( 0)                                                                                                                                                             | 0 4 0 0<br>( 0) ( 8) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| rinary sy              | rstem}                                                                                                                   |                                                                                                                                                                                            |                                                   |                                                   |                                                   |
| dney                   | necrosis:focal                                                                                                           | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                     | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|                        | deposit of hemosiderin                                                                                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                             | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)                           | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    |
|                        | inflammatory cell nest                                                                                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                             | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    |
| rade<br>a ≻<br>b<br>c) | 1: Slight 2: Moderate 3:<br>a: Number of animals examined at the sit<br>b: Number of animals with lesion<br>c: b/a * 100 | Marked 4 : Severe<br>e                                                                                                                                                                     |                                                   |                                                   |                                                   |

(HPT150)

BAIS4

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

| SEX          | : MALE                                |                                                                |                                              |                                                   |                                                   | PAGE : 11                                         |
|--------------|---------------------------------------|----------------------------------------------------------------|----------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Organ        | Findings                              | Group Name<br>No. of Animals on Study<br>Grade <u>1</u><br>(%) | Control<br>50<br><u>2 3 4</u><br>(%) (%) (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| {Urinary sys | stem)                                 |                                                                |                                              |                                                   |                                                   |                                                   |
| kidney       | mineralization:central                | 0<br>( 0)                                                      | <50><br>0 0 0<br>( 0) ( 0) ( 0)              | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>1 0 0 0<br>(2) (0) (0) (0)                |
|              | chronic nephropathy                   | 16<br>( 32)                                                    | 26 2 0<br>(52) (4) (0)                       | 12 31 2 0<br>(24) (62) (4) (0)                    | 14 25 2 0<br>(28)(50)(4)(0)                       | 18 1 0 0 <b>**</b><br>(36) (2) (0) (0)            |
|              | hydronephrosis                        | 0<br>( 0)                                                      | 0 0 0<br>( 0) ( 0) ( 0)                      | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>(0)(2)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|              | tubular necrosis                      | 0<br>( 0)                                                      | 0 0 0<br>( 0) ( 0) ( 0)                      | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>(0)(0)(0)(0)(0)                        | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    |
|              | mineralization:cortico-medullary junc |                                                                | 0 0 0<br>( 0) ( 0) ( 0)                      | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>(0)(0)(0)(0)(0)                        | 1 0 0 0<br>(2)(0)(0)(0)(0)                        |
|              | mineralization:papilla                | 4<br>( 8)                                                      | 0 0 0<br>( 0) ( 0) ( 0)                      | 5 0 0 0<br>(10)(0)(0)(0)                          | 3 0 0 0<br>(6)(0)(0)(0)                           | 4 2 0 0<br>(8)(4)(0)(0)                           |
|              | mineralization:pelvis                 | 4<br>( 8)                                                      | 0 0 0<br>( 0) ( 0) ( 0)                      | 2 0 0 0<br>(4)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|              | mineralization:cortex                 | 0<br>( 0)                                                      | 0 0 0 0 ( 0) ( 0)                            | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |

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

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

b b : Number of animals with lesion

(c) c:b/a\*100

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

 $\sim$ 

PAGE : 12

|                                                |                                                                                                    | oup Name<br>. of Animals on Study | 50               | Contr<br>)      | rol             |   |           | 50                | 10 pr           | m               |     |           | 50            | 30 p      | pm              | - |           | 5         | 0<br>90 I        | pm              |
|------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------|------------------|-----------------|-----------------|---|-----------|-------------------|-----------------|-----------------|-----|-----------|---------------|-----------|-----------------|---|-----------|-----------|------------------|-----------------|
| Organ                                          | Gr<br>Findings                                                                                     | ade <u>1</u><br>(%)               | 2<br>(%)         | <u>3</u><br>(%) | <u>4</u><br>(%) | ī | L<br>6)   | <u>2</u><br>(%)   | <u>3</u><br>(%) | <u>4</u><br>(%) | -   | 1<br>(%)  | 2<br>(%)      | 3<br>(%)  | <u>4</u><br>(%) |   | 1<br>(%)  | 2<br>(%)  | <u>3</u><br>(%)  | <u>4</u><br>(%) |
| ·····                                          |                                                                                                    | · · · ·                           |                  |                 |                 |   |           |                   |                 |                 | -   |           |               |           |                 |   |           |           |                  |                 |
| {Urinary syst                                  | em)                                                                                                |                                   |                  |                 |                 |   |           |                   |                 |                 |     |           |               |           |                 |   |           |           |                  |                 |
| urin bladd                                     | hemorrhage                                                                                         | 0<br>( 0)                         | <5(<br>0<br>( 0) | 0               | 0<br>( 0)       |   | D) (      | <50)<br>0<br>0) ( | ><br>0<br>0)    | 0<br>( 0)       | . ( | 0<br>0) ( | <5<br>0<br>0) | 0         | 0<br>( 0)       | ( | 1<br>2) ( | 0         |                  | 0<br>( 0)       |
|                                                | simple hyperplasia:transitional epitheli                                                           | um 1<br>( 2)                      | 0<br>( 0)        | 0<br>( 0)       | 0<br>( 0)       | ( | 0<br>0) ( | 0<br>0) (         | 0<br>0)         | 0<br>( 0)       | (   | 0<br>0) ( | 1<br>2)       | 0<br>( 0) | 0<br>( 0)       | ( | 0<br>0) ( | 0<br>0)   | 0<br>( 0)        | 0<br>( 0)       |
| {Endocrine sy                                  | rstem}                                                                                             |                                   |                  |                 |                 |   |           |                   |                 |                 |     |           |               |           |                 |   |           |           |                  |                 |
| pituitary                                      | cyst                                                                                               | 0<br>( 0)                         | <5<br>0<br>( 0)  | 0               | 0<br>( 0)       | ( | 1<br>2) ( | <50<br>0<br>0) (  | ><br>0<br>0)    | 0<br>( 0)       | (   | 0<br>0) ( | <5<br>1<br>2) | 0         | 0<br>( 0)       | ( | 0<br>0) ( | 2         | i0><br>0<br>( 0) | 0<br>( 0)       |
|                                                | hyperplasia                                                                                        | 2<br>( 4)                         | 6<br>(12)        | 0<br>( 0)       | 0<br>( 0)       | ( | 0<br>0) ( | 8<br>16) (        | 0<br>0)         | 0<br>( 0)       |     | 1<br>2) ( | 4<br>8)       | 0<br>( 0) | 0<br>( 0)       | ( | 0<br>0) ( | 2<br>( 4) | 0<br>( 0)        | 0<br>( 0)       |
|                                                | Rathke pouch                                                                                       | 1<br>( 2)                         | 2<br>( 4)        | 0<br>( 0)       | 0<br>( 0)       |   | 0<br>0) ( | 0<br>0) (         | 0<br>0)         | 0<br>( 0)       | (   | 2<br>4) ( | 1<br>2)       | 0<br>( 0) | 0<br>( 0)       | ( | 0<br>0) ( | 3<br>(6)  | 0<br>( 0)        | 0<br>( 0)       |
| thyroid                                        | cyst                                                                                               | 0<br>( 0)                         | <5<br>0<br>( 0)  | 0               | 0<br>( 0)       |   | 0<br>0) ( | <49<br>0<br>0) (  | ><br>0<br>0)    | 0<br>( 0)       | (   | 0<br>0) ( | <5<br>1<br>2) | 0         | 0<br>( 0)       | ( | 0<br>0)   | 0         | i0><br>0<br>(0)  | 0<br>( 0)       |
| Grade<br>< a ><br>b<br>( c )<br>Significant of | a : Number of animals examined at the site<br>b : Number of animals with lesion<br>c : b / a * 100 |                                   |                  |                 |                 |   |           |                   |                 |                 |     |           |               |           |                 |   |           |           |                  |                 |

(HPT150)

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

| )rgan         | Findings                          | Group Name<br>No. of Animals on Study<br>Grade <u>1 2</u><br>(%) (%) | Control<br>50<br><u>3 4</u><br>(%) (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|---------------|-----------------------------------|----------------------------------------------------------------------|----------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Endocrine sys | stem)                             |                                                                      |                                        |                                                   |                                                   |                                                   |
| hyroid        | C-cell hyperplasia                | 6 1                                                                  | <50><br>0 0<br>) ( 0) ( 0)             | <49><br>7 5 0 0<br>(14) (10) (0) (0)              | <50><br>3 5 0 0<br>( 6) ( 10) ( 0) ( 0)           | <50><br>2 2 0 0<br>(4) (4) (0) (0)                |
|               | focal follicular cell hyperplasia | 0 0<br>( 0) ( 0)                                                     | 0 0<br>) ( 0) ( 0)                     | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0           | 1 1 0 0<br>(2)(2)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| arathyroid    | hyperplasia                       | 0 0                                                                  | <50><br>0 0<br>) ( 0) ( 0)             | <49><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            |
| lrenal        | hyperplasia:cortical cell         | 0 0                                                                  | <50><br>0 0<br>) ( 0) ( 0)             | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|               | hyperplasia:medulla               | 2 4<br>( 4) ( 8                                                      | 0 0<br>) ( 0) ( 0)                     | 1 4 0 0<br>(2)(8)(0)(0)                           | 0 4 0 0<br>( 0) ( 8) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    |
|               | focal fatty change:cortex         | 0 2<br>(0)(4                                                         | 0 0<br>) ( 0) ( 0)                     | 0 3 0 0<br>(0)(6)(0)(0)                           | 1 1 0 0<br>(2)(2)(0)(0)                           | 3 1 0 0<br>(6)(2)(0)(0)                           |
| Reproductive  | system}                           |                                                                      |                                        |                                                   |                                                   |                                                   |
| əstis         | atrophy                           | 0 3                                                                  | <50><br>44 0<br>) ( 88) ( 0)           | <50><br>0 1 47 0<br>( 0) ( 2) ( 94) ( 0)          | <50><br>2 2 43 0<br>( 4) ( 4) ( 86) ( 0)          | <50><br>10 6 24 0 *<br>(20) (12) (48) (0)         |

 $\langle a \rangle$  a : Number of animals examined at the site

b b : Number of animals with lesion

(c) c:b/a\*100

#### STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1

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

|                |                               | Group Name                                       | Control                                         | 10 ppm<br>50                           | 30 ppm<br>50                             | 90 ppm<br>50                           |
|----------------|-------------------------------|--------------------------------------------------|-------------------------------------------------|----------------------------------------|------------------------------------------|----------------------------------------|
| gan            | Findings                      | No. of Animals on Study<br>Grade <u>1</u><br>(%) | 50<br><u>2</u> <u>3</u> <u>4</u><br>(%) (%) (%) |                                        | <u>1 2 3 4</u><br>(%) (%) (%) (%)        | <u>1 2 3 4</u><br>(%) (%) (%) (%)      |
| eproductive s  | system)                       |                                                  |                                                 |                                        |                                          |                                        |
| estis          | mineralization                | 10<br>( 20)                                      | <50><br>1 0 0<br>( 2) ( 0) ( 0)                 | <50><br>8 0 0 0<br>(16) (0) (0) (0)    | <50><br>8 0 0 0<br>(16) (0) (0) (0)      | <50><br>11 0 0 0<br>(22) (0) (0) (0)   |
|                | arteritis                     | 1<br>( 2)                                        | 1 0 0<br>(2)(0)(0)                              | 2 1 0 0<br>(4)(2)(0)(0)                | 0 0 1 0<br>( 0) ( 0) ( 2) ( 0)           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         |
|                | interstitial cell hyperplasia | 0<br>( 0)                                        | 1 0 0<br>(2)(0)(0)                              | 6 0 0 0 *<br>(12) (0) (0) (0)          | 4 0 0 0<br>(8)(0)(0)(0)                  | 10 0 0 0 **<br>(20)(0)(0)(0)           |
| costate        | inflammation                  | 9 ( 18)                                          | <50><br>3 1 0<br>( 6) ( 2) ( 0)                 | <50><br>6 7 0 0<br>(12) (14) ( 0) ( 0) | <50><br>5 6 2 0<br>( 10) ( 12) ( 4) ( 0) | <50><br>4 1 0 0<br>( 8) ( 2) ( 0) ( 0) |
|                | hyperplasia                   | 7<br>(14)                                        | 1 0 0<br>(2)(0)(0)                              | 9 0 0 0<br>(18) (0) (0) (0)            | 8 0 0 0<br>(16) (0) (0) (0)              | 1 0 0 0 *<br>(2)(0)(0)(0)              |
| ammary gl      | galactocele                   | 0<br>( 0)                                        | <50><br>0 0 0<br>0 ( 0) ( 0) ( 0)               | <50><br>0 2 0 0<br>( 0) ( 4) ( 0) ( 0) | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)   | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) |
| Nervous system | m}                            |                                                  |                                                 |                                        |                                          |                                        |
| rain           | hemorrhage                    | 1<br>( 2)                                        | <50><br>0 0 0<br>) ( 0) ( 0) ( 0)               | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0)   | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0) |

(HPT150)

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

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

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| rgan         | Findings                      | Group Name         Control           No. of Animals on Study         50           Grade         1         2         3         4           (%)         (%)         (%)         (%)         (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|--------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
|              |                               |                                                                                                                                                                                               |                                                   | <u> </u>                                          |                                                   |
| Nervous syst | em}                           |                                                                                                                                                                                               |                                                   |                                                   |                                                   |
| rain         | necrosis:focal                | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                        | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|              | vacuolic change               | 1 0 0 0<br>(2)(0)(0)(0)                                                                                                                                                                       | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0                     |
|              | mineralization                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)(0)                        | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0                     |
|              | gliosis                       | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                                | 0 0 0 0<br>(0)(0)(0)(0))                          | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 0 0 0<br>(0)(0)(0)(0                            |
|              | dilatation:cerebral ventricle | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                                                                                                                                                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0                     |
| oinal cord   | hemorrhage                    | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                        | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>1 0 0 0<br>(2)(0)(0)(0)                   |
|              | gliosis                       | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                                | 1 0 0 0<br>(2) (0) (0) (0)                        | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0                     |
| Special sens | e organs/appendage)           |                                                                                                                                                                                               |                                                   |                                                   |                                                   |
| уө           | hemorrhage                    | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                        | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0             |

b b : Number of animals with lesion

c:b/a \* 100 (c)

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

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

|               |                           | · · · · · · · · · · · · · · · · · · ·             | · · · ·                                           | ······                                            |                                                   | · · · · · · · · · · · · · · · · · · ·             |
|---------------|---------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Organ         | Findings                  | Group Name<br>No. of Animals on Study<br>Grade(%) | Control<br>50<br>L <u>2 3 4</u><br>6) (%) (%) (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| {Special sens | se organs/appendage}      |                                                   |                                                   | · ·                                               |                                                   |                                                   |
| еуе           | cataract                  | 3<br>( 6)                                         | <50><br>3 5 0 0<br>6) (10) (0) (0)                | <50><br>3 3 0 0<br>( 6) ( 6) ( 0) ( 0)            | <50><br>0 5 0 0<br>( 0) ( 10) ( 0) ( 0)           | <50><br>0 2 0 0<br>( 0) ( 4) ( 0) ( 0)            |
|               | retinal atrophy           | 32<br>( 64)                                       | 2 0 8 0<br>4) ( 0) ( 16) ( 0)                     | 36 0 5 0<br>(72) (0) (10) (0)                     | 40 0 5 0<br>(80) (0) (10) (0)                     | 18 0 2 0 **<br>(36) (0) (4) (0)                   |
|               | keratitis                 | 3<br>( 6)                                         | 3 0 0 0<br>6) ( 0) ( 0) ( 0)                      | 3 0 0 0<br>(6)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 10 13 3 0 <b>**</b><br>(20) (26) (6) (0)          |
| Harder gl     | degeneration              | 0<br>( 0)                                         | <50><br>0 0 0 0<br>0) ( 0) ( 0) ( 0)              | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>1 1 0 0<br>( 2) ( 2) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|               | inflammatory infiltration | 0<br>( 0)                                         | 0 0 0 0<br>0) ( 0) ( 0) ( 0)                      | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)                           |
|               | lymphocytic infiltration  | 3<br>( 6)                                         | 3 0 0 0<br>6) ( 0) ( 0) ( 0)                      | 3 0 0 0<br>(6)(0)(0)(0)                           | 1 0 0 0<br>(2)(0)(0)(0)                           | 1 0 0 0<br>(2)(0)(0)(0)                           |
| {Musculoskel  | etal system}              |                                                   |                                                   |                                                   |                                                   |                                                   |
| muscle        | mineralization            | 0<br>( 0)                                         | <50><br>0 0 0 0<br>0) ( 0) ( 0) ( 0)              | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 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)

BAIS4

| STUDY NO. : 0437<br>ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj]<br>REPORT TYPE : A1                                                                                                        | HISTOPA<br>ALL ANI                                      |                                                                                                                            |                                                                                 |                                                                             |                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------|
| SEX : MALE                                                                                                                                                                             |                                                         |                                                                                                                            |                                                                                 |                                                                             | PAGE : 17                                         |
|                                                                                                                                                                                        | Group Name<br>No. of Animals on Study<br>Grade <u>1</u> | $\begin{array}{c} \text{Control} \\ 50 \\ \underline{2}  \underline{3}  \underline{4} \\ \hline (1)  (2)  (2) \end{array}$ | $10 \text{ ppm}$ $50$ $\frac{1}{(9)} \frac{2}{(9)} \frac{3}{(9)} \frac{4}{(9)}$ | $30 \text{ ppm}$ $50$ $\frac{1}{(m)} \xrightarrow{2} 3 \xrightarrow{4} (m)$ | 90 ppm $50$<br>1 $2$ $3$ $4(2)$ $(2)$ $(3)$ $(3)$ |
| Organ Findings                                                                                                                                                                         | (%)                                                     | (%) (%) (%)                                                                                                                | (%) (%) (%) (%)                                                                 | (%) (%) (%) (%)                                                             | (%) (%) (%) (%)                                   |
| {Body cavities}                                                                                                                                                                        |                                                         |                                                                                                                            |                                                                                 |                                                                             |                                                   |
| peritoneum inflammation                                                                                                                                                                | 0<br>( 0)                                               |                                                                                                                            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                          | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                      | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| Grade 1 : Slight 2 : Moderate<br><a>a : Number of animals examined a:<br/>b b : Number of animals with lesion<br/>(c) c : b / a * 100<br/>Significant difference ; * : P ≤ 0.05 **</a> | 1                                                       |                                                                                                                            |                                                                                 |                                                                             |                                                   |
|                                                                                                                                                                                        |                                                         | · · · · · · · · · · · · · · · · · · ·                                                                                      |                                                                                 |                                                                             |                                                   |

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(HPT150)

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APPENDIX L 2

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

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

|                |                                        |                                                                                                                                                                                   | <u> </u>                                          |                                                   | I AOL ·                                           |
|----------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| )rgan          | 1                                      | Group Name         Control           No. of Animals on Study         12           Grade         1         2         3         4           (%)         (%)         (%)         (%) | 10 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>39<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| {Integumentary | y system/appandage)                    |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| skin/app       | epidermal cyst                         | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                            | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)            | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| {Respiratory   | system}                                |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| nasal cavit    | exudate                                | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                            | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)            | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <39><br>0 3 0 0<br>( 0) ( 8) ( 0) ( 0)            |
|                | squamous cell hyperplasia with atypia  | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(8)(0)(0)(0)                           | 0 23 0 0 <b>**</b><br>( 0) ( 59) ( 0) ( 0)        |
|                | eosinophilic change:olfactory epitheli | um 3 3 0 0<br>(25)(25)(0)(0)                                                                                                                                                      | 4 2 0 0<br>(33) (17) (0) (0)                      | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                    | 3 4 0 0<br>(8)(10)(0)(0)                          |
|                | eosinophilic change:respiratory epithe | lium 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                                                                                                                                               | 1 0 0 0<br>(8)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|                | inflammation:foreign body              | 0 4 0 0<br>( 0) ( 33) ( 0) ( 0)                                                                                                                                                   | 2 3 0 0<br>(17)(25)(0)(0)                         | 0 4 0 0<br>( 0) ( 33) ( 0) ( 0)                   | 2 2 0 0*<br>(5)(5)(0)(0)                          |
|                | inflammation:respiratory epithelium    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                    | 0 2 0 0<br>( 0) ( 17) ( 0) ( 0)                   | 4 9 0 0<br>(10) (23) (0) (0)                      |
|                |                                        |                                                                                                                                                                                   |                                                   |                                                   |                                                   |

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

<a>> 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

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

| SEX :        | : MALE                                          |                                        | <u></u>                                                          |                                                               | PAGE : 2                                              |
|--------------|-------------------------------------------------|----------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------|
|              |                                                 | Control<br>mals on Study 12            | 10 ppm<br>12                                                     | 30 ppm<br>12                                                  | 90 ppm<br>39                                          |
| Organ        | Grade                                           | <u>1 2 3 4</u><br>(%) (%) (%) (%)      | $\frac{1}{(\%)}  \frac{2}{(\%)}  \frac{3}{(\%)}  \frac{4}{(\%)}$ | $\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)}$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ |
| {Respiratory | system}                                         |                                        |                                                                  |                                                               |                                                       |
| nasal cavit  | respiratory metaplasia:olfactory epithelium     | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                           | <12><br>1 0 0 0<br>( 8) ( 0) ( 0) ( 0)                        | <39><br>1 5 0 0<br>(3)(13)(0)(0)                      |
|              | respiratory metaplasia:gland                    | 0 5 0 0<br>(0)(42)(0)(0)               | 1 2 0 0<br>( 8) ( 17) ( 0) ( 0)                                  | 0 5 0 0<br>(0)(42)(0)(0)                                      | 1 12 1 0<br>(3)(31)(3)(0)                             |
|              | squamous cell metaplasia:respiratory epithelium | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                                   | 1 4 0 0 *<br>(8) (33) (0) (0)                                 | 3 29 0 0 **<br>( 8) (74) ( 0) ( 0)                    |
|              | squamous cell metaplasia:olfactory epithelium   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                | 4 0 0 0<br>(10) (0) (0) (0)                           |
|              | hyperplasia:submucosal gland                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                | 0 3 0 0<br>( 0) ( 8) ( 0) ( 0)                        |
|              | atrophy:olfactory epithelium                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                                   | 5 2 0 0 <b>**</b><br>(42) (17) (0) (0)                        | 9 10 0 0 **<br>(23) (26) (0) (0)                      |
| lung         | congestion                                      | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0) | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                           | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <39><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                |
|              | hemorrhage                                      | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        |
|              |                                                 |                                        |                                                                  |                                                               |                                                       |

Grade1 : Slight2 : Moderate3 : Marked4 : 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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#### HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) DEAD AND MORIBUND ANIMALS (0-105W)

| SEX :         | MALE                                  |                                                                                                                                                                                   |                                                   |                                                   | PAGE · 3                                          |
|---------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Organ         | Findings                              | Group Name         Control           No. of Animals on Study         12           Grade         1         2         3         4           (%)         (%)         (%)         (%) | 10 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>39<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| {Respiratory  | system)                               | · · · · · · · · ·                                                                                                                                                                 |                                                   |                                                   |                                                   |
| lung          | inflammatory infiltration             | $\begin{pmatrix} <12 > \\ 0 & 0 & 0 \\ ( & 0) & ( & 0) & ( & 0) \\ \end{pmatrix}$                                                                                                 | <pre>&lt;12&gt; 0 0 0 0 ( 0) ( 0) ( 0) ( 0)</pre> | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <39><br>1 0 0 0<br>(3)(0)(0)(0)                   |
|               | bronchiolar-alveolar cell hyperplasia | a 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                  | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                    |
|               | inflammation:foreign body             | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 7 0 0<br>(3)(18)(0)(0)                          |
| {Hematopoieti | c system)                             |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| bone marrow   | granulation                           | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                            |                                                   | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|               | increased hematopoiesis               | 3 0 0 0<br>(25)(0)(0)(0)                                                                                                                                                          | 2 0 0 0<br>(17) (0) (0) (0)                       | 3 0 0 0<br>(25)(0)(0)(0)                          | 9 0 0 0<br>(23) (0) (0) (0)                       |
|               | decreased hematopoiesis               | 0 1 0 0<br>(0) (8) (0) (0)                                                                                                                                                        |                                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                    |
| lymph node    | lymphadenitis                         | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                            |                                                   | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <39><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            |

Grade1 : Slight2 : Moderate3 : Marked4 : Severe< a >a : Number of animals examined at the sitebb : Number of animals with lesion(c)c : b / a \* 100

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

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

| Organ      |                                        | Group Name<br>No. of Animals on Study<br>Grade <u>1</u><br>(%) | Control<br>12<br>2 3 4<br>(%) (%) (%) | 10 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%)                                                   | 30 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>39<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|------------|----------------------------------------|----------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Hematopoie | tic system}                            |                                                                |                                       |                                                                                                     |                                                   |                                                   |
| pleen      | deposit of hemosiderin                 | 0<br>( 0)                                                      | <12><br>0 0 0<br>( 0) ( 0) ( 0)       | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                              | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)            | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|            | increased extramedullary hematopoiesis |                                                                | 2 0 0<br>(17) (0) (0)                 | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                                                                      | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                    | 0 2 0 0<br>( 0) ( 5) ( 0) ( 0)                    |
| Circulator | y system)                              |                                                                |                                       |                                                                                                     |                                                   |                                                   |
| eart       | thrombus                               | 0<br>( 0)                                                      | <12><br>1 0 0<br>( 8) ( 0) ( 0)       | $\begin{pmatrix} \langle 12 \rangle \\ 0 & 0 & 0 & 0 \\ ( 0) & ( 0) & ( 0) & ( 0) \\ \end{pmatrix}$ | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <39><br>0 0 2 0<br>( 0) ( 0) ( 5) ( 0)            |
|            | necrosis:focal                         | 0<br>( 0)                                                      | 1 0 0<br>(8)(0)(0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                      | 1 0 0 0<br>(8)(0)(0)(0)                           | 1 1 0 0<br>(3)(3)(0)(0)                           |
|            | mineralization                         | 0<br>( 0)                                                      | 0 0 0<br>( 0) ( 0) ( 0)               | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                      | 2 0 0 0<br>(17)(0)(0)(0)                          | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | inflammatory cell nest                 | 0<br>( 0)                                                      | 0 0 0<br>( 0) ( 0) ( 0)               | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                      | 1 0 0 0<br>(8)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | myocardial fibrosis                    | 3<br>(25)                                                      | 9 0 0<br>(75) (0) (0)                 | 5 5 0 0<br>(42)(42)(0)(0)                                                                           | 5 6 0 0<br>(42)(50)(0)(0)                         | 19 15 0 0<br>(49) (38) (0) (0)                    |

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

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

b b : Number of animals with lesion

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

<sup>(</sup>c) c:b/a\*100

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

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|               |                           | Group Name Control<br>No. of Animals on Study 12                                                                              | 10 ppm<br>12                                                  | 30 ppm<br>12                                                  | 90 ppm<br>39                                                       |  |
|---------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------|--|
| rgan          | Findings                  | $\begin{array}{c} \text{Grade} & 12 \\ \hline 1 & 2 & 3 & 4 \\ \hline \hline (\%) & (\%) & (\%) & (\%) \\ \hline \end{array}$ | $\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)}$ | $\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)}$ | $\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)} (\%)$ |  |
| Circulatory s | system}                   |                                                                                                                               |                                                               |                                                               |                                                                    |  |
| əart          | subendocardial fibrosis   | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                        | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                        | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                             |  |
| )igestive sys | stem)                     |                                                                                                                               |                                                               |                                                               |                                                                    |  |
| al cavity     | squamous cell hyperplasia | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                        | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <39><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                             |  |
| oth           | inflammation              | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                                                                                        | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <39><br>1 2 0 0<br>(3)(5)(0)(0)                                    |  |
| ngue          | inflammatory infiltration | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                        | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <39><br>1 0 0 0<br>(3) (0) (0) (0)                                 |  |
| omach         | mineralization            | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                        | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <12><br>1 1 0 0<br>( 8) ( 8) ( 0) ( 0)                        | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                             |  |
|               | epidermal cyst            | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                | 1 0 0 0<br>(3)(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

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#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

|             |                           | No. of Animals on Study 12  |                       | 10 ppm<br>12                                                     | 30 ppm<br>12                                                        | 90 ppm<br>39                           |
|-------------|---------------------------|-----------------------------|-----------------------|------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------|
| rgan        | Findings                  | Grade <u>1 2</u><br>(%) (%) | <u>3 4</u><br>(%) (%) | $\frac{1}{(\%)}  \frac{2}{(\%)}  \frac{3}{(\%)}  \frac{4}{(\%)}$ | $\frac{1}{(\%)}$ $\frac{2}{(\%)}$ $\frac{3}{(\%)}$ $\frac{4}{(\%)}$ | <u>1 2 3 4</u><br>(%) (%) (%) (%)      |
| )igestive s | ystem)                    |                             |                       |                                                                  |                                                                     |                                        |
| tomach      | atrophy:glandular mucosa  | <1:<br>1 0<br>( 8) ( 0)     | 0 0                   | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                           | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                              | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) |
|             | erosion:forestomach       | 2 0<br>(17) (0)             | 0 0<br>(0)(0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                   | 1 1 0 0<br>(8)(8)(0)(0)                                             | 4 0 0 0<br>(10) (0) (0) (0)            |
|             | ulcer:forestomach         | 0 2<br>( 0) ( 17)           | 0 0<br>(0)(0)         | 1 3 0 0<br>(8)(25)(0)(0)                                         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                      | 1 0 0 0 *<br>(3)(0)(0)(0)              |
|             | hyperplasia:forestomach   | 0 4<br>( 0) ( 33)           | 0 0<br>(0)(0)         | 1 3 0 0<br>(8)(25)(0)(0)                                         | 1 2 0 0<br>(8)(17)(0)(0)                                            | 3 0 0 0*<br>(8)(0)(0)(0)               |
|             | erosion:glandular stomach | 2 1<br>(17)(8)              | 0 0<br>(0)(0)         | 1 0 0 0<br>(8)(0)(0)(0)                                          | 2 0 0 0<br>(17)(0)(0)(0)                                            | 5 1 0 0<br>(13) (3) (0) (0)            |
|             | ulcer:glandular stomach   | 0 0<br>( 0) ( 0)            | 0 0<br>(0)(0)         | 1 0 0 0<br>(8)(0)(0)(0)                                          | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                      | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         |
| iver        | herniation                | <1<br>0 0<br>( 0) ( 0)      | 0 0                   | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                           | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                              | <39><br>7 0 0 0<br>(18) (0) (0) (0)    |
|             | hemorrhage                | 0 1<br>( 0) ( 8)            | 0 0 ( 0)              | 0 0 0 0<br>(0)(0)(0)(0)                                          | 0 0 0 0<br>(0)(0)(0)(0)                                             | 0 0 0 0<br>( 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

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

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| )rgan      | Findings              | Group Name<br>No. of Animals on Study<br>Grade <u>1</u> (%) | Control<br>12<br>2 3 4<br>(%) (%) (%) | $ \begin{array}{c} 10 \text{ ppm} \\ 12 \\ \underline{1  2  3  4} \\ (\%)  (\%)  (\%)  (\%) \end{array} $ | 30 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>39<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|------------|-----------------------|-------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| (Digestive | system}               |                                                             |                                       |                                                                                                           |                                                   |                                                   |
| liver      | necrosis:central      | 0<br>( 0)                                                   | <12><br>0 0 0<br>( 0) ( 0) ( 0)       | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                    | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <39><br>0 2 0 0<br>( 0) ( 5) ( 0) ( 0)            |
|            | necrosis:focal        | 0<br>( 0)                                                   | 0 0 0<br>( 0) ( 0) ( 0)               | 0 1 0 0<br>(0)(8)(0)(0)                                                                                   | 0 0 0 0<br>(0)(0)(0)(0)(0)                        | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | fatty change          | 0<br>( 0)                                                   | 1 0 0<br>(8)(0)(0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                            | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | fatty change:central  | 0<br>( 0)                                                   | 0 1 0<br>( 0) ( 8) ( 0)               | 0 0 0 0<br>(0)(0)(0)(0)                                                                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | granulation           | 0<br>( 0)                                                   | 0 0 0<br>( 0) ( 0) ( 0)               | 1 0 0 0<br>(8)(0)(0)(0)                                                                                   | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | spongiosis hepatis    | 0<br>( 0)                                                   | 0 0 0<br>( 0) ( 0) ( 0)               | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                            | 0 0 0 0<br>(0)(0)(0)(0)(0)                        | 1 0 0 0<br>(3)(0)(0)(0)                           |
|            | bile duct hyperplasia | 0<br>( 0)                                                   | 10 0 0<br>(83) (0) (0)                | 1 9 1 0<br>(8)(75)(8)(0)                                                                                  | 4 7 0 0<br>(33)(58)(0)(0)                         | 5 32 0 0<br>(13) (82) (0) (0)                     |
|            | biliary cyst          | 0<br>( 0)                                                   | 0 0 0<br>( 0) ( 0) ( 0)               | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                            | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                    |

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

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

b b : Number of animals with lesion

(c) c:b/a\*100

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

#### STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1

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

| SEX          | : MALE                 |                                                                                                                                                                                   |                                                   | PAGE : 8                                          |
|--------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Organ        | Findings               | Group Name         Control           No. of Animals on Study         12           Grade         1         2         3         4           (%)         (%)         (%)         (%) | 30 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>39<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| {Digestive s | system)                |                                                                                                                                                                                   |                                                   |                                                   |
| pancreas     | atrophy                | <12><br>1 0 1 0<br>( 8) ( 0) ( 8) ( 0)                                                                                                                                            | <12><br>0 2 0 0<br>( 0) ( 17) ( 0) ( 0)           | <39><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            |
|              | islet cell hyperplasia | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| {Urinary sys | stem}                  |                                                                                                                                                                                   |                                                   |                                                   |
| kidney       | necrosis:focal         | <pre> &lt;12&gt;     0 0 0 0     ( 0) ( 0) ( 0)     ( 0) ( 0)</pre>                                                                                                               | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|              | deposit of hemosiderin | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                           | 1 0 0 0<br>(8)(0)(0)(0)                           | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                    |
|              | inflammatory cell nest | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0                                                                                                                                                     | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                    |
|              | mineralization:central | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0                                                                                                                                                     | 0 0 0 0 0                                         | 1 0 0 0<br>(3)(0)(0)(0)                           |
|              | chronic nephropathy    | 8       1       0       0         (67)       (8)       (0)       (0)                                                                                                              | 1 3 0 0 *<br>(8) (25) (0) (0)                     | 11 0 0 0 **<br>(28) (0) (0) (0)                   |

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

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

b b : Number of animals with lesion

(c) c:b/a\*100

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

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

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|               |                                        | No. of Animals on Study 12<br>Grade <u>1 2</u> | 3 4 1                 | 10 ppm<br>12<br>2 3 4           | 30 ppm<br>12<br><u>1 2 3 4</u>                             | 90 ppm<br>39<br><u>1 2 3 4</u>         |
|---------------|----------------------------------------|------------------------------------------------|-----------------------|---------------------------------|------------------------------------------------------------|----------------------------------------|
| rgan          | Findings                               | (%) (%)                                        | (%) (%) (%)           | (%) (%) (%)                     | (%) (%) (%) (%)                                            | (%) (%) (%) (%)                        |
| Urinary syst  | em)                                    |                                                |                       |                                 |                                                            |                                        |
| idney         | hydronephrosis                         | <12:<br>0 0<br>( 0) ( 0) (                     | 0 0 0                 | <12><br>0 0 0<br>( 0) ( 0) ( 0) | <12><br>0 1 0 0 .<br>( 0) ( 8) ( 0) ( 0)                   | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) |
|               | mineralization:cortico-medullary junct | ion 0 0<br>( 0) ( 0) (                         | 0 0 0<br>0)(0)(0)     | 0 0 0<br>( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                             | 1 0 0 0<br>(3)(0)(0)(0)                |
|               | mineralization:papilla                 | 1 0<br>(8)(0)(                                 | 0 0 1<br>0) ( 0) ( 8) | 0 0 0<br>( 0) ( 0) ( 0)         | 1 0 0 0<br>(8)(0)(0)(0)                                    | 3 2 0 0<br>(8)(5)(0)(0)                |
|               | mineralization:pelvis                  | 2 0<br>(17) (0) (                              | 0 0 1<br>0) ( 0) ( 8) | 0 0 0<br>( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                             | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         |
|               | mineralization:cortex                  | 0 0<br>( 0) ( 0) (                             | 0 0 0<br>0) ( 0) ( 0) | 0 0 0<br>( 0) ( 0) ( 0)         | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                             | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         |
| arin bladd    | hemorrhage                             | <12<br>0 0<br>( 0) ( 0) (                      | 0 0 0                 | <12><br>0 0 0<br>( 0) ( 0) ( 0) | <pre> &lt;12&gt;<br/>0 0 0 0<br/>( 0) ( 0) ( 0) ( 0)</pre> | <39><br>1 0 0 0<br>(3)(0)(0)(0)        |
|               | simple hyperplasia transitional epithe | lium 1 0<br>(8)(0)(                            | 0 0 0<br>0)(0)(0)     | 0 0 0<br>( 0) ( 0) ( 0)         | 0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                             | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         |
| (Endocrine sy | rstem)                                 |                                                |                       |                                 |                                                            |                                        |
| i tui tary    | cyst                                   | <12<br>0 0<br>( 0) ( 0) (                      | 0 0 0                 | <12><br>0 0 0<br>( 0) ( 0) ( 0) | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                     | <39><br>0 2 0 0<br>( 0) ( 5) ( 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

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#### STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1 SEX : MALE

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

|               |                           | Group Name C<br>No. of Animals on Study 12 | ontrol                | 10 ppm<br>12                                                  | 30 ppm<br>12                                                  | 90 ppm<br>39                           |
|---------------|---------------------------|--------------------------------------------|-----------------------|---------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------|
| rgan          | Findings                  | Grade <u>1 2</u>                           | <u>3 4</u><br>(%) (%) | $\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)}$ | $\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)}$ | <u>1 2 3 4</u><br>(%) (%) (%) (%)      |
| Andocrine sy  | stem)                     |                                            |                       |                                                               |                                                               |                                        |
| ituitary      | hyperplasia               | <12><br>0 0<br>( 0) ( 0) (                 | 0 0                   | <12><br>0 2 0 0<br>( 0) ( 17) ( 0) ( 0)                       | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                        | <39><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0) |
|               | Rathke pouch              | 1 0<br>( 8) ( 0) (                         | 0 0<br>0) ( 0)        | 0 0 0 0<br>( 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 3 0 0<br>( 0) ( 8) ( 0) ( 0)         |
| hyroid        | C-cell hyperplasia        | <12><br>1 0<br>( 8) ( 0) (                 | 0 0                   | <12><br>3 1 0 0<br>( 25) ( 8) ( 0) ( 0)                       | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)                        | <39><br>0 2 0 0<br>( 0) ( 5) ( 0) ( 0  |
| arathyroid    | hyperplasia               | <12)<br>0 0<br>( 0) ( 0) (                 | 0 0                   | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <39><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0  |
| drenal        | hyperplasia:medulla       | <12)<br>0 0<br>( 0) ( 0) (                 | 0 0                   | <12><br>0 2 0 0<br>( 0) ( 17) ( 0) ( 0)                       | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0  |
|               | focal fatty change:cortex | 0 0<br>( 0) ( 0) (                         | 0 0<br>0) ( 0)        | 0 1 0 0<br>(0)(8)(0)(0)                                       | 1 0 0 0<br>( 8) ( 0) ( 0) ( 0)                                | 3 1 0 0<br>(8)(3)(0)(0                 |
| (Reproductive | system)                   |                                            |                       |                                                               |                                                               |                                        |
| testis        | atrophy                   | <12)<br>0 2<br>( 0) ( 17) (                | 8 0                   | <12><br>0 1 9 0<br>( 0) ( 8) ( 75) ( 0)                       | <12><br>2 2 5 0<br>(17) (17) (42) (0)                         | <39><br>10 6 13 0<br>(26) (15) (33) (0 |

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

- b b : Number of animals with lesion

c:b/a\*100 (c)

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

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

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 $\checkmark$ 

| lrgan                                 | Findings                                                                                                                                    | Group Name         Control           No. of Animals on Study         12           Grade         1         2         3         4           (%)         (%)         (%)         (%) | 10 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>39<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Reproductiv                           | ve system)                                                                                                                                  |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| stis                                  | mineralization                                                                                                                              | <12><br>2 0 0 0<br>( 17) ( 0) ( 0) ( 0)                                                                                                                                           | <12><br>2 0 0 0<br>( 17) ( 0) ( 0) ( 0)           | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <39><br>7 0 0 0<br>(18) (0) (0) (0)               |
|                                       | interstitial cell hyperplasia                                                                                                               | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 3 0 0 0<br>(25)(0)(0)(0)                          | 3 0 0 0<br>(25)(0)(0)(0)                          | 10 0 0 0<br>(26) (0) (0) (0)                      |
| ostate                                | inflammation                                                                                                                                | <12><br>0 1 1 0<br>( 0) ( 8) ( 8) ( 0)                                                                                                                                            | <12><br>1 2 0 0<br>( 8) ( 17) ( 0) ( 0)           | <12><br>1 2 2 0<br>( 8) ( 17) ( 17) ( 0)          | <39><br>3 1 0 0<br>( 8) ( 3) ( 0) ( 0)            |
|                                       | hyperplasia                                                                                                                                 | 1 0 0 0<br>(8)(0)(0)(0)                                                                                                                                                           | 1 0 0 0<br>(8)(0)(0)(0)                           | 0 0 0 0<br>(0)(0)(0)(0)(0)                        | 0 0 0 0<br>(0)(0)(0)(0)(0)                        |
| lervous sy:                           | stem)                                                                                                                                       |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| ain                                   | hemorrhage                                                                                                                                  | <12><br>1 0 0 0<br>( 8) ( 0) ( 0) ( 0)                                                                                                                                            | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <12><br>1 0 0 0<br>( 8) ( 0) ( 0) ( 0)            | <39><br>1 0 0 0<br>(3)(0)(0)(0)                   |
|                                       | vacuolic change                                                                                                                             | 1 0 0 0<br>(8) (0) (0) (0)                                                                                                                                                        | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| rade<br>a ><br>b<br>c )<br>ignificant | 1: Slight2: Moderatea: Number of animals examined at theb: Number of animals with lesionc: $b / a * 100$ difference; $*: P \leq 0.05 **: P$ |                                                                                                                                                                                   |                                                   |                                                   |                                                   |

(HPT150)

BAIS4

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

STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1 SEX : MALE

Findings\_

mineralization

Organ\_\_\_\_

brain

{Nervous system}

Group Name Control 10 ppm 30 ppm No. of Animals on Study 12 1212Grade 4 2 3 2 3 4 3 4 (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) (%) <12> <12> <12> 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 ( 0) ( 0) ( 0) ( 0) 

| gliosis                       | -     | - | 0<br>( 0) | •         | 0<br>( 0) ( |  | 0           |  | - | - | -         | - | 0<br>( 0) |
|-------------------------------|-------|---|-----------|-----------|-------------|--|-------------|--|---|---|-----------|---|-----------|
| dilatation:cerebral ventricle | 0(0)( |   |           | 0<br>( 0) | 0<br>( 0) ( |  | 0<br>( 0) ( |  |   |   | 1<br>3) ( |   | 0<br>( 0) |

| spinal cord       |                   |   |           |   | <12> | ,       |         |   |           | <12  | > |         |   |         |   | <1      | .2> |         |     |          |           |        | <392 | >         |   |         |
|-------------------|-------------------|---|-----------|---|------|---------|---------|---|-----------|------|---|---------|---|---------|---|---------|-----|---------|-----|----------|-----------|--------|------|-----------|---|---------|
|                   | hemorrhage        |   | 0<br>0) ( | 0 | ) (  | 0<br>0) | 0<br>0) | ( | L<br>3) ( | )) ( | 0 | 0<br>0) | ( | 0<br>0) |   | 0<br>0) |     | 0<br>0) | ( ( | 1<br>( 1 | 1<br>3) ( | 0<br>0 | )) ( | 0<br>0)   |   | 0<br>0) |
|                   | gliosis           | ( | 0<br>0) ( | 0 | ) (  | 0<br>0) | 0<br>0) |   | )<br>)) ( | )) ( | 0 | 0<br>0) | ( | 0<br>0) | ( | 1<br>8) |     | 0<br>0) | ( ( |          | 0<br>0) ( | 0<br>0 |      | 0<br>· 0) | ( | 0<br>0) |
| {Special sense of | organs/appendage) |   |           |   |      |         |         |   |           |      |   |         |   |         |   |         |     |         |     |          |           |        |      |           |   |         |

| эуе        | <12>                | <12>                | <12>                | <39>                |
|------------|---------------------|---------------------|---------------------|---------------------|
| hemorrhage | 0 0 0 0             | 0 0 0 0             | 0 1 0 0             | 0 1 0 0             |
|            | ( 0) ( 0) ( 0) ( 0) | ( 0) ( 0) ( 0) ( 0) | ( 0) ( 8) ( 0) ( 0) | ( 0) ( 3) ( 0) ( 0) |
|            |                     |                     |                     |                     |

| Grade       | 1 : Slight 2 : Moderat          | e 3:Marked    | 4 : Severe         |  |
|-------------|---------------------------------|---------------|--------------------|--|
| <a>&gt;</a> | a : Number of animals examine   | d at the site |                    |  |
| b           | b : Number of animals with le   | sion          |                    |  |
| (c)         | с:b/а*100                       |               |                    |  |
| Significan  | t difference ; $*: P \leq 0.05$ | ** : P ≦ 0.01 | Test of Chi Square |  |

(HPT150)

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4

(%)

90 ppm

3

(%)

39

<39>

(%)

#### STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1

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

| rgan         | Findings                  | Group Name<br>No. of Animals on Study<br>Grade <u>1</u><br>(%) | Control<br>12<br><u>2 3 4</u><br>(%) (%) (%) | 10 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>12<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>39<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|--------------|---------------------------|----------------------------------------------------------------|----------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Special sens | e organs/appendage}       |                                                                | <u> </u>                                     |                                                   |                                                   |                                                   |
| уе           | cataract                  | 0<br>( 0) (                                                    | <12><br>0 0 0<br>( 0) ( 0) ( 0)              | <12><br>1 1 0 0<br>( 8) ( 8) ( 0) ( 0)            | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)            | <39><br>0 2 0 0<br>( 0) ( 5) ( 0) ( 0)            |
|              | retinal atrophy           | 4<br>(33)                                                      | 0 0 0<br>( 0) ( 0) ( 0)                      | 4 0 1 0<br>(33)(0)(8)(0)                          | 6 0 1 0<br>(50)(0)(8)(0)                          | 9 0 2 0<br>(23)(0)(5)(0)                          |
|              | keratitis                 | 1 ( 8)                                                         | 0 0 0<br>(0)(0)(0)                           | 1 0 0 0<br>(8)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 9 13 2 0<br>(23)(33)(5)(0)                        |
| arder gl     | degeneration              | 0<br>( 0)                                                      | <12><br>0 0 0<br>( 0) ( 0) ( 0)              | <12><br>0 <u>1</u> 0 0<br>( 0) ( 8) ( 0) ( 0)     | <12><br>0 1 0 0<br>( 0) ( 8) ( 0) ( 0)            | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|              | inflammatory infiltration | 0<br>( 0)                                                      | 0 0 0<br>(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(3)(0)(0)(0)                           |
|              | lymphocytic infiltration  | 0                                                              | 0 0 0<br>(0)(0)(0)                           | 1 0 0 0<br>(8)(0)(0)(0)                           | 1 0 0 0<br>(8)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| Musculoskele | tal system)               |                                                                |                                              |                                                   |                                                   |                                                   |
| uscle        | mineralization            | 0                                                              | <12><br>0 0 0<br>( 0) ( 0) ( 0)              | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <12><br>1 0 0 0<br>( 8) ( 0) ( 0) ( 0)            | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |

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

BAIS4

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#### STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1 SEX : MALE

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

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|                 |                                                                  | Group Name<br>No. of Animals on Study | Control<br>y 12                      | 10 ppm<br>12                                          | 30 ppm<br>12                           | 90 ppm<br>39                           |
|-----------------|------------------------------------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------------------------|----------------------------------------|----------------------------------------|
| )rgan           | Findings                                                         | Grade (                               | <u>1 2 3 4</u><br>(%) (%) (%) (%)    | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | <u>1 2 3 4</u><br>(%) (%) (%) (%)      | <u>1 2 3 4</u><br>(%) (%) (%) (%)      |
| (Body cavities) | ł                                                                |                                       |                                      |                                                       |                                        |                                        |
| peritoneum      | inflammation                                                     |                                       | <12><br>0 1 0 0<br>0) ( 8) ( 0) ( 0) | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                | <12><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <39><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) |
| Grade           | 1 : Slight 2 : Moderate<br>a : Number of animals examined at the | 3:Marked 4:Sev                        | vere                                 |                                                       |                                        |                                        |

APPENDIX L 3

# HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : MALE SACRIFICED ANIMALS

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

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| Organ                                   | No                                                                                                                                                                                       | oup Name         Control           . of Animals on Study         38           ade         1         2         3         4 | 10 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>11<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| {Integumentar                           | ry system/appandage)                                                                                                                                                                     |                                                                                                                           |                                                   |                                                   |                                                   |
| skin/app                                | mineralization                                                                                                                                                                           | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                    | <38><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|                                         | scab                                                                                                                                                                                     | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                            | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|                                         | epidermal cyst                                                                                                                                                                           | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                                                                                            | 0 0 0 0<br>(0)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| subcutis                                | abscess                                                                                                                                                                                  | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                    | <38><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| {Respiratory                            | system)                                                                                                                                                                                  |                                                                                                                           |                                                   |                                                   |                                                   |
| asal cavit                              | squamous cell hyperplasia with atypia                                                                                                                                                    | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                    | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>1 7 1 0 **<br>( 9) ( 64) ( 9) ( 0)        |
|                                         | eosinophilic change:olfactory epithelium                                                                                                                                                 | 15 20 1 0<br>(39)(53)(3)(0)                                                                                               | 16 18 1 0<br>(42) (47) (3) (0)                    | 11 21 1 0<br>(29)(55)(3)(0)                       | 6 2 0 0<br>(55)(18)(0)(0)                         |
| erade<br>(a)<br>b<br>(c)<br>Significant | <pre>1 : Slight 2 : Moderate 3 :<br/>a : Number of animals examined at the site<br/>b : Number of animals with lesion<br/>c : b / a * 100<br/>difference ; * : P ≤ 0.05 ** : P ≤ 0</pre> |                                                                                                                           | · · · · · · · · · · · · · · · · · · ·             |                                                   |                                                   |

(HPT150)

BAIS4

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

| rgan          | No.                                      | oup Name<br>of Animals on Study<br>ade <u>1</u> (%) | Con<br>38<br><u>2 3</u><br>(%) (% | trol<br><u>4</u><br>) (%) | <u> </u>    | 10 ppm<br>38<br><u>2 3 4</u><br>(%) (%) (%) |             | 30<br>38<br><u>2 3</u><br>(%) (%) | ppm<br><u>4_</u><br>(%) | 1 (%) ()      | 90 pp<br>11<br>2 <u>3</u><br>%) (%) | <u>4</u><br>(%) |
|---------------|------------------------------------------|-----------------------------------------------------|-----------------------------------|---------------------------|-------------|---------------------------------------------|-------------|-----------------------------------|-------------------------|---------------|-------------------------------------|-----------------|
| Respiratory s | vstem}                                   |                                                     |                                   |                           |             |                                             |             | <u> </u>                          |                         |               | <u> </u>                            |                 |
| asal cavit    | eosinophilic change:respiratory epitheli |                                                     | <38><br>2 0<br>( 5) ( 0           | -                         | 3<br>( 8) ( | <38><br>0 0 0<br>0) ( 0) ( 0)               |             | <38><br>0 0<br>0) ( 0)            | 0<br>( 0)               |               | <11><br>0 0<br>0) ( 0) (            | 0<br>( 0)       |
|               | inflammation:foreign body                | 7<br>(18)                                           | 13 0<br>(34) (0                   |                           |             | 12 0 0<br>32) ( 0) ( 0)                     |             | 19 0<br>50) ( 0)                  | 0<br>( 0)               |               | 50<br>5)(0)(                        | 0<br>( 0)       |
|               | inflammation:respiratory epithelium      | 0<br>( 0)                                           | 0 0<br>( 0) ( 0                   |                           | 1<br>( 3) ( | 0 0 0<br>0) ( 0) ( 0)                       | )<br>( 0) ( | 0 0                               | 0<br>( 0)               | 0<br>( 0) ( 7 | 8 1<br>3) ( 9) (                    | 0 *<br>(0)      |
|               | respiratory metaplasia:olfactory epithel |                                                     | 0 0<br>(0)(0                      |                           | 0<br>( 0) ( | 1 0 0<br>3) ( 0) ( 0)                       | 3<br>) (8)( | 1 0<br>(3)(0)                     | 0<br>( 0)               | 1<br>(9)(     | 1 0<br>9) ( 0) (                    | 0<br>( 0)       |
|               | respiratory metaplasia:gland             | 5<br>(13)                                           | 9 0<br>(24) ( 0                   |                           | 8<br>(21) ( | 8 0 0<br>21) ( 0) ( 0)                      |             | 70<br>(18) (0)                    | 0                       |               | 50<br>5)(0)(                        | 0<br>( 0)       |
|               | squamous cell metaplasia:respiratory epi | thelium 0<br>( 0)                                   | 0 0<br>( 0) ( 0                   |                           | 1<br>(3)(   | 0 0 0<br>0) ( 0) ( 0)                       |             | 20<br>(5)(0)                      | 0<br>( 0)               |               | 90<br>2)(0)(                        | 0;<br>(0)       |
|               | squamous cell metaplasia:olfactory epith |                                                     | 0 0<br>(0)(0                      |                           | 0<br>( 0) ( | 0 0 0<br>0) ( 0) ( 0)                       |             | 00<br>0)(0)                       | 0                       |               | 0 0<br>0) ( 0) (                    | 0<br>(0)        |
|               | hyperplasia with atypia:respiratory epit |                                                     | 0 (<br>( 0) ( (                   |                           | 0(0)(       | 0 0 0<br>0)(0)(0)                           |             | 1 0<br>(3)(0)                     | 0<br>( 0)               | 0<br>( 0) (   | 0 0<br>0) ( 0) (                    | 0<br>( 0)       |

b : Number of animals with lesion

(c) c:h/a\*100

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

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#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

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|                              |                                                                                                                                                               | Group Name<br>No. of Animals on Study | Control<br>38                   | 10 ppm<br>38                                | 30 ppm<br>38                                                  | 90 ppm<br>11                                |  |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------|---------------------------------------------|---------------------------------------------------------------|---------------------------------------------|--|
| rgan                         | Findings                                                                                                                                                      | Grade <u>1</u><br>(%)                 | <u>2 3 4</u><br>(%) (%) (%)     | $\frac{1  2  3  4}{(\%)  (\%)  (\%)  (\%)}$ | $\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)}$ | $\frac{1  2  3  4}{(\%)  (\%)  (\%)  (\%)}$ |  |
| Respiratory s                | system)                                                                                                                                                       |                                       |                                 |                                             |                                                               |                                             |  |
| nasal cavit                  | hyperplasia:transitional epithelium                                                                                                                           | 0<br>( 0)                             | <38><br>0 0 0<br>( 0) ( 0) ( 0) | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)      | <38><br>5 3 0 0 *<br>(13) (8) (0) (0)                         | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)      |  |
|                              | atrophy:olfactory epithelium                                                                                                                                  | 0<br>( 0)                             | 0 0 0<br>( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)              | 2 0 0 0<br>(5)(0)(0)(0)                                       | 1 4 0 0 *∺<br>(9)(36)(0)(0)                 |  |
| lung                         | inflammatory infiltration                                                                                                                                     | 0<br>( 0)                             | <38><br>0 0 0<br>( 0) ( 0) ( 0) | <38><br>1 0 0 0<br>( 3) ( 0) ( 0) ( 0)      | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)      |  |
|                              | accumulation of foamy cells                                                                                                                                   | 1<br>( 3)                             | 0 0 0<br>( 0) ( 0) ( 0)         | 0 0 0 0<br>(0)(0)(0)(0)                     | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)              |  |
|                              | bronchiolar—alveolar cell hyperplasia                                                                                                                         | 0<br>( 0)                             | 3 0 0<br>(8)(0)(0)              | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)              | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)              |  |
|                              | inflammation:foreign body                                                                                                                                     | 0<br>( 0)                             | 0 0 0<br>( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)              | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                | 0 1 0 0<br>( 0) ( 9) ( 0) ( 0)              |  |
| {Hematopoieti                | c system)                                                                                                                                                     |                                       |                                 |                                             |                                                               |                                             |  |
| bone marrow                  | thrombus                                                                                                                                                      | 1<br>( 3)                             | <38><br>0 0 0<br>( 0) ( 0) ( 0) | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)      | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | <11><br>0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)    |  |
| Grade<br>< a ><br>b<br>( c ) | 1: Slight 2: Moderate 3<br>a: Number of animals examined at the s<br>b: Number of animals with lesion<br>c: b / a * 100<br>lifference; $*: P \leq 0.05$ **: P | : Marked 4 : Seven<br>ite             | re                              |                                             |                                                               |                                             |  |

#### STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1

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

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| Organ          | N                                      | croup Name         Control           io. of Animals on Study         38           trade         1         2         3         4           (%)         (%)         (%)         (%)         (%) | 10 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>11<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|----------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| {Hematopoietic | c system)                              |                                                                                                                                                                                               |                                                   |                                                   |                                                   |
| bone marrow    | granulation                            | <38><br>1 0 0 0<br>(3) (0) (0) (0)                                                                                                                                                            | <38><br>3 0 0 0<br>( 8) ( 0) ( 0) ( 0)            | <38><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|                | increased hematopoiesis                | 1 0 0 0<br>(3)(0)(0)(0)                                                                                                                                                                       | 3 0 0 0<br>(8)(0)(0)(0)                           | 2 0 0 0<br>(5)(0)(0)(0)                           | 5 0 0 0 ★↔<br>(45)(0)(0)(0)                       |
| spleen         | congestion                             | <38><br>0 6 0 0<br>( 0) ( 16) ( 0) ( 0)                                                                                                                                                       | <38><br>1 3 0 0<br>( 3) ( 8) ( 0) ( 0)            | <38><br>1 3 0 0<br>( 3) ( 8) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|                | inflammatory cell nest                 | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 1 0 0<br>( 0) ( 9) ( 0) ( 0)                    |
|                | fibrosis                               | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                                | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|                | increased extramedullary hematopoiesis | 1 1 0 0<br>(3)(3)(0)(0)                                                                                                                                                                       | 0 3 0 0<br>(0)(8)(0)(0)                           | 2 0 1 0<br>(5)(0)(3)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| {Circulatory   | system)                                |                                                                                                                                                                                               |                                                   |                                                   |                                                   |
| heart          | inflammatory cell nest                 | <38><br>3 0 0 0<br>( 8) ( 0) ( 0) ( 0)                                                                                                                                                        | <38><br>1 0 0 0<br>( 3) ( 0) ( 0) ( 0)            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |

(c) c:b / a \* 100

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

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

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| STUDY NO.   | : | 0437                           |
|-------------|---|--------------------------------|
| ANIMAL      | : | RAT F344/DuCr1Cr1j[F344/DuCrj] |
| REPORT TYPE | : | A1                             |
| SEX         | : | MALE                           |

| )rgan                                       | No                                                                                                                                                 | oup Name         Control           . of Animals on Study         38           ade         1         2         3         4           (%)         (%)         (%)         (%)         (%) | 10 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>11<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| {Circulator                                 | y system}                                                                                                                                          |                                                                                                                                                                                         |                                                   |                                                   |                                                   |
| heart                                       | myocardial fibrosis                                                                                                                                | <38><br>11 27 0 0<br>(29) (71) (0) (0)                                                                                                                                                  | <38><br>10 26 0 0<br>(26) (68) (0) (0)            | <38><br>17 21 0 0<br>(45) (55) (0) (0)            | <11><br>5 6 0 0<br>(45) (55) (0) (0)              |
|                                             | subendocardial fibrosis                                                                                                                            | 1 0 0 0<br>(3)(0)(0)(0)                                                                                                                                                                 | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|                                             | arteritis                                                                                                                                          | 2 0 0 0<br>(5)(0)(0)(0)                                                                                                                                                                 | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>(0)(0)(0)(0)(0)                        | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| Digestive                                   | system)                                                                                                                                            |                                                                                                                                                                                         |                                                   |                                                   |                                                   |
| ooth                                        | inflammation                                                                                                                                       | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                  | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <38><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| tomach                                      | erosion:forestomach                                                                                                                                | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                  | <38><br>1 0 0 0<br>( 3) ( 0) ( 0) ( 0)            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|                                             | hyperplasia:forestomach                                                                                                                            | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                          | 1 0 0 0<br>(3)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| Frade<br>( a ><br>b<br>( c )<br>Significant | 1 : Slight2 : Moderate3 :a : Number of animals examined at the siteb : Number of animals with lesionc : b / a * 100t difference ;* : P $\leq 0.05$ |                                                                                                                                                                                         |                                                   |                                                   |                                                   |

(HPT150)

BATS4

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

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|              | Findings                  | Group Name Control<br>No. of Animals on Study 38 | 10 ppm<br>38                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 38 38 1                                                          |                                                                  |
|--------------|---------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| rgan         |                           |                                                  | $\frac{4}{\%} \qquad \frac{1}{(\%)}  \frac{2}{(\%)}  \frac{3}{(\%)}  \frac{4}{(\%)}  \frac{4}{(\%)}  \frac{1}{(\%)}  \frac{2}{(\%)}  \frac{4}{(\%)}  \frac{1}{(\%)}  \frac{1}{($ | $\frac{1}{(\%)}  \frac{2}{(\%)}  \frac{3}{(\%)}  \frac{4}{(\%)}$ | $\frac{1}{(\%)}  \frac{2}{(\%)}  \frac{3}{(\%)}  \frac{4}{(\%)}$ |
| Digestive sy | stem}                     |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |                                                                  |
| tomach       | erosion:glandular stomach | <38><br>5 0 0<br>(13) (0) (0) (                  | <38><br>0 0 0 0 0<br>0) ( 0) ( 0) ( 0) ( 0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <38><br>1 0 0 0<br>( 3) ( 0) ( 0) ( 0)                           | <11><br>3 0 0 0<br>( 27) ( 0) ( 0) ( 0)                          |
| mall intes   | inflammation              | <38><br>0 1 0<br>( 0) ( 3) ( 0) (                | <38><br>0 0 0 0 0<br>0) ( 0) ( 0) ( 0) ( 0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                           | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                           |
| liver        | herniation                | <38><br>3 0 0<br>( 8) ( 0) ( 0) (                | <38><br>0 5 0 0 0<br>0) (13) (0) (0) (0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <38><br>4 0 0 0<br>(11) (0) (0) (0)                              | <11><br>2 0 0 0<br>(18) (0) (0) (0)                              |
|              | granulation               | 3 1 0<br>(8)(3)(0)(                              | 0 1 0 0 0<br>0) (3)(0)(0)(0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 1 0 0<br>(5)(3)(0)(0)                                          | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                   |
|              | inflammatory cell nest    | 1 0 0<br>(3)(0)(0)(                              | 0 0 0 0 0<br>0) ( 0) ( 0) ( 0) ( 0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                   | 0 0 0 0<br>(0)(0)(0)(0)                                          |
|              | clear cell focus          | 7 4 0<br>(18) (11) (0) (                         | 0 5 8 0 0<br>0) (13) (21) (0) (0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3 5 0 0<br>(8)(13)(0)(0)                                         | 1 1 0 0<br>(9)(9)(0)(0)                                          |
|              | acidophilic cell focus    | 0 0 0<br>( 0) ( 0) ( 0) (                        | 0 1 0 0 0<br>0) ( 3) ( 0) ( 0) ( 0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1 0 0 0<br>(3)(0)(0)(0)                                          | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                   |

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

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(HPT150)

BAIS4

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEV : MALE

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

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| Organ                      |                                                                                                                                   | p Name Control<br>of Animals on Study 38<br>le <u>1 2 3 4</u><br>(%) (%) (%) (%) | 10 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>11<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| {Digestive s               | system)                                                                                                                           |                                                                                  |                                                   |                                                   |                                                   |
| liver                      | basophilic cell focus                                                                                                             | <38><br>3 1 0 0<br>( 8) ( 3) ( 0) ( 0)                                           | <38><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            | <38><br>1 1 0 0<br>( 3) ( 3) ( 0) ( 0)            | <11><br>1 0 0 0<br>( 9) ( 0) ( 0) ( 0)            |
|                            | spongiosis hepatis                                                                                                                | 3 0 0 0<br>(8) (0) (0) (0)                                                       | 1 1 0 0<br>(3)(3)(0)(0)                           | 7 0 0 0<br>(18) (0) (0) (0)                       | 1 0 0 0<br>(9)(0)(0)(0)                           |
|                            | bile duct hyperplasia                                                                                                             | 0 38 0 0<br>( 0) (100) ( 0) ( 0)                                                 | 0 38 0 0<br>( 0) (100) ( 0) ( 0)                  | 1 37 0 0<br>(3)(97)(0)(0)                         | 0 11 0 0<br>( 0) (100) ( 0) ( 0)                  |
| pancreas                   | atrophy                                                                                                                           | <38><br>0 7 0 0<br>( 0) ( 18) ( 0) ( 0)                                          | <38><br>2 11 0 0<br>( 5) ( 29) ( 0) ( 0)          | <38><br>5 6 0 0<br>(13) (16) (0) (0)              | <11><br>1 1 0 0<br>( 9) ( 9) ( 0) ( 0)            |
|                            | islet cell hyperplasia                                                                                                            | 0 2 0 0<br>( 0) ( 5) ( 0) ( 0)                                                   | 0 2 0 0<br>(0)(5)(0)(0)                           | 0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| {Urinary sys               | stem)                                                                                                                             |                                                                                  |                                                   |                                                   |                                                   |
| kidney                     | chronic nephropathy                                                                                                               | <38><br>8 25 2 0<br>(21) (66) (5) (0)                                            | <38><br>5 30 2 0<br>(13) (79) (5) (0)             | <38><br>13 22 2 0<br>(34) (58) (5) (0)            | <11><br>7 1 0 0 **<br>(64) (9) (0) (0)            |
| Grade<br>< a ><br>b<br>(c) | <pre>1: Slight 2: Moderate 3: Mathematical Actions and the site at the site b: Number of animals with lesion c: b / a * 100</pre> | arked 4 : Severe                                                                 |                                                   |                                                   |                                                   |

(HPT150)

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BAIS4

#### STUDY NO. : 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] ANIMAL REPORT TYPE : A1 SEX : MALE

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

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| Organ        | Findings               | Group Name<br>No. of Animals on Study<br>Grade <u>1</u><br>(%) | Control<br>38<br><u>2 3 4</u><br>(%) (%) (%) | 10 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%)                    | 30 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>11<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|--------------|------------------------|----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| {Urinary sys | tem}                   |                                                                |                                              |                                                                      |                                                   |                                                   |
| (idnøy       | tubular necrosis       | 0<br>( 0)                                                      | <38><br>0 0 0<br>( 0) ( 0) ( 0)              | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                               | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>0 1 0 0<br>( 0) ( 9) ( 0) ( 0)            |
|              | mineralization:papilla | 3<br>( 8)                                                      | 0 0 0<br>( 0) ( 0) ( 0)                      | 4       0       0       0         (11)       (0)       (0)       (0) | 2 0 0 0<br>(5)(0)(0)(0)                           | 1 0 0 0<br>(9)(0)(0)(0)(0)                        |
|              | mineralization:pelvis  | 2<br>( 5)                                                      | 0 0 0<br>( 0) ( 0) ( 0)                      | 1 0 0 0<br>(3)(0)(0)(0)                                              | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| Endocrine s  | ystem)                 |                                                                |                                              |                                                                      |                                                   |                                                   |
| ituitary     | cyst                   | 0<br>( 0)                                                      | <38><br>0 0 0<br>( 0) ( 0) ( 0)              | <38><br>1 0 0 0<br>( 3) ( 0) ( 0) ( 0)                               | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)          |
|              | hyperplasia            | 2<br>( 5)                                                      | 6 0 0<br>(16) ( 0) ( 0)                      | 0 6 0 0<br>(0)(16)(0)(0)                                             | 1 3 0 0<br>(3)(8)(0)(0)                           | 0 1 0 0<br>( 0) ( 9) ( 0) ( 0)                    |
|              | Rathke pouch           | 0<br>( 0)                                                      | 2 0 0<br>(5)(0)(0)                           | 0 0 0 0<br>(0)(0)(0)(0)                                              | 2 1 0 0<br>(5)(3)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| chyroid      | cyst                   | 0<br>( 0)                                                      | <38><br>0 0 0<br>( 0) ( 0) ( 0)              | <37><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                               | <38><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |

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

b b : Number of animals with lesion

c:b/a \* 100 (c)

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

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#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

| )rgan      | Findings                          | Group Name         Control           No. of Animals on Study         38           Grade         1         2         3         4           (%)         (%)         (%)         (%) | 10 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>11<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Endocrine  | system)                           |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| hyroid     | C-cell hyperplasia                | <38><br>5 1 0 0<br>(13) (3) (0) (0)                                                                                                                                               | <37><br>4 4 0 0<br>( 11) ( 11) ( 0) ( 0)          | <38><br>3 4 0 0<br>( 8) ( 11) ( 0) ( 0)           | <11><br>2 0 0 0<br>(18) (0) (0) (0)               |
|            | focal follicular cell hyperplasia | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 1 0 0<br>(3)(3)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| drenal     | hyperplasia:cortical cell         | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                            | <38><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|            | hyperplasia:medulla               | 2 4 0 0<br>(5) (11) (0) (0)                                                                                                                                                       | 1 2 0 0<br>(3)(5)(0)(0)                           | 0 4 0 0<br>(0) (11) (0) (0)                       | 0 1 0 0<br>( 0) ( 9) ( 0) ( 0)                    |
|            | focal fatty change:cortex         | 0 2 0 0<br>( 0) ( 5) ( 0) ( 0)                                                                                                                                                    | 0 2 0 0<br>(0)(5)(0)(0)                           | 0 1 0 0<br>(0)(3)(0)(0)                           | 0 0 0 0<br>(0)(0)(0)(0)                           |
| Reproducti | ve system)                        |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| estis      | atrophy                           | <38><br>0 1 36 0<br>( 0) ( 3) ( 95) ( 0)                                                                                                                                          | <38><br>0 0 38 0<br>( 0) ( 0) (100) ( 0)          | <38><br>0 0 38 0<br>( 0) ( 0) (100) ( 0)          | <11><br>0 0 11 0<br>( 0) ( 0) (100) ( 0)          |

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

(HPT150)

BAIS4

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

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| )rgan         | Findings                      | Group Name         Control           No. of Animals on Study         38           Grade         1         2         3         4           (%)         (%)         (%)         (%)         (%) | 10 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>11<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|---------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Reproductive  | system}                       |                                                                                                                                                                                               |                                                   |                                                   |                                                   |
| estis         | mineralization                | <38><br>8 1 0 0<br>( 21) ( 3) ( 0) ( 0)                                                                                                                                                       | <38><br>6 0 0 0<br>(16) (0) (0) (0)               | <38><br>8 0 0 0<br>( 21) ( 0) ( 0) ( 0)           | <11><br>4 0 0 0<br>(36) (0) (0) (0)               |
|               | arteritis                     | 1 1 0 0<br>(3)(3)(0)(0)                                                                                                                                                                       | 2 1 0 0<br>(5)(3)(0)(0)                           | 0 0 1 0<br>( 0) ( 0) ( 3) ( 0)                    | 0 0 0 0<br>(0)(0)(0)(0)                           |
|               | interstitial cell hyperplasia | 0 1 0 0<br>(0) (3) (0) (0)                                                                                                                                                                    | 3 0 0 0<br>(8)(0)(0)(0)                           | 1 0 0 0<br>(3)(0)(0)(0)                           | 0 0 0 0<br>(0)(0)(0)(0)                           |
| rostate       | inflammation                  | <38><br>9 2 0 0<br>(24) (5) (0) (0)                                                                                                                                                           | <38><br>5 5 0 0<br>(13) (13) (0) (0)              | <38><br>4 4 0 0<br>(11) (11) (0) (0)              | <11><br>1 0 0 0<br>( 9) ( 0) ( 0) ( 0             |
|               | hyperplasia                   | 6 1 0 0<br>(16) (3) (0) (0)                                                                                                                                                                   | 8 0 0 0<br>(21)(0)(0)(0)                          | 8 0 0 0<br>(21)(0)(0)(0)                          | 1 0 0 0<br>(9)(0)(0)(0)                           |
| anmary gl     | galactocele                   | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                        | <38><br>0 2 0 0<br>( 0) ( 5) ( 0) ( 0)            | <pre></pre>                                       | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| (Nervous syst | em}                           |                                                                                                                                                                                               |                                                   |                                                   |                                                   |
| orain         | necrosis:focal                | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                        | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <38><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |

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

(HPT150)

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

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

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| rgan         | Findings                      | Group Name         Control           No. of Animals on Study         38           Grade         1         2         3         4           (%)         (%)         (%)         (%) | 10 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>11<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|--------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Nervous syst | em)                           |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| cain         | dilatation:cerebral ventricle | <38><br>0 1 0 0<br>( 0) ( 3) ( 0) ( 0)                                                                                                                                            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| pinal cord   | gliosis                       | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                            | <38><br>1 0 0 0<br>( 3) ( 0) ( 0) ( 0)            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| Special sens | e organs/appendage}           |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| re           | cataract                      | <38><br>3 5 0 0<br>( 8) (13) ( 0) ( 0)                                                                                                                                            | <38><br>2 2 0 0<br>( 5) ( 5) ( 0) ( 0)            | <38><br>0 4 0 0<br>( 0) ( 11) ( 0) ( 0)           | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|              | retinal atrophy               | 28 0 8 0<br>(74) (0) (21) (0)                                                                                                                                                     | 32 0 4 0<br>(84) (0) (11) (0)                     | 34 0 4 0<br>(89) (0) (11) (0)                     | 9 0 0 0<br>(82) ( 0) ( 0) ( 0)                    |
|              | keratitis                     | 2 0 0 0<br>(5)(0)(0)(0)                                                                                                                                                           | 2 0 0 0<br>(5)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 1 0<br>(9)(0)(9)(0)                           |
| arder gl     | degeneration                  | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                            | <38><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <38><br>1 0 0 0<br>(3)(0)(0)(0)                   | <11><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |

(c) c:b/a\*100

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

(HPT150)

BAIS4

|                              | : 0437<br>: RAT F344/DuCr1Cr1j[F344/DuCrj]                                                                                                      |                                                                         | OLOGICAL FINDINGS :NO<br>D ANIMALS (105W) | ON-NEOPLASTIC LESIONS (SUMMARY                    | )                                                 |                                                   |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
|                              | · AI<br>: MALE                                                                                                                                  |                                                                         |                                           |                                                   |                                                   | PAGE: 12                                          |
| Overs                        | Findings                                                                                                                                        | Group Name<br>No. of Animals on Study<br>Grade <u>1</u> (%)             | Control<br>38<br>2 3 4<br>(%) (%) (%)     | 10 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>38<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>11<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| Organ                        |                                                                                                                                                 | (70)                                                                    | (76) (76)<br>                             | (70) (70) (70)                                    | (70) (76) (76)                                    | (%) (%) (%) (%)                                   |
| {Special ser                 | nse organs/appendage}                                                                                                                           |                                                                         |                                           |                                                   |                                                   |                                                   |
| Harder gl                    |                                                                                                                                                 |                                                                         | <38>                                      | <38>                                              | <38>                                              | <11>                                              |
|                              | lymphocytic infiltration                                                                                                                        | 3<br>( 8) (                                                             | 0 0 0<br>( 0) ( 0) ( 0)                   | 2 0 0 0<br>(5)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(9)(0)(0)(0)                           |
| Grade<br>< a ><br>b<br>( c ) | 1: Slight 2: Moderate<br>a: Number of animals examined at t<br>b: Number of animals with lesion<br>c: b / a * 100<br>difference; *: P ≤ 0.05 ** | 3 : Marked $4$ : Severe<br>the site<br>$P \leq 0.01$ Test of Chi Square |                                           |                                                   |                                                   |                                                   |

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(HPT150)

APPENDIX L 4

# HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : FEMALE ALL ANIMALS

## STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1

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

|              |                                        | Group Name<br>No. of Animals on Study | Conti<br>50              | rol             | 1                | 10 ppm<br>50                 |                 | :<br>50             | 30 ppm                |     |                   | 90 ppm<br>50          | i       |
|--------------|----------------------------------------|---------------------------------------|--------------------------|-----------------|------------------|------------------------------|-----------------|---------------------|-----------------------|-----|-------------------|-----------------------|---------|
| rgan         | Findings                               | Grade <u>1</u><br>(%)                 | <u>2</u> 3<br>(%) (%)    | <u>4</u><br>(%) | 1 2<br>(%) (%)   | <u>3 4</u><br>(%) (%)        | <u>1</u><br>(%) | 2<br>(%)            | <u>3 4</u><br>(%) (%) | . ( | 1 2<br>%) (%)     | 3 (%)                 | 4 (%)   |
| Integumentar | y system/appandage)                    |                                       |                          |                 |                  |                              |                 |                     |                       |     |                   |                       |         |
| kin/app      | angiectasis                            | 0<br>( 0)                             | <50><br>1 0<br>( 2) ( 0) | 0(0)(           | 0 0              | 50><br>0 0<br>( 0) ( 0)      | 0(0)(           | <50><br>0<br>( 0) ( | 0 0<br>0) ( 0)        |     | 0 0               | (50><br>0<br>( 0) (   | 0<br>0) |
|              | inflammation                           | 0<br>( 0)                             | 0 0<br>( 0) ( 0)         | 0<br>( 0) (     | 0 0<br>0) ( 0)   | 0 0<br>(0)(0)                | 0<br>( 0) (     | 0<br>( 0) (         | 0 0<br>0) ( 0)        |     | 0 1<br>0) ( 2)    | 0<br>( 0) (           | 0<br>0) |
| Respiratory  | system)                                |                                       |                          |                 |                  |                              |                 |                     |                       |     |                   |                       |         |
| asal cavit   | squamous cell hyperplasia with atypia  | 0<br>( 0)                             | <50><br>0 0<br>( 0) ( 0) | 0<br>( 0) (     | 0 0              | 50><br>0    0<br>(  0) (  0) | 0<br>( 0) (     | <50><br>0<br>( 0) ( | 0 0<br>0) ( 0)        |     | 9 30              | <50><br>0<br>) ( 0) ( | 0<br>0) |
|              | eosinophilic change:olfactory epitheli | um 1<br>(2)                           | 35 13<br>(70) (26)       | 0<br>( 0) (     | 2 46<br>4) (92)  | 2 0*<br>(4)(0)               | 3<br>(6)        | 46<br>(92) (        | 1 0<br>2) ( 0)        |     | l0 25<br>20) (50) | 0<br>) ( 0) (         | 0<br>0) |
|              | eosinophilic change:respiratory epithe |                                       | 50<br>(10)(0)            | 0<br>( 0) (     | 20 6<br>40) (12) | 0 0<br>( 0) ( 0)             | 11<br>( 22)     | 2<br>( 4) (         | 0 0<br>0) ( 0)        |     | 1 0<br>2) ( 0)    | 0<br>) ( 0) (         | 0<br>0) |
|              | inflammation:foreign body              | 3<br>( 6)                             | 1 0<br>(2)(0)            | 0<br>( 0) (     | 3 1<br>6) ( 2)   | 0 0<br>( 0) ( 0)             | 1<br>( 2)       | 1<br>(2)(           | 0 0<br>0) ( 0)        | (   | 0 0<br>0) ( 0)    | 0<br>) ( 0) (         | 0<br>0) |
|              | inflammation:respiratory epithelium    | 0<br>( 0)                             | 0 0                      | 0<br>( 0) (     | 0 0<br>0) ( 0)   | 0 0 ( 0)                     | 2<br>( 4)       | 0<br>( 0) (         | 0 0<br>0) ( 0)        | (1  | 8 23<br>16) (46)  | 1<br>) ( 2) (         | 0<br>0) |

.

b : Number of animals with lesion b

c:b/a\*100 (c)

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

| ANIMAL :<br>REPORT TYPE :   | 0437<br>RAT F344/DuCr1Cr1j[F344/DuCrj]<br>A1<br>FEMALE | HISTOPATHOLO<br>ALL ANIMALS                          |                                             | N-NEOPLASTIC LESIONS (SUMMARY)                    |                                                               | PAGE :                                            |
|-----------------------------|--------------------------------------------------------|------------------------------------------------------|---------------------------------------------|---------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------|
| Organ                       | Findings                                               | Group Name<br>No. of Animals on Study<br>Grade(%) (9 | Control<br>50<br><u>3 3 4</u><br>6) (%) (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%)             | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| {Respiratory<br>nasal cavit | system)<br>inflammation:olfactory epithelium           | 0                                                    | <50><br>) 0 0                               | <50><br>0 0 0 0                                   | <50><br>0 0 0 0                                               | <50><br>1 0 0 0                                   |
|                             | respiratory metaplasia:olfactory epi                   | thelium 0                                            | )) ( 0) ( 0)<br>) 0 0<br>)) ( 0) ( 0)       | ( 0) ( 0) ( 0) ( 0)<br>0 0 0 0<br>( 0) ( 0) (     | ( 0) ( 0) ( 0) ( 0) ( 0) $1 0 0 0$ $( 2) ( 0) ( 0) ( 0) ( 0)$ | (2)(0)(0)(0)<br>5 0 0 0<br>(10)(0)(0)(0)          |
|                             | respiratory metaplasia:gland                           |                                                      | 3 0 0<br>5) ( 0) ( 0)                       | 24 1 0 0<br>(48)(2)(0)(0)                         | 21 1 0 0<br>(42) (2) (0) (0)                                  | 14 5 0 0<br>(28) (10) (0) (0)                     |

| squamous cell metaplasia:respiratory epithelium | (   | 0<br>0) |   | 0<br>0) | ( | 0<br>0] |     | 0<br>( 0) |  | ( | 1 | 2)      | 0<br>0) | 0<br>0) | 0<br>0) | ( | 6<br>12) |   | 0<br>0) | 0<br>0) | 0 *<br>0) |    | 2<br>4)   |   | 41<br>82) | 0<br>0) | ( |
|-------------------------------------------------|-----|---------|---|---------|---|---------|-----|-----------|--|---|---|---------|---------|---------|---------|---|----------|---|---------|---------|-----------|----|-----------|---|-----------|---------|---|
| squamous cell metaplasia:olfactory epithelium   | (   | 0<br>0) | ( | 0<br>0) |   | 0<br>0] |     | 0         |  | ( | ( | )))     | 0<br>0) |         | 0<br>0) | ( | 0<br>0)  |   | 0<br>0) | 0<br>0) | 0<br>0)   | (1 | 8<br>16)  |   | 0<br>0)   | 0<br>0) | ( |
| hyperplasia:transitional epithelium             | , ( | 0<br>0) | ( | 0<br>0) |   |         | ) ( | 0         |  | ( | ( | )<br>)) |         |         | 0<br>0) | ( | 6<br>12) |   | 0<br>0) | 0<br>0) | 0 *<br>0) | (  | 0<br>0)   | ( | 0<br>0)   | 0<br>0) | ( |
| atrophy:olfactory epithelium                    | (   | 0<br>0) | ( | 0<br>0) | ( | 0<br>0  |     | 0         |  | ( | ( | )))     |         | 0<br>0) | 0<br>0) | ( | 1<br>2)  | ( | 0<br>0) | 0<br>0) | 0<br>0)   |    | 21<br>12) | ( | 8<br>16)  | 0<br>0) | ( |

lung <50> <50> <50> congestion 0 1 0 0 0 0 0 0 1 0 0 0 0 2 0 0 (0)(2)(0)(0) (2)(0)(0)(0) 

2 : Moderate Grade 1 : Slight 3 : Marked 4 : Severe <a>> a : Number of animals examined at the site b b : Number of animals with lesion c:b/a\*100 (c)

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

PAGE: 19

> 0 \*\* 0)

> 0 \*\* 0)

0 0)

0 \*\* 0)

<50>

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SFX : FFMALE

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

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|               |                                       | Group Name<br>No. of Animals on Study<br>Grade <u>1</u> | 50<br>2              | ontrol         | 1            | 10 pr<br>50<br>23      | 4         | 1          | 50<br>2             | 30 ppm<br>34_  | 1           | 5        | 3                  |
|---------------|---------------------------------------|---------------------------------------------------------|----------------------|----------------|--------------|------------------------|-----------|------------|---------------------|----------------|-------------|----------|--------------------|
| rgan          | Findings                              | (%)                                                     | (%) (                | (%) (%)        | (%)          | (%) (%)                | (%)       | (%)        | (%)                 | (%) (%)        | (%)         | (%)      | (%) (%             |
| Respiratory s | system}                               |                                                         |                      |                |              |                        |           |            |                     |                |             |          |                    |
| ung           | hemorrhage                            | 0<br>( 0)                                               | <50><br>0<br>( 0) (  | 0 0<br>0) ( 0) | 0<br>( 0) (  | <50><br>0 0<br>0) ( 0) | 0<br>( 0) | 0<br>( 0)  | <50><br>0<br>( 0) ( | 0 0<br>0) ( 0) | 2<br>( 4)   | 0        | 50><br>0<br>( 0) ( |
|               | inflammation                          | 0<br>( 0)                                               | 0<br>( 0) (          | 0 0<br>0) ( 0) | 0<br>( 0) (  | 0 0<br>0) ( 0)         | 0<br>( 0) | 0<br>( 0)  | 0<br>( 0) (         | 0 0<br>0) ( 0) | 0<br>( 0)   | 1<br>(2) | 0<br>( 0) (        |
|               | inflammatory infiltration             | 0<br>( 0)                                               | 0<br>( 0) (          | 0 0<br>0) ( 0) | 0<br>( 0) (  | 0 0<br>0) ( 0)         | 0<br>( 0) | 0<br>( 0)  | 0<br>( 0) (         | 0 0<br>0) ( 0) | 0<br>( 0)   | 1<br>(2) | 0<br>( 0) (        |
|               | bronchiolar-alveolar cell hyperplasia |                                                         | 1<br>(2)(            | 0 0<br>0) ( 0) | 1<br>(2)(    | 1 0<br>2) ( 0)         | 0<br>( 0) | 1<br>(2)   | 2<br>(4)(           | 0 0<br>0) ( 0) | 1<br>( 2)   |          | 0<br>( 0) (        |
|               | inflammation:foreign body             | 0<br>( 0)                                               | 0<br>( 0) (          | 0 0<br>0) ( 0) | 0<br>( 0) (  | 0 0<br>0) ( 0)         | 0<br>( 0) | 0<br>( 0)  | 0<br>( 0) (         | 0 0<br>0) ( 0) | 0<br>( 0)   |          | 0<br>( 0) (        |
| Hematopoieti  | c system)                             |                                                         |                      |                |              |                        |           |            |                     |                |             |          |                    |
| oone marrow   | granulation                           | 14<br>( 28                                              | <50><br>1<br>) (2) ( | 0 0            | 15<br>(30) ( | <50><br>4 0<br>8) ( 0) | 0<br>( 0) | 15<br>(30) | <50)<br>3<br>( 6) ( | 00<br>0)(0)    | 10<br>( 20) | 0        | 50><br>0<br>(0)(   |
|               | increased hematopoiesis               | 6<br>(12                                                | 0<br>) ( 0) (        | 0 0<br>0) ( 0) | 3<br>(6)(    | 0 0<br>0) ( 0)         | 0<br>( 0) | 4<br>( 8)  | 0<br>( 0) (         | 0 0<br>0) ( 0) | 5           | 0        | 0<br>( 0) (        |

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

 $\langle \; a \; \rangle \qquad \; a$  : Number of animals examined at the site

b b: Number of animals with lesion

(c) c:b/a\*100

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

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : FEMALE

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

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|                       | N                                                                                                                          | roup Name<br>o. of Animals on Study<br>rade 1 | Control<br>50<br>2 3 4          | 10 ppm<br>50<br>1 2 3 4                | 30 ppm<br>50<br><u>1 2 3 4</u>         | 90 ppm<br>50<br>1 2 3 4                |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| )rgan                 | Findings                                                                                                                   | (%)                                           | (%) (%) (%)                     | (%) (%) (%) (%)                        | (%) (%) (%) (%)                        | <u>1 2 3 4</u><br>(%) (%) (%) (%)      |
| Hematopoietic         | ; system}                                                                                                                  |                                               |                                 |                                        |                                        |                                        |
| one marrow            | decreased hematopoiesis                                                                                                    | 0<br>( 0)                                     | <50><br>0 0 0<br>( 0) ( 0) ( 0) | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0) | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0) |
| pleen                 | congestion                                                                                                                 | 0<br>( 0)                                     | <50><br>2 0 0<br>( 4) ( 0) ( 0) | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0) | <49><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0) |
|                       | deposit of hemosiderin                                                                                                     | 0<br>( 0)                                     | 2 0 0<br>(4)(0)(0)              | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)         | 0 3 0 0<br>( 0) ( 6) ( 0) ( 0)         | 0 5 0 0<br>( 0) ( 10) ( 0) ( 0)        |
|                       | granulation                                                                                                                | 0<br>( 0)                                     | 0 0 0<br>( 0) ( 0) ( 0)         | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 0 0 0<br>(0)(0)(0)(0)                |
|                       | fibrosis                                                                                                                   | 0<br>( 0)                                     | 0 0 0<br>( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)         | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)         |
|                       | increased extramedullary hematopoiesis                                                                                     | 0<br>( 0)                                     | 2 1 0<br>( 4) ( 2) ( 0)         | 0 2 1 0<br>( 0) ( 4) ( 2) ( 0)         | 0 2 3 0<br>(0)(4)(6)(0)                | 0 5 0 0<br>(0)(10)(0)(0)               |
| Circulatory :         | system}                                                                                                                    |                                               |                                 |                                        |                                        |                                        |
| leart                 | thrombus                                                                                                                   | 0<br>( 0)                                     | <50><br>0 0 0<br>( 0) ( 0) ( 0) | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0) |
| rade<br>a><br>b<br>c) | 1: Slight 2: Moderate 3:<br>a: Number of animals examined at the sit<br>b: Number of animals with lesion<br>c: b / a * 100 | Marked 4 : Severe                             | ,                               |                                        |                                        |                                        |

| ANIMAL :<br>REPORT TYPE : | 0437<br>RAT F344/DuCr1Cr1j[F344/DuCrj]<br>A1<br>FEMALE |                                             |   | PATH<br>NIMA |           |      |                         | NGS : N             | VON-NE | OPLA            | STI | CLE           | SION           | S ( | SUMMAR          | Y) |          |   |               |           |          |               |        |           |          |     |
|---------------------------|--------------------------------------------------------|---------------------------------------------|---|--------------|-----------|------|-------------------------|---------------------|--------|-----------------|-----|---------------|----------------|-----|-----------------|----|----------|---|---------------|-----------|----------|---------------|--------|-----------|----------|-----|
| Organ                     | Findings                                               | Group Name<br>No. of Animals on Sf<br>Grade | _ | (%)          | 2<br>(%)  | 50   | ontr<br><u>3</u><br>(%) | <br><u>4</u><br>(%) |        | <u>1</u><br>(%) |     | 50<br>2<br>%) | 10<br>3<br>(%) |     | <u>4</u><br>(%) |    | 1<br>(%) | _ | 50<br>2<br>%) |           | ppm<br>) | n<br>4<br>(%) | <br>(9 | 1%)       | 2<br>(%) |     |
| {Circulatory s            | system)                                                |                                             |   |              |           |      |                         |                     |        |                 |     |               |                |     |                 |    |          |   |               |           |          |               |        |           |          |     |
| heart                     |                                                        |                                             |   |              | <         | <50> |                         |                     |        |                 |     | <50           | >              |     |                 |    |          |   | <50           | )>        |          |               |        |           |          | <50 |
|                           | necrosis:focal                                         |                                             |   | 0<br>0) (    | 1<br>2)   | ) (  | 0<br>0)                 | 0<br>0)             | (      | 0<br>0)         |     | 0<br>0) (     | 0<br>0)        | (   | 0<br>0)         | (  | 0<br>0)  |   | 0<br>0) (     | 0<br>( 0) |          | 0<br>0)       | (      | 1<br>2) ( | 0        |     |
|                           | mineralization                                         |                                             |   | 0<br>0) (    | 0<br>( 0) |      | 0<br>0)                 | 0<br>0)             | (      | 0<br>0)         | (   | 0<br>0) (     | 0<br>0)        | (   | 0<br>0)         | (  | 0<br>0)  | ( | 0<br>0) (     | 0<br>( 0) | ) (      | 0<br>0)       | (      | 1<br>2) ( | 0<br>( 0 |     |
|                           | inflammation                                           |                                             |   | 0            | 0         |      | 0                       | 0                   |        | 0               |     | 0             | 0              |     | 0               |    | 0        |   | 0             | 0         |          | 0             |        | 1         | 0        | )   |

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

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

5 0

(60) (10) (0) (0)

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

<50>

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

0 0 0

1 0

30

1 0

0

0

0

0

0

0

. .

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

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

(68) (10) (0) (0)

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

<50>

0 0

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

0

0 0

0 0

0 0

0

5

0

1

34

2

0

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

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

(62) (6) (0) (0)

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

<50>

0 0

0 0

0 0

0

0

0 0

0

3

0

3

31

3

| <br> | <br> |  |
|------|------|--|

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

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

inflammatory infiltration

inflammatory cell nest

myocardial fibrosis

subendocardial fibrosis

b (c) c:b/a\*100

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

{Digestive system}

tongue

PAGE : 22

\_4

(%)

90 ppm

3

(%)

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

2

0

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

<50>

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

0 0 0

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

(50) (4) (0) (0)

1

25

0

2

50 2

<50> 0

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : FEMALE

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

|                | TEMADE                    |                                                                                                                                                             |                                                         |                                                   | TAGE - 23                                         |
|----------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Organ          | Findings                  | Group Name         Control           No. of Animals on Study         50           Grade         1         2         3           (%)         (%)         (%) | 10 ppm<br>50<br>4 <u>1 2 3 4</u><br>(%) (%) (%) (%)     | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| {Digestive sys | stem}                     |                                                                                                                                                             |                                                         |                                                   |                                                   |
| tongue         | arteritis                 | <50><br>1 0 0<br>( 2) ( 0) ( 0) (                                                                                                                           | <pre> &lt;50&gt; 0 2 0 0 0 0) ( 4) ( 0) ( 0) ( 0)</pre> | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0)            | <50><br>2 0 0 0<br>( 4) ( 0) ( 0) ( 0)            |
| stomach        | basal cell hyperplasia    | <50><br>1 0 0<br>( 2) ( 0) ( 0) (                                                                                                                           | <50><br>0 3 0 0 0<br>0) ( 6) ( 0) ( 0) ( 0)             | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0)            | <50><br>4 0 0 0<br>( 8) ( 0) ( 0) ( 0)            |
|                | erosion:forestomach       | 0 0 0<br>( 0) ( 0) ( 0) (                                                                                                                                   | 0 0 0 0 0<br>0) ( 0) ( 0) ( 0) ( 0)                     | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 4 0 0 0<br>(8)(0)(0)(0)                           |
|                | ulcer:forestomach         | 0 2 0<br>( 0) ( 4) ( 0) (                                                                                                                                   | 0 0 1 1 0<br>0) ( 0) ( 2) ( 2) ( 0)                     | 0 2 0 0<br>( 0) ( 4) ( 0) ( 0)                    | 2 3 0 0<br>(4)(6)(0)(0)                           |
|                | hyperplasia:forestomach   | 4 2 0<br>(8) (4) (0) (                                                                                                                                      | 0 0 2 0 0<br>0) ( 0) ( 4) ( 0) ( 0)                     | 0 2 0 0<br>( 0) ( 4) ( 0) ( 0)                    | 6 2 0 0<br>(12) (4) (0) (0)                       |
|                | erosion:glandular stomach | 3 0 0<br>(6)(0)(0)(                                                                                                                                         | 0 2 1 0 0<br>0) ( 4) ( 2) ( 0) ( 0)                     | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 2 0 0 0<br>(4)(0)(0)(0)                           |
|                | ulcer:glandular stomach   | 0 0 0<br>( 0) ( 0) ( 0) (                                                                                                                                   | 0 0 0 0 0<br>0) ( 0) ( 0) ( 0) ( 0)                     | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 1 0 0<br>(2) (2) (0) (0)                        |
| small intes    | erosion                   | <50><br>0 0 0<br>( 0) ( 0) ( 0) (                                                                                                                           | <50><br>0 0 0 0 0<br>0) ( 0) ( 0) ( 0) ( 0)             | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            |

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

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

b b : Number of animals with lesion

(c) c:b/a\*100

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

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : FEMALE

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

 $\checkmark$ 

| Organ      | Findings                 | Group Name         Control           No. of Animals on Study         50           Grade         1         2         3         4           (%)         (%)         (%)         (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| {Digestive | system)                  |                                                                                                                                                                                   |                                               |                                                   |                                                   |
| liver      | herniation               | <50><br>9 0 0 0<br>(18) (0) (0) (0)                                                                                                                                               | <50><br>10 0 0 0<br>(20) (0) (0) (0)          | <50><br>6 0 0 0<br>(12) (0) (0) (0)               | <50><br>12 0 0 0<br>(24) (0) (0) (0)              |
|            | necrosis:central         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                | 1 0 0 0<br>(2)(0)(0)(0)(0)                        | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | fatty change:central     | 0 3 0 0<br>( 0) ( 6) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | lymphocytic infiltration | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 1 0 0<br>(0)(2)(0)(0)                       | 0 0 0 0<br>(0)(0)(0)(0)(0)                        | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    |
|            | granulation              | 12 7 2 0<br>(24) (14) (4) (0)                                                                                                                                                     | 14 8 6 0<br>(28) (16) (12) (0)                | 13 8 3 0<br>(26)(16)(6)(0)                        | 4 1 1 0 **<br>(8)(2)(2)(0)                        |
|            | inflammatory cell nest   | $\begin{array}{cccccccccccccccccccccccccccccccccccc$                                                                                                                              | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                | 3 0 0 0<br>(6)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | clear cell focus         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 1 0 0 0<br>(2)(0)(0)(0)(0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|            | basophilic cell focus    | 14     8     0     0       (28)     (16)     (0)     (0)                                                                                                                          | 7 9 0 0<br>(14) (18) (0) (0)                  | 4 7 0 0*<br>(8)(14)(0)(0)                         | 3 2 0 0 ***<br>( 6) ( 4) ( 0) ( 0)                |

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

<a>> 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

| ANIMAL<br>REPORT TYPE | : 0437<br>: RAT F344/DuCr1Cr1j[F344/DuCrj]<br>: A1<br>: FEMALE | HISTOPATHOLOGICAL FINDINGS : N<br>ALL ANIMALS (0-105W)                                                                                                                            | NON-NEOPLASTIC LESIONS (SUMMARY)                      |                                               | PAGE : 25                                                                                                            |
|-----------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Organ                 | Findings                                                       | Group Name         Control           No. of Animals on Study         50           Grade         1         2         3         4           (%)         (%)         (%)         (%) | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 30 ppm<br>50<br><u>2 3 4</u><br>) (%) (%) (%) | $\begin{array}{c} 90 \text{ ppm} \\ 50 \\ \underline{1 \ 2 \ 3 \ 4} \\ (\%) \ (\%) \ (\%) \ (\%) \ (\%) \end{array}$ |
| {Digestive s          | ystem)                                                         |                                                                                                                                                                                   |                                                       |                                               |                                                                                                                      |
| liver                 | bile duct hyperplasia                                          | <50><br>7 2 0 0<br>(14) (4) (0) (0)                                                                                                                                               | <50><br>4 2 0 0 7<br>( 8) ( 4) ( 0) ( 0) ( 14)        | <50><br>4 0 0<br>) ( 8) ( 0) ( 0)             | <50><br>4 0 0 0<br>( 8) ( 0) ( 0) ( 0)                                                                               |
| pancreas              | atrophy                                                        | <50><br>2 2 0 0<br>( 4) ( 4) ( 0) ( 0)                                                                                                                                            | <50><br>1 2 0 0 1<br>( 2) ( 4) ( 0) ( 0) ( 2)         | <50><br>2 0 0<br>) ( 4) ( 0) ( 0)             | <50><br>1 2 1 0<br>( 2) ( 4) ( 2) ( 0)                                                                               |
| {Urinary sys          | tem}                                                           |                                                                                                                                                                                   |                                                       |                                               |                                                                                                                      |
| kidney                | hyaline droplet                                                | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                            | <50><br>0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0) ( 0          | <50><br>1 0 0<br>) ( 2) ( 0) ( 0)             | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                               |
|                       | deposit of hemosiderin                                         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0) ( 0                  | ) 1 0 0<br>) (2) (0) (0)                      | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                       |
|                       | inflammatory cell nest                                         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0) ( 0                  | ) 0 0 0<br>) ( 0) ( 0) ( 0)                   | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                                                                                       |
|                       | chronic nephropathy                                            | 9 4 0 0<br>(18) (8) (0) (0)                                                                                                                                                       | 18 3 1 0 16<br>(36)(6)(2)(0)(32                       | ; 4 2 0<br>2) ( 8) ( 4) ( 0)                  | 1 0 0 0 ***<br>(2)(0)(0)(0)                                                                                          |

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

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

b (c) c:b/a\*100

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

(HPT150)

BAIS4

| ANIMAL<br>REPORT TYPE | : 0437<br>: RAT F344/DuCr1Cr1j[F344/DuCrj]<br>: A1<br>: FEMALE | HISTOPATHOLOGICAL FINDINGS :N<br>ALL ANIMALS (0-105W) | ON-NEOPLASTIC LESIONS (SUMMARY)                   |                                                   | PAGE : 2                                          |
|-----------------------|----------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Organ                 | Group Nam<br>No. of An<br>Grade<br>Findings                    | ne Control<br>nimals on Study 50<br>(%) (%) (%) (%)   | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
| {Urinary sys          | tem)                                                           |                                                       |                                                   |                                                   |                                                   |
| kidnøy                | hydronephrosis                                                 | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>1 1 0 0<br>(2) (2) (0) (0)                | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
|                       | mineralization:cortico-medullary junction                      | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)                           |
|                       | mineralization:papilla                                         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | 1 0 0 0<br>(2)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
|                       | mineralization pelvis                                          | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | 0 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                  | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2) (0) (0) (0)                        |
|                       | mineralization:cortex                                          | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | 1 0 0 0<br>(2)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 2 0 0 0<br>(4)(0)(0)(0)                           |
| urin bladd            | nodular hyperplasia:transitional epithelium                    | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            |
| {Endocrine            | system)                                                        |                                                       |                                                   |                                                   |                                                   |
| pituitary             | angiectasis                                                    | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                | <50><br>2 1 0 0<br>( 4) ( 2) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            |

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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

# 0407

| STUDY NO. : 0437<br>ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] | HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)<br>ALL ANIMALS (0-105W) |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------|
| REPORT TYPE : A1                                            |                                                                                      |
| SEX : FEMALE                                                |                                                                                      |
|                                                             |                                                                                      |

 $\overline{\phantom{a}}$ 

| )rgan        | Findings                          | Group Name         Control           No. of Animals on Study         50           Grade         1         2         3         4           (%)         (%)         (%)         (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|--------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Endocrine sj | rstem)                            |                                                                                                                                                                                   |                                                   |                                                   |                                                   |
| oituitary    | cyst                              | <50><br>2 9 0 0<br>( 4) ( 18) ( 0) ( 0)                                                                                                                                           | <50><br>0 5 0 0<br>( 0) ( 10) ( 0) ( 0)           | <50><br>1 9 0 0<br>( 2) ( 18) ( 0) ( 0)           | <50><br>0 10 0 0<br>( 0) ( 20) ( 0) ( 0)          |
|              | hyperplasia                       | 0 4 0 0<br>( 0) ( 8) ( 0) ( 0)                                                                                                                                                    | 0 11 0 0<br>( 0) ( 22) ( 0) ( 0)                  | 0 5 0 0<br>( 0) ( 10) ( 0) ( 0)                   | 0 4 0 0<br>( 0) ( 8) ( 0) ( 0)                    |
|              | Rathke pouch                      | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$                                                                                                                             | 1 0 0 0<br>(2)(0)(0)(0)                           | 1 0 0 0<br>(2)(0)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| hyroid       | C-cell hyperplasia                | <50><br>6 4 0 0<br>(12) (8) (0) (0)                                                                                                                                               | <50><br>7 2 0 0<br>(14) (4) (0) (0)               | <50><br>7 4 0 0<br>(14) (8) (0) (0)               | <50><br>1 2 0 0<br>( 2) ( 4) ( 0) ( 0)            |
|              | focal follicular cell hyperplasia | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 1 0 0<br>(2) (2) (0) (0)                        | 1 0 0 0<br>(2)(0)(0)(0)                           |
| ndrenal      | peliosis-like lesion              | <50><br>0 2 0 0<br>( 0) ( 4) ( 0) ( 0)                                                                                                                                            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            | <50><br>0 5 0 0<br>( 0) ( 10) ( 0) ( 0)           |
|              | hyperplasia:cortical cell         | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                                    | 0 1 0 0<br>( 0) ( 2) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |

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

(HPT150)

BAIS4

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCrICr1j[F344/DuCrj] REPORT TYPE : A1 SEX : FEMALE

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

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| brgan                                   |                                                                                                    | up Name         Control           of Animals on Study         50           de         1         2         3         4           (%)         (%)         (%)         (%) | 10 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Endocrine sy                            | rstem)                                                                                             |                                                                                                                                                                         |                                                   |                                                   |                                                   |
| drenal                                  | hyperplasia:medulla                                                                                | <50><br>0 2 0 0<br>( 0) ( 4) ( 0) ( 0)                                                                                                                                  | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            |
|                                         | focal fatty change:cortex                                                                          | 0 5 0 0<br>( 0) ( 10) ( 0) ( 0)                                                                                                                                         | 0 5 0 0<br>(0)(10)(0)(0)                          | 0 3 0 0<br>( 0) ( 6) ( 0) ( 0)                    | 3 4 0 0<br>(6)(8)(0)(0)                           |
| Reproductive                            | e system)                                                                                          |                                                                                                                                                                         |                                                   |                                                   |                                                   |
| erus.                                   | hyperplasia:epithelium                                                                             | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                  | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0             |
|                                         | hyperplasia:gland                                                                                  | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                          | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)                           | 1 0 0 0<br>(2)(0)(0)(0)                           |
|                                         | cystic endometrial hyperplasia                                                                     | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$                                                                                                                   | 2 1 0 0<br>(4)(2)(0)(0)                           | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 2 2 0 0<br>(4)(4)(0)(0)                           |
| anmary gl                               | hyperplasia                                                                                        | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                                                                                                                                  | <50><br>1 0 0 0<br>( 2) ( 0) ( 0) ( 0)            | <50><br>2 0 1 0<br>( 4) ( 0) ( 2) ( 0)            | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0             |
| rade<br>a ><br>b<br>c )<br>ignificant ( | a : Number of animals examined at the site<br>b : Number of animals with lesion<br>c : b / a * 100 | Narked 4 : Severe                                                                                                                                                       |                                                   |                                                   |                                                   |

(HPT150)

BAIS4

#### STUDY NO. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] REPORT TYPE : A1 SEX : FEMALE

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

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|               |                                                                                                                                                                     | Group Name<br>No. of Animals on Study<br>Grade _1_ | Contr<br>50<br>2 3       | 4         | _1          | 50<br>2             | 10 ppm<br><u>3 4</u> | _1_       | 2         | 30 r<br>50<br>3  | 4         | _1              | 2         | 90 ;<br>50 <u>3</u> | 4          |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------|-----------|-------------|---------------------|----------------------|-----------|-----------|------------------|-----------|-----------------|-----------|---------------------|------------|
| rgan          | Findings                                                                                                                                                            | (%)                                                | (%) (%)                  | (%)       | (%)         | (%)                 | (%) (%)              | (%)       | (%)       | (%)              | (%)       | (%)             | (%)       | (%)                 | (%)        |
| Nervous syste | em)                                                                                                                                                                 |                                                    |                          |           |             |                     |                      |           |           |                  |           |                 |           |                     |            |
| cain          | hemorrhage                                                                                                                                                          | 2<br>( 4)                                          | <50><br>0 0<br>( 0) ( 0) | 0<br>(0)  | 0<br>( 0) ( | <50><br>1<br>( 2) ( | 0 0<br>0) ( 0)       | 0<br>( 0) | 0         | 50><br>0<br>( 0) | 0<br>( 0) | 2<br>( 4)       | 0         | <50><br>0<br>( 0)   |            |
|               | necrosis:focal                                                                                                                                                      | 0<br>( 0)                                          | 0 0<br>(0)(0)            | 0<br>( 0) | 0<br>(0)    | 0<br>( 0) (         | 0 0<br>0) ( 0)       | 0<br>( 0) | 1<br>(2)  | 0<br>( 0)        | 0<br>( 0) | 0<br>( 0)       | 1<br>(2)  | 0<br>) ( 0)         | 0<br>( 0)  |
|               | inflammatory infiltration                                                                                                                                           | 0<br>( 0)                                          | 0 0<br>(0)(0)            | 0<br>( 0) | 0<br>( 0)   | 0<br>( 0) (         | 0 0<br>0) ( 0)       | 0<br>( 0) | 0<br>( 0) | 0<br>( 0)        | 0<br>( 0) | 1<br>(2)        | 0<br>( 0) | 0<br>) ( 0)         | 0<br>( 0)  |
| oinal cord    | gliosis                                                                                                                                                             | 0<br>( 0)                                          | <50><br>0 0<br>( 0) ( 0) | 0<br>( 0) | 0<br>( 0)   | <50><br>0<br>( 0) ( | 0 0<br>0) ( 0)       | 0<br>( 0) | 0         | (0)              | 0<br>( 0) | 1<br>(2)        | 0         | <50><br>0<br>) ( 0) |            |
| Special sense | e organs/appendage)                                                                                                                                                 |                                                    |                          |           |             |                     |                      |           |           |                  |           |                 |           |                     |            |
| 7e            | hemorrhage                                                                                                                                                          | 0<br>( 0)                                          | <50><br>0 0<br>( 0) ( 0) | 0<br>( 0) | 0<br>( 0)   | <50><br>0<br>( 0) ( | 0 0<br>0) ( 0)       | 0<br>( 0) | 0         | (50><br>0<br>(0) | 0<br>( 0) | 1<br>(2)        | 1         | <50><br>0<br>) ( 0) |            |
|               | inflammation                                                                                                                                                        | 0<br>( 0)                                          | 0 0<br>(0)(0)            | 0<br>( 0) | 0<br>( 0)   | 0<br>( 0) (         | 0 0<br>0) ( 0)       | 0         | 0<br>( 0) | 0<br>( 0)        | 0<br>( 0) | 0<br>( 0)       | 0<br>( 0) | 1<br>) ( 2)         | 0<br>) ( 0 |
| a><br>b<br>c) | 1 : Slight 2 : Moderate 3<br>a : Number of animals examined at the s<br>b : Number of animals with lesion<br>c : b / a * 100<br>ifference; * : $P \leq 0.05$ ** : P |                                                    |                          |           |             |                     |                      |           |           |                  |           | <del>,,,,</del> |           |                     |            |

(HPT150)

BAIS4

## STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1

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

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| Drgan         | Findings                  | Group Name<br>No. of Animals on Study 5<br>Grade <u>1 2</u><br>(%) (%) | Control<br>0<br><u>3 4</u><br>(%) (%) | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 30 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) | 90 ppm<br>50<br><u>1 2 3 4</u><br>(%) (%) (%) (%) |
|---------------|---------------------------|------------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| {Special sens | se organs/appendage)      |                                                                        |                                       |                                                       |                                                   |                                                   |
| әуө           | cataract                  | <e<br>2 2<br/>( 4) ( 4)</e<br>                                         | 0><br>0 0<br>( 0) ( 0)                | <50><br>1 3 0 0<br>( 2) ( 6) ( 0) ( 0)                | <50><br>0 2 0 0<br>( 0) ( 4) ( 0) ( 0)            | <50><br>0 2 0 0<br>( 0) ( 4) ( 0) ( 0)            |
|               | retinal atrophy           | 37 1<br>(74) (2)                                                       | 4 0<br>(8)(0)                         | 44 0 4 0<br>(88)(0)(8)(0)                             | 42 0 2 0<br>(84) (0) (4) (0)                      | 28 0 3 0<br>(56)(0)(6)(0)                         |
|               | keratitis                 | 1 1<br>( 2) ( 2)                                                       | 0 0 ( 0)                              | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                        | 1 0 0 0<br>(2)(0)(0)(0)(0)                        | 10 12 1 2 *<br>(20) (24) (2) (4)                  |
|               | iritis                    | 0 0<br>( 0) ( 0)                                                       | 0 0<br>(0)(0)                         | 1 0 0 0<br>(2)(0)(0)(0)                               | 0 0 0 0<br>(0)(0)(0)(0)(0)                        | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    |
| larder gl     | degeneration              | <5<br>3 0<br>( 6) ( 0)                                                 | 50><br>0 0<br>( 0) ( 0)               | <50><br>2 1 0 0<br>( 4) ( 2) ( 0) ( 0)                | <50><br>2 0 0 0<br>( 4) ( 0) ( 0) ( 0)            | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0)            |
|               | inflammatory infiltration | 0 0<br>( 0) ( 0)                                                       | 0 0<br>( 0) ( 0)                      | 2 0 0 0<br>(4)(0)(0)(0)                               | 0 0 0 0<br>( 0) ( 0) ( 0) ( 0)                    | 1 0 0 0<br>(2)(0)(0)(0)(0)                        |
|               | lymphocytic infiltration  | 4 0<br>( 8) ( 0)                                                       | 0 0<br>( 0) ( 0)                      | 2 0 0 0<br>(4)(0)(0)(0)                               | 6 0 0 0<br>(12) (0) (0) (0)                       | 3 0 0 0<br>(6)(0)(0)(0)(0)                        |
|               | granulation               | 3 0<br>(6)(0)                                                          | 0 0<br>( 0) ( 0)                      | 5 0 0 0<br>(10) (0) (0) (0)                           | 3 0 0 0<br>(6)(0)(0)(0)                           | 1 0 0 0<br>(2)(0)(0)(0)                           |

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

- b : Number of animals with lesion b
- c:b/a \* 100 (c)

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

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

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|                         |                                                                                                                                                                    | Group Name<br>No. of Animals on Study<br>Grade <u>1</u> | Control<br>50<br><u>2 3 4</u>   | 10 ppm<br>50<br><u>1 2 3 4</u>         | 30 ppm<br>50<br><u>1 2 3 4</u>         | 90 ppm<br>50<br><u>1 2 3 4</u>         |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| gan                     | Findings                                                                                                                                                           | (%)                                                     | (%) (%) (%)                     | (%) (%) (%) (%)                        | (%) (%) (%) (%)                        | (%) (%) (%) (%)                        |
| pecial sens             | se organs/appendage}                                                                                                                                               |                                                         |                                 |                                        |                                        |                                        |
| asolacr d               | inflammation                                                                                                                                                       | 0<br>( 0) (                                             | <50><br>1 0 0<br>( 2) ( 0) ( 0) | <50><br>0 1 0 0<br>( 0) ( 2) ( 0) ( 0) | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) | <50><br>0 0 0 0<br>( 0) ( 0) ( 0) ( 0) |
| fusculoskelo            | otal systom)                                                                                                                                                       |                                                         |                                 |                                        |                                        |                                        |
| one                     | osteosclerosis                                                                                                                                                     | 5<br>(10)                                               | <50><br>3 0 0<br>( 6) ( 0) ( 0) | <50><br>1 1 0 0<br>( 2) ( 2) ( 0) ( 0) | <50><br>6 2 0 0<br>(12) (4) (0) (0)    | <50><br>5 2 0 0<br>(10) (4) (0) (0)    |
| rade<br>a ><br>b<br>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> |                                                         |                                 |                                        |                                        |                                        |

APPENDIX L 5

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

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

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rgan			Control 10 2 3 4 (%) (%) (%)	10 ppm 5 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 9 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 35 <u>1 2 3 4</u> (%) (%) (%) (%)
Respiratory	system}					
asal cavit	squamous cell hyperplasia with atypia	0 (0) (<10> 0 0 0 0) (0) (0)	< 5> 0 0 0 0 (0) (0) (0) (0)	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 5 21 0 0 ** (14) (60) (0) (0)
	eosinophilic change:olfactory epithelium	1 (10) (7 1 0 70) (10) (0)	1 4 0 0 (20) (80) (0) (0)	2 7 0 0 (22)(78)(0)(0)	7 13 0 0* (20)(37)(0)(0)
	eosinophilic change:respiratory epitheliu		0 0 0 0)(0)(0)	1 0 0 0 (20)(0)(0)(0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)
	inflammation:foreign body	0 (0) (0 0 0 0)(0)(0)	1 0 0 0 (20)(0)(0)(0)	0 0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)
	inflammation:respiratory 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)	5 13 0 0* (14) (37) (0) (0)
	respiratory metaplasia:olfactory epitheli		0 0 0 0)(0)(0)	0 0 0 0 (0) (0) (0) (0)	1 0 0 0 (11)(0)(0)(0)	2 0 0 0 (6)(0)(0)(0)
	respiratory metaplasia:gland		1 0 0 10) (0) (0)	3 0 0 0 (60)(0)(0)(0)	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	6 4 0 0 (17) (11) (0) (0)
	squamous cell metaplasia respiratory epit		0 0 0 0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	4 0 0 0 (44)(0)(0)(0)	1 28 0 0* (3)(80)(0)(0)

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

 $\boldsymbol{<}$ a $\boldsymbol{>}$ 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

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

· ____

rgan	1	Aroup Name Contr Io. of Animals on Study 10 Brade 1 2 3 (%) (%) (%) (%)	$ \begin{array}{c} 5 \\ \underline{4} \\ (\%) \\ \hline (\%) \\ ($	10 ppm <u>3 4</u> <u>1</u> (%) (%) <u>(%)</u>	30 ppm 9 <u>2 3 4</u> (%) (%) (%)	90 ppm 35 <u>1 2 3 4</u> (%) (%) (%) (%)
Respiratory s	ystem}					
asal cavit	squamous cell metaplasia:olfactory epi	<10> thelium 0 0 0 (0) (0) (0)	<pre>< 5 0 0 0 (0) (0) (0) (</pre>	0 0 0	< 9> 0 0 0 (0) (0) (0)	<35> 7 0 0 0 (20) (0) (0) (0)
	hyperplasia:transitional epithelium	0 0 0 (0) (0) (0)	0 0 0 (0) (0) (0) (0 0 1 0) (0) (11)	0 0 0 (0) (0) (0)	0 0 0 0 0 (0) (0) (0) (0)
	atrophy:olfactory epithelium	0 0 0 (0) (0) (0)	0 0 0 (0) (0) (0) (0 0 1 0) (0) (11)	0 0 0 (0) (0) (0)	12 6 0 0 * (34) (17) (0) (0)
ung	congestion	<10> 0 1 0 (0) (10) (0)	<pre>< 5 0 0 0 (0) (0) (0) (</pre>	0 0 1	< 9> 0 0 0 (0) (0) (0)	<35> 0 2 0 0 (0) (6) (0) (0)
	hemorrhage	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 (6) (0) (0) (0)
	inflammatory infiltration	0 0 0 (0) (0) (0)	0 0 0 (0) (0) (0 0 0 0)(0)(0)	0 0 0 (0) (0) (0)	0 1 0 0 (0) (3) (0) (0)
	inflammation:foreign body	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 4 0 0 (0) (11) (0) (0)
Hematopoietie	c system}					
one marrow	granulation	<10> 1 0 0 (10) (0) (0)	<pre></pre>	0 0 0	< 9> 1 0 0 (11) (0) (0)	<35> 4 0 0 0 (11) (0) (0) (0)

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

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

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brgan	No	oup Name Control . of Animals on Study 10 ade 1 2 3 4	10 ppm 5 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 9 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 35 <u>1 2 3 4</u> (%) (%) (%) (%)
Hematopoieti	ic system}				
one marrow	increased hematopoiesis	<10> 3 0 0 0 (30) (0) (0) (0)	< 5> 1 0 0 0 (20) (0) (0) (0)	< 9> 3 0 0 0 (33) (0) (0) (0)	<35> 3 0 0 0 (9) (0) (0) (0)
	decreased hematopoiesis	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 0 0 0 (3)(0)(0)(0)
spleen	congestion	$\begin{array}{c} <10>\\ 0 & 1 & 0 & 0\\ (& 0) & (& 10) & (& 0) & (& 0) \end{array}$	< 5> 0 0 0 0 (0) (0) (0) (0)	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 0 1 0 0 (0) (3) (0) (0)
	deposit of hemosiderin	0 2 0 0 (0) (20) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 2 0 0 (0)(22)(0)(0)	0 3 0 0 (0)(9)(0)(0)
	increased extramedullary hematopoiesis	0 1 0 0 (0) (10) (0) (0)	0 2 1 0 (0) (40) (20) (0)	0 <u>1</u> <u>2</u> 0 (0) (11) (22) (0)	0 4 0 0 (0)(11)(0)(0)
Circulatory	system)				
leart	thrombus	<10> 0 0 0 0 (0) (0) (0) (0)	< 5> 0 0 0 0 (0) (0) (0) (0)	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 0 1 0 0 (0) (3) (0) (0)
Grade (a) b (c)	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 : Severe			

(HPT150)

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

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)rgan	Findings	Group Name No. of Animals on Study Grade <u>1</u> (%)	Cont 10 <u>2 3</u> (%) (%)	4	<u> </u>	10 ppm 5 <u>2 3 4</u> %) (%) (%)	<u> </u>	30 9 <u>2 5</u> (%) (9) ppm <u>4</u> (%)	<u> </u>	90 1 35 <u>2 3</u> (%) (%)	4
Circulatory	system)											
eart	necrosis:focal	0 (0)	<10> 0 0 (0) (0)	0 (0)		< 5> 0 0 0 0) (0) (0)	0 (0) (< 9> 0 (0) ((1 (3) (<35> 0 0 0) (0)	0 (0)
	mineralization	0 (0)	00 0) (0)	0 (0)	0 (0) (0 0 0 0)(0)(0)	0 (0) (0 (0) (() 0))(0)	1 (3)(0 0 0) (0)	0 (0)
	inflammation	0 (0)	00 0) (0)	0 (0)	0 (0) (0 0 0 0)(0)(0)	0 (0) (0 (0) (0) 0))(0)	1 ' (3) (0 0 0) (0)	0 (0)
	inflammatory cell nest	0 (0)	0 0 (0)(0)		0 (0) (0 0 0 0)(0)(0)	0 (0) (0 (0) (1) ())(()	1 (3) (0 0 0) (0)	0 (0)
	myocardial fibrosis	3 (30)	1 0 (10) (0)	0 (0)	3 (60) (0 0 0 0)(0)(0)	6 (67) (0 0) (0 0 0)(0)	18 (51) (0 0 0) (0)	0 (0)
Digestive sy	vstem)											
tomach	basal cell hyperplasia	0 (0)	<10> 0 0 (0) (0)			< 5> 0 0 0 0) (0) (0)	0	< 9> 0 0) (0 0 0) (0)	4 (11) (<35> 0 0 0) (0)	
	erosion:forestomach	0 (0)	0 0 (0)(0)	0 (0)	0 (0) (0 0 0 0) (0) (0)	0	1 11) (0 0 0) (0)	3 (9)(0 0 0) (0)	0 (0)

(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) DEAD AND MORIBUND ANIMALS (0-105W)

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		roup Name Cont No. of Animals on Study 10	rol	10 pp 5	pm		9	30 ppm		35	qq 09	m
rgan		$\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)}$	<u>4</u> <u>1</u> (%)	<u>23</u> (%) (%)	<u>4</u> (%)	<u>1</u> (%)	2 (%)	<u>3 4</u> (%) (%)	<u> </u>	<u>2</u> (%)	<u>3</u> (%)	<u>4</u> (%)
Digestive sys	stem)											
tomach	ulcer:forestomach	<10> 0 2 0 (0) (20) (0)	0 0 (0) (0)	< 5> 1 1 (20) (20)	0 (0)	0 (0)	< 9) 2 (22) (> 0 0 0) (0)	2 (6)	<38 3 (9)	0	0 (0)
	hyperplasia:forestomach	3 2 0 (30)(20)(0)	0 0 (0) (0)	2 0 (40) (0)	0 (0)	0 (0)	2 (22) (0 0 0) (0)	4 (11)	2 (6)	0 (0) (0 (0)
	erosion:glandular stomach	3 0 0 (30) (0) (0)	0 1 (0) (20)	1 0 (20) (0)	0 (0)	0 (0)	0 (0) (0 0 0) (0)	2 (6)	0 (0)	0 (0) /	0 (0)
	ulcer:glandular stomach	0 0 0 (0) (0)	0 0 (0) (0)	0 0 (0) (0)	0 (0)	0 (0)	0 (0) (0 0 0) (0)	1 (3)	1 (3)	0 (0)(0 (0)
mall intes	erosion	<10> 0 0 0 (0) (0) (0)	0 0 (0) (0)	< 5> 0 0 (0) (0)	0 (0)	0 (0)	< 9) 0 (0) (> 0 0 0)(0)	0 (0)	<3) 1 (3)	0	0 (0)
iver	herniation	<10> 0 0 0 (0) (0) (0)	0 1 (0) (20)	< 5> 0 0 (0) (0)	0 (0)	0 (0)	< 9) 0 (0) (> 0 0 0) (0)	10 (29)	<3: 0 (0)	0	0 (0)
	necrosis:central	0 0 0 (0) (0) (0)	0 0 (0) (0)	0 0 (0) (0)	0 (0)	1 (11)	0 (0) (0 0 0) (0)	0 (0)	0 (0)	0 (0) (0 (0)
(a)	<pre>a : Number of animals examined at the si b : Number of animals with lesion c : b / a * 100</pre>											

(HPT150)

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

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Organ	Group N No. of Grade	ame Control Animals on Study 10 <u>1 2 3 4</u> (%) (%) (%) (%)	10 ppm 5 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 9 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 35 <u>1 2 3 4</u> (%) (%) (%) (%)
{Digestive :	system)				
liver	fatty change:central	<10> 0 2 0 0 (0) (20) (0) (0)	<pre> < 5> 0 0 0 0 (0) (0) (0) (0)</pre>	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 0 0 0 0 (0) (0) (0) (0)
	lymphocytic infiltration	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 1 0 0 (0) (3) (0) (0)
	granulation	1 1 0 0 (10) (10) (0) (0)	0 0 0 0 (0) (0) (0) (0)	2 0 0 0 (22) (0) (0) (0)	0 0 1 0 (0) (0) (3) (0)
	basophilic cell focus	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 1 0 0 (3)(3)(0)(0)
	bile duct hyperplasia	2 0 0 0 (20) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	1 0 0 0 (11) (0) (0) (0)	1 0 0 0 (3)(0)(0)(0)
pancreas	atrophy	<10> 1 0 0 0 (10) (0) (0) (0)	< 5> 0 0 0 0 (0) (0) (0) (0)	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 0 1 1 0 (0) (3) (3) (0)
{Urinary sy	/stem}				
kidney	inflammatory cell nest	<10> 0 0 0 0 (0) (0) (0) (0)	< 5> 0 0 0 0 (0) (0) (0) (0)	<pre> < 9> 0 0 0 0 (0) (0) (0) (0)</pre>	<35> 0 1 0 0 (0) (3) (0) (0)
Grade < a > b (c) Significant	<pre>1 : Slight 2 : Moderate 3 : Market 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</pre>	ed 4 : Severe Test of Chi Square		······································	

(HPT150)

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

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		Group Name No. of Animals on Study Grade 1	10	ntrol 3 4	10 ppm 5 1 2 3 4	30 ppm 9 1 2 3 4	90 ppm 35 1 2 3 4
rgan	Findings	Grade <u>1</u> (%)	(%) (9		$\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)}$	$\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)}$	$\frac{1}{(\%)} \frac{2}{(\%)} \frac{3}{(\%)} \frac{4}{(\%)}$
Urinary syst	em)						
idney	chronic nephropathy	1 (10)	<10> 2 ((20) ((0 0 0) (0)	< 5> 2 0 0 0 (40) (0) (0) (0)	< 9> 0 1 0 0 (0) (11) (0) (0)	<35> 1 0 0 0 * (3) (0) (0) (0)
	hydronephrosis	0 (0)	0 (0 0 0)(0)	0 0 0 0 (0) (0) (0) (0)	1 1 0 0 (11)(11)(0)(0)	0 0 0 0 (0) (0) (0) (0)
	mineralization:cortico-medullary junc	tion 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)	1 0 0 0 (3)(0)(0)(0)(0)
	mineralization:pelvis	0 (0)	0 (0 0 0) (0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	1 0 0 0 (3)(0)(0)(0)
	mineralization:cortex	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 (6)(0)(0)(0)
Endocrine sy	rstem}						
ituitary	angiectasis	0 (0)	<10> 0 (0) (0 0 0) (0)	<pre> < 5> 0 0 0 0 (0) (0) (0) (0)</pre>	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 0 1 0 0 (0) (3) (0) (0)
	cyst	0 (0)	0 (0) (0 0 0) (0)	0 0 0 0 (0) (0) (0) (0)	0 1 0 0 (0) (11) (0) (0)	0 7 0 0 (0) (20) (0) (0)

(c) c:b/a*100

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

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

1

Organ	Ν	roup Name Control o. of Animals on Study 10 rade 1 2 3 4	10 ppm 5 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 9 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 35 <u>1 2 3 4</u> (%) (%) (%) (%)
(Endocrine s	system)				
pituitary	hyperplasia	<10> 0 1 0 0 (0) (10) (0) (0)	< 5> 0 1 0 0 (0) (20) (0) (0)	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 0 1 0 0 (0) (3) (0) (0)
thyroid	C-cell hyperplasia	<10> 1 0 0 0 (10) (0) (0) (0)	< 5> 0 1 0 0 (0) (20) (0) (0)	< 9> 0 1 0 0 (0) (11) (0) (0)	<35> 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)	1 1 0 0 (11) (11) (0) (0)	1 0 0 0 (3)(0)(0)(0)
adrenal	peliosis-like lesion	<10> 0 1 0 0 (0) (10) (0) (0)	< 5> 0 0 0 0 0 (0) (0) (0) (0)	< 9> 0 1 0 0 (0) (11) (0) (0)	<35> 0 5 0 0 (0) (14) (0) (0)
	focal fatty change:cortex	0 1 0 0 (0) (10) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 1 0 0 (0) (11) (0) (0)	2 3 0 0 (6)(9)(0)(0)
{Reproductiv	ve system}				
uterus	cystic endometrial hyperplasia	$\begin{array}{c} <10>\\ 1 & 0 & 0 & 0\\ (10) & (0) & (0) & (0) \end{array}$	<pre> < 5> 0 0 0 0 (0) (0) (0) (0)</pre>	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 0 0 0 0 (0) (0) (0) (0)
Grade < a > b (c) Significant	<pre>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 ≤</pre>				

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

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Irgan	Findings	Group Name Control No. of Animals on Study 10 Grade 1 2 3 (%) (%) (%)	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	30 ppm 9 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 35 <u>1 2 3 4</u> (%) (%) (%) (%)
Nervous sy	rstem)		· ·		
rain	hemorrhage	<10> 2 0 0 (20) (0) (0) (0 0 0 0 0) (0) (0) (0) (0)	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 2 0 0 0 (6) (0) (0) (0)
	necrosis:focal	0 0 0 (0) (0) (0) (0 0 0 0 0 0) (0) (0) (0) (0)	0 1 0 0 (0) (11) (0) (0)	0 1 0 0 (0) (3) (0) (0)
	inflammatory infiltration	0 0 0 (0) (0) (0) (0 0 0 0 0 0) (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	1 0 0 0 (3)(0)(0)(0)
Special s	ense organs/appendage}				
Special sense ye	hemorrhage	<10> 0 0 0 (0) (0) (0) (<pre></pre>	< 9> 0 0 0 0 (0) (0) (0) (0)	<35> 1 1 0 0 (3) (3) (0) (0)
	inflammation	0 0 0 (0) (0) (0) (0 0 0 0 0 0) (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 0 1 0 (0) (0) (3) (0)
	cataract	0 0 0 (0) (0) (0) (0 0 0 0 0 0) (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 1 0 0 (0) (3) (0) (0)
	retinal atrophy	2 0 0 (20) (0) (0) (0 3 0 0 0 0) (60) (0) (0) (0)	3 0 0 0 (33)(0)(0)(0)	16 0 2 0 (46)(0)(6)(0)

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

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

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY) : RAT F344/DuCr1Cr1j[F344/DuCrj] DEAD AND MORIBUND ANIMALS (0-105W)

ANIMAL REPORT TYPE : A1 SEX : FEMALE

STUDY NO. : 0437

Drgan	Findings	Group Name No. of Animals on Study Grade <u>1</u> (%)	Cor 10 2 (%) (9	1trol 3 <u>4</u> 6) (%)	10 ppm 5 <u>1 2 3 4</u> (%) (%) (%) (%)	9 1 2 :) ppm 3 <u>4</u> 6) (%)	90 ppm 35 <u>1 2 3 4</u> (%) (%) (%) (%)
Special sens	se organs/appendage)							
уe	keratitis	0 (0)	<10> 1 ((10) (() 0))(0)	< 5> 0 0 0 0 (0) (0) (0) (0)	< 9> 0 0 (0) (0) (0 0 0)(0)	<35> 10 10 1 2 (29) (29) (3) (6)
arder gl	degeneration	0 (0)	<10> 0 (0) () 0))(0)	< 5> 1 0 0 0 (20) (0) (0) (0)	< 9> 0 0 (0) (0) (0 0 0) (0)	<35> 0 1 0 0 (0) (3) (0) (0)
	inflammatory infiltration	0 (0)	0 () (0)	0 0 0 0 (0) (0) (0) (0)	0 0 (0) (0) (0 0 0) (0)	1 0 0 0 (3)(0)(0)(0)
	lymphocytic infiltration	1 (10)	0	0 0 0) (0)	0 0 0 0 (0) (0) (0) (0)	1 0 (11) (0) (0 0 0) (0)	0 0 0 0 (0)(0)(0)(0)
	granulation	0 (0)	0 (0) (0 0 0)(0)	1 0 0 0 (20) (0) (0) (0)	0 0 (0) (00) 0)(0)	0 0 0 0 (0) (0) (0) (0
Musculoskel	etal system)							
one	osteosclerosis	0 (0)	<10> 1 (10) (0 0 0)(0)	< 5> 0 0 0 0 (0) (0) (0) (0)	< 9> 1 1 (11) (11) (0 0 0) (0)	<35> 3 2 0 0 (9)(6)(0)(0
rade a > b c) ignificant	1 : Slight 2 : Moderate a : Number of animals examined at the b : Number of animals with lesion c : b / a * 100 difference ; * : $P \leq 0.05$ ** : P							

(HPT150)

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APPENDIX L 6

HISTOPATHOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : FEMALE SACRIFICED ANIMALS

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

1

)rgan	Ν	broup Name to. of Animals on Study trade <u>1</u> (%)	40 2	ontrol <u>3</u> (%)	<u>4</u> (%)	1(%)	48 2 (%)	10 pr ; 3 (%)	om <u>4</u> (%)	(%)	41 2 (%)	30 pp 3 (%)	m <u>4</u> (%)	<u> </u>	15 _2		<u>4</u> (%)
(Integumentar	y system/appandage)																
skin/app	angiectasis	0 (0)	<40> 1 (3) (0	0 0)	0 (0)	<48 0 (0)	0	0 (0)	0 (0)	<41 0 (0) (0	0 0)	0 (0)	<15> 0 (0) (0	0 0)
	inflammation	0 (0)	0 (0) (0 0) (0 0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0	0 (0) (0 0)	0 (0)	1 (7) (0 0)
Respiratory	system)																
nasal cavit	squamous cell hyperplasia with atypia	0 (0)	<40> 0 (0) (0 0) (0 0)	0 (0)	<48 0 (0)	0	0 (0)	0 (0)	<41 0 (0) (0	0 (0)	4 (27)	<15> 9 (60) (0	0 0)
	eosinophilic change:olfactory epithelia		28 (70) (12 30) (0 0)	1 (2)	42 (93)	2 (4)	0 ** (0)	1 (2)	39 (95)	1 (2) (0 ** 0)	3 (20)	12 (80) (0 : 0)
	eosinophilic change:respiratory epithe		5 (13) (0 0) (0 0)	19 (42)	6 (13)	0 (0)	0 (0)	11 (27)	2 (5)	0 (0) (0 * 0)	1 (7)	0 (0) (0 0) (0 0)
	inflammation:foreign body	3 (8)	1 (3)(0 0) (0 0)	2 (4)	1 (2)	0 (0)	0 (0)	1 (2)	1 (2)	0 (0) (0 (0)	0 (0)	0 (0) (0 0) (0 0)
	inflammation:respiratory epithelium	0 (0)	0 (0) (0 0) (0 0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0) (0 (0)	3 (20)	10 (67) (1 7) (0 0)

<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

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

)rgan		up Name Control of Animals on Study 40 de <u>1 2 3 4</u> (%) (%) (%) (%)	10 ppm 45 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 41 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 15 <u>1 2 3 4</u> (%) (%) (%) (%)
Respiratory	system)				
asal cavit	inflammation:olfactory epithelium	<40> 0 0 0 0 (0) (0) (0) (0)	<45> 0 0 0 0 (0) (0) (0) (0)	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 1 0 0 0 (7) (0) (0) (0)
	respiratory metaplasia olfactory epitheli	um 0 0 0 0 (0)(0)(0)(0)	0 0 0 0 (0)(0)(0)(0)	0 0 0 0 (0)(0)(0)(0)	3 0 0 0* (20)(0)(0)(0)
	respiratory metaplasia:gland	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	21 1 0 0 (47) (2) (0) (0)	19 0 0 0 (46)(0)(0)(0)	8 1 0 0 (53) (7) (0) (0)
	squamous cell metaplasia:respiratory epit	helium 0 0 0 0 (0) (0) (0) (0)	1 0 0 0 (2)(0)(0)(0)	2 0 0 0 (5)(0)(0)(0)	1 13 0 0* (7)(87)(0)(0)
	squamous cell metaplasia:olfactory epithe	lium 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 0 0 0 (7)(0)(0)(0)(0)
	hyperplasia:transitional epithelium	0 0 0 0 (0)(0)(0)(0)	0 0 0 0 (0) (0) (0) (0)	5 0 0 0 (12)(0)(0)(0)	0 0 0 0 (0) (0) (0) (0)
	atrophy:olfactory 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)	9 2 0 0 *** (60) (13) (0) (0)
ung	inflammation	<40> 0 0 0 0 (0) (0) (0) (0)	<45> 0 0 0 0 (0) (0) (0) (0)	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 0 1 0 0 (0) (7) (0) (0)

1 : Slight Grade 2 : Moderate 3 : Marked 4 : Severe a : Number of animals examined at the site <a> b : Number of animals with lesion b c:b/a*100 (c)

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

SEX

BAIS4

rgan	N	roup Name o. of Animals on Study rade <u>1 2</u> (%) (%)	Control 40 <u>3 4</u> (%) (%)	10 ppm 45 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 41 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 15 <u>1 2 3 4</u> (%) (%) (%) (%)
Respiratory	system)					
ing	bronchiolar-alveolar cell hyperplasia	0 1	(40> 0 0 (0) (0)	<45> 1 1 0 0 (2) (2) (0) (0)	<41> 1 2 0 0 (2) (5) (0) (0)	<15> 1 0 0 0 (7) (0) (0) (0)
lematopoieti	c system}					
ne marrow	granulation	13 1	(40> 0 0 (0) (0)	<45> 14 4 0 0 (31) (9) (0) (0)	<11> 15 2 0 0 (37) (5) (0) (0)	<15> 6 0 0 0 (40) (0) (0) (0)
	increased hematopoiesis	3 0 (8) (0)	0 0	2 0 0 0 (4)(0)(0)(0)	1 0 0 0 (2)(0)(0)(0)	2 0 0 0 (13) (0) (0) (0)
	decreased hematopoiesis	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) (0) (0)
leen	congestion	0 1	<40> 0 0) (0) (0)	<45> 0 1 0 0 (0) (2) (0) (0)	<40> 0 0 0 0 (0) (0) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
	deposit of hemosiderin	00 (0)(0)	0 0) (0) (0)	0 1 0 0 (0) (2) (0) (0)	0 1 0 0 (0) (3) (0) (0)	0 2 0 0 (0) (13) (0) (0)

HISTOPATHOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)

(c) c:b/a*100

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

(HPT150)

STUDY NO. : 0437

BAIS4

ANIMAL REPORT TYPE	: 0437 : RAT F344/DuCr1Cr1j[F344/DuCrj] : A1 : FEMALE	HISTOPATHOLOGICAL FINDINGS SACRIFICED ANIMALS (105W)	:NON-NEOPLASTIC LESIONS (SUMMAR	Y)	PAGE :
		Group Name Control No. of Animals on Study 40 Grade 1 2 3 4	10 ppm 45 1 2 3 4	30 ppm 41 1 2 3 4	90 ppm 15 <u>1 2 3 4</u>
)rgan	Findings	(%) (%) (%) (%)	(%) (%) (%) (%)	(%) (%) (%) (%)	(%) (%) (%) (%)
{Hematopoie	tic system}				
spleen	granulation	<40> 0 0 0 0 (0) (0) (0) (0)	<45> 0 1 0 0 (0) (2) (0) (0)	<40> 0 0 0 0 (0) (0) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
	fibrosis	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 1 0 0 (0) (7) (0) (0)
	increased extramedullary hematopoiesi	s 0 1 1 0 (0) (3) (3) (0)	0 0 0 0 (0) (0) (0) (0)	0 1 1 0 (0) (3) (3) (0)	0 1 0 0 (0) (7) (0) (0)
{Circulator	y system}				
neart	necrosis:focal	<40> 0 1 0 0 (0) (3) (0) (0)	<pre> <45> 0 0 0 0 (0) (0) (0) (0)</pre>	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
	inflammatory cell nest	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	3 0 0 0 (7)(0)(0)(0)	1 0 0 0 (2)(0)(0)(0)	0 0 0 0 (0) (0) (0) (0)
	myocardial fibrosis	27 4 0 0 (68) (10) (0) (0)	28 3 0 0 (62)(7)(0)(0)	28 5 0 0 (68)(12)(0)(0)	7 2 0 0 (47)(13)(0)(0)
	subendocardial fibrosis	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3 0 0 0 (7)(0)(0)(0)	2 0 0 0 (5)(0)(0)(0)	0 0 0 0 (0) (0) (0) (0)

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1 : Slight 2 : Moderate 3 : Ma a : Number of animals examined at the site b : Number of animals with lesion c : b / a * 100 Grade < a >

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(c)

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

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

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rgan	Findings	Group Name (No. of Animals on Study 40 Grade <u>1 2</u> (%) (%)	3 4 1 (%) (%) (%)	10 ppm 45 2 3 4 (%) (%) (%)	30 ppm 41 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 15 <u>1 2 3 4</u> (%) (%) (%) (%)
Digestive s	ystem)					
onguə	inflammatory infiltration	<40 0 0 (0) (0) (0 0 0	<45> 0 0 0 (0) (0) (0)	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 2 0 0 0 (13) (0) (0) (0)
	arteritis	1 0 (3) (0) (0 0 2 0) (0) (4)	0 0 0 (0) (0) (0)	1 0 0 0 (2)(0)(0)(0)(0)	2 0 0 0 (13) (0) (0) (0)
omach	basal cell hyperplasia	<40 1 0 (3) (0) (0 0 3	<45> 0 0 0 (0) (0) (0)	$\begin{array}{cccc} <41>\\ 1 & 0 & 0 & 0\\ (2) & (0) & (0) & (0) \end{array}$	<15> 0 0 0 0 (0) (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) (0) (0) (0)	1 0 0 0 (7)(0)(0)(0)
	hyperplasia:forestomach	1 0 (3) (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 (13) (0) (0) (0)
	erosion:glandular stomach	0 0 (0) (0) (0 0 1 (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)
ver	herniation	<40 9 0 (23) (0) (0 0 9	<45> 0 0 0 (0) (0) (0)	<41> 6 0 0 0 (15) (0) (0) (0)	<15> 2 0 0 0 (13) (0) (0) (0)

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

(HPT150)

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

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gan	Findings	Group Name Control No. of Animals on Study 40 Grade 1 2 3 4 (%) (%) (%) (%) (%)	10 ppm 45 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 41 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 15 <u>1 2 3 4</u> (%) (%) (%) (%)
)igestive s	:ystem)				
ver	fatty change:central	<40> 0 1 0 0 (0) (3) (0) (0)	<45> 0 0 0 0 (0) (0) (0) (0)	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
	lymphocytic infiltration	0 0 0 0 (0) (0) (0) (0)	0 1 0 0 (0) (2) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)
	granulation	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	14 8 6 0 (31) (18) (13) (0)	11 8 3 0 (27)(20)(7)(0)	4 1 0 0 (27) (7) (0) (0)
	inflammatory cell nest	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0 1 0 0 (0)(2)(0)(0)	3 0 0 0 (7)(0)(0)(0)	0 0 0 0 (0) (0) (0) (0)
	clear cell focus	0 0 0 0 (0) (0) (0) (0)	1 0 0 0 (2)(0)(0)(0)(0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)
	basophilic cell focus	14 8 0 0 (35)(20)(0)(0)	7 9 0 0 (16)(20)(0)(0)	4 7 0 0 * (10) (17) (0) (0)	2 1 0 0 (13) (7) (0) (0)
	bile duct hyperplasia	5 2 0 0 (13) (5) (0) (0)	4 2 0 0 (9)(4)(0)(0)	6 4 0 0 (15)(10)(0)(0)	3 0 0 0 (20)(0)(0)(0)
icreas	atrophy	<40> 1 2 0 0 (3) (5) (0) (0)	$\langle 45 \rangle$ 1 2 0 0 (2) (4) (0) (0)	<41> 1 2 0 0 (2) (5) (0) (0)	<15> 1 1 0 0 (7) (7) (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

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

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Drgan	Group M No. of Grade	Name Control Animals on Study 40 1 2 3 4 (%) (%) (%) (%)	10 ppm 45 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 41 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 15 <u>1 2 3 4</u> (%) (%) (%) (%)
Urinary syst	cem)				
idney	hyaline droplet	<40> 0 0 0 0 (0) (0) (0) (0)	<45> 0 0 0 0 (0) (0) (0) (0)	<41> 0 1 0 0 (0) (2) (0) (0)	<15> 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)	0 1 0 0 (0) (2) (0) (0)	0 0 0 0 (0) (0) (0) (0)
	chronic nephropathy	8 2 0 0 (20)(5)(0)(0)	16 3 1 0 (36) (7) (2) (0)	16 3 2 0 (39) (7) (5) (0)	0 0 0 0 (0) (0) (0) (0)
	hydronephrosis	0 1 0 0 (0) (3) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)
	mineralization:papilla	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) (0) (0)
	mineralization:cortex	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) (0) (0)
rin bladd	nodular hyperplasia:transitional epithelium	<40> 0 0 0 0 (0) (0) (0) (0)	<45> 0 0 0 0 (0) (0) (0) (0)	<41> 1 0 0 0 (2) (0) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
(Endocrine sy	vstem)				
bituitary	angiectasis	<40> 0 0 0 0 (0) (0) (0) (0)	<45> 2 1 0 0 (4) (2) (0) (0)	<41> 0 1 0 0 (0) (2) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)

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

STUDY NO.	:	0437
ANIMAL	:	RAT F344/DuCr1Cr1j[F344/DuCrj]
REPORT TYPE	:	A1

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: FEMALE SEX

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

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Organ		In P Name Control of Animals on Study 40 le 1 2 3 4 (%) (%) (%) (%)	10 ppm 45 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 41 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 15 <u>1 2 3 4</u> (%) (%) (%) (%)
Endocrine s	system)				
pituitary	cyst	<40> 2 9 0 0 (5) (23) (0) (0)	<45> 0 5 0 0 (0) (11) (0) (0)	<41> 1 8 0 0 (2) (20) (0) (0)	<15> 0 3 0 0 (0) (20) (0) (0)
	hyperplasia	0 3 0 0 (0) (8) (0) (0)	0 10 0 0 (0) (22) (0) (0)	0 5 0 0 (0) (12) (0) (0)	0 3 0 0 (0) (20) (0) (0)
	Rathke pouch	1 0 0 0 (3)(0)(0)(0)	1 0 0 0 (2)(0)(0)(0)	1 0 0 0 (2)(0)(0)(0)	0 0 0 0 (0)(0)(0)(0)
hyroid	C-cell hyperplasia	<40> 5 4 0 0 (13) (10) (0) (0)	<45> 7 1 0 0 (16) (2) (0) (0)	<41> 7 3 0 0 (17) (7) (0) (0)	<15> - 1 2 0 0 (7) (13) (0) (0)
drenal	peliosis-like lesion	<40> 0 1 0 0 (0) (3) (0) (0)	<45> 0 1 0 0 (0) (2) (0) (0)	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
	hyperplasia:cortical cell	0 0 0 0 (0) (0) (0) (0)	0 1 0 0 (0) (2) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)
	hyperplasia:medulla	0 2 0 0 (0) (5) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	0 1 0 0 (0) (7) (0) (0)
Grade (a) b (c)	<pre>1 : Slight 2 : Moderate 3 : M a : Number of animals examined at the site b : Number of animals with lesion c : b / a * 100 ; difference ; * : P ≤ 0.05 ** : P ≤ 0.</pre>				

(HPT150)

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

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		roup Name Control o. of Animals on Study 40	10 ppm 45	30 ppm 41	90 ppm 15
)rgan		$\begin{array}{c} \text{a. of Animals on Study} & 40 \\ \text{rade} & \underline{1 & 2 & 3 & 4} \\ \underline{\qquad} & (\%) & (\%) & (\%) & (\%) \\ \end{array}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\frac{1 2 3 4}{(\%) (\%) (\%) (\%)}$	$\frac{1}{(\%)} \begin{array}{c} 2 & 3 & 4 \\ (\%) & (\%) & (\%) & (\%) \\ \hline \end{array}$
(Endocrine sy	stem)				
adrenal	focal fatty change:cortex	$\begin{array}{cccc} <40> \\ 0 & 4 & 0 & 0 \\ (& 0) & (& 10) & (& 0) & (& 0) \end{array}$	<45> 0 5 0 0 (0) (11) (0) (0)	<41> 0 2 0 0 (0) (5) (0) (0)	<15> 1 1 0 0 (7) (7) (0) (0)
{Reproductive	system)				
uterus	hyperplasia:epithelium	<pre><40> 0 0 0 0 (0) (0) (0) (0) </pre>	$\langle 45 \rangle$ 1 0 0 0 (2) (0) (0) (0)	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
	hyperplasia:gland	0 0 0 0 (0) (0) (0) (0)	0 0 0 0 (0) (0) (0) (0)	1 0 0 0 (2)(0)(0)(0)	1 0 0 0 (7)(0)(0)(0)(0)
	cystic endometrial hyperplasia	0 0 0 0 (0) (0) (0) (0)	2 1 0 0 (4)(2)(0)(0)	0 0 0 0 (0) (0) (0) (0)	2 2 0 0* (13)(13)(0)(0)
nanmary gl	hyperplasia	<40> 0 0 0 0 (0) (0) (0) (0)	<45> 1 0 0 0 (2) (0) (0) (0)	<41> 2 0 1 0 (5) (0) (2) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
(Nervous syst	cem}				
orain	hemorrhage	<40> 0 0 0 0 (0) (0) (0) (0)	<pre> <45> 0 1 0 0 (0) (2) (0) (0)</pre>	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 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 : Severe te			

(HPT150)

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

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rgan	Findings	Group Name No. of Animals on Study Grade(%)	40 2	ontrol <u>3 4</u> (%) (%)	<u>1</u> (%)	45 2	0 ppm <u>3 4</u> %) (%)	<u> </u>	41 2) ppm <u>3 4</u> %) (%)	<u> </u>	90 ppm 15 <u>2 3 4</u> (%) (%) (9
lervous syste	2011}											
inal cord	gliosis	0	<40> 0 (0) (0 0 0) (0)	0 (0)	<45> 0 (0) (0 0 0) (0)	0 (0)	<41> 0 (0) (0 0 0) (0)	1 (7) (<15> 0 0 (0) (0) (0
ecial sense	e organs/appendage}											
•	cataract	2 (5)	<40> 2 (5) (0 0 0) (0)	1 (2)	<45> 3 (7) (0 0 0) (0)	0 (0)	<41> 2 (5) (0 0 0) (0)	0 (0) (<15> 1 0 7) (0) (
	retinal atrophy	35 (88)	1 (3)(4 0 10) (0)	41 (91)	0 (0) (4 0 9) (0)	39 (95)	0 (0) (20 5)(0)	12 (80) (0 1 0) (7) (
	keratitis	1 (3)	0 (0) (0 0 0) (0)	- 0 (0)	0 (0) (0 0 0) (0)	1 (2)	0 (0) (0 0 0) (0)	0 (0) (2 0 13) (0) (
	iritis	0 (0)	0 (0) (0 0 0) (0	1 (2)	0 (0) (0 0 0) (0)	0 (0)	0 (0) (0 0 0) (0)	0 (0) (0 0 0) (0) (
rder gl	degeneration	3 (8)	<40> 0 (0) (0 0 0) (0) (<u>2</u>)	<45> 1 (2) (0 0 0) (0)	2 (5)		0 0 0) (0)	0 (0) (<15> 0 0 0) (0) (

(HPT150)

BAIS4

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

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Organ	Findings	Group Name Control No. of Animals on Study 40 Grade 1 2 3 4 (%) (%) (%) (%) (%)	10 ppm 45 <u>1 2 3 4</u> (%) (%) (%) (%)	30 ppm 41 <u>1 2 3 4</u> (%) (%) (%) (%)	90 ppm 15 <u>1 2 3 4</u> (%) (%) (%) (%)
Special sense	organs/appendage}				
larder gl	inflammatory infiltration	<40> 0 0 0 0 (0) (0) (0) (0)	<45> 2 0 0 0 (4) (0) (0) (0)	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
	lymphocytic infiltration	3 0 0 0 (8)(0)(0)(0)	2 0 0 0 (4)(0)(0)(0)	5 0 0 0 (12)(0)(0)(0)	3 0 0 0 (20)(0)(0)(0)
	granulation	3 0 0 0 (8)(0)(0)(0)	4 0 0 0 (9)(0)(0)(0)	3 0 0 0 (7)(0)(0)(0)	1 0 0 0 (7)(0)(0)(0)
asolacr d	inflammation	<40> 0 1 0 0 (0) (3) (0) (0)	<45> 0 1 0 0 (0) (2) (0) (0)	<41> 0 0 0 0 (0) (0) (0) (0)	<15> 0 0 0 0 (0) (0) (0) (0)
Musculoskelet	al system}				
one	osteosclerosis	<40> 5 2 0 0 (13) (5) (0) (0)	<45> 1 1 0 0 (2) (2) (0) (0)	<41> 5 1 0 0 (12) (2) (0) (0)	<15> 2 0 0 0 (13) (0) (0) (0)

(HPT150)

BAIS4

APPENDIX M 1

NUMBER OF ANIMALS WITH TUMORS

AND NUMBER OF TUMORS-TIME RELATED : MALE

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

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

me-related Weeks	Items	Group Name	Control	10 ppm	30 ppm	90 mgg	
0 - 52	NO. OF EXAMINED ANIMALS		0	0	1	1	
	NO. OF ANIMALS WITH TUMORS		0	0	0	0	
	NO. OF ANIMALS WITH SINGLE TUMORS		Ő	õ	0	0	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	0	
	NO. OF BENIGN TUMORS		0	0	0	0	
	NO. OF MALIGNANT TUMORS		0	0	0	0	
	NO. OF TOTAL TUMORS		0	0	0	0	
53 - 78	NO. OF EXAMINED ANIMALS		0	2	3	6	
	NO. OF ANIMALS WITH TUMORS		0	2	2	6	
	NO. OF ANIMALS WITH SINGLE TUMORS		0	2	2	4	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	2	
	NO. OF BENIGN TUMORS		0	0	0	2	
	NO. OF MALIGNANT TUMORS		0	2	2	6	
	NO. OF TOTAL TUMORS		0	2	2	8	
79 - 104	NO. OF EXAMINED ANIMALS		12	10	8	32	
	NO. OF ANIMALS WITH TUMORS		11	10	7	31	
	NO. OF ANIMALS WITH SINGLE TUMORS		4	3	3	13	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		7	7	4	18	
	NO. OF BENIGN TUMORS		14	11	8	28	
	NO. OF MALIGNANT TUMORS		7	8	5	33	
	NO. OF TOTAL TUMORS	· · · · · · · · · · · · · · · · · · ·	21	19	13	61	
.05 - 106	NO. OF EXAMINED ANIMALS		38	38	38	11	
	NO. OF ANIMALS WITH TUMORS		38	38	38	11	
	NO. OF ANIMALS WITH SINGLE TUMORS		9	8	5	3	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		29	30	33	8	
	NO. OF BENIGN TUMORS		74	70	72	12	
	NO. OF MALIGNANT TUMORS NO. OF TOTAL TUMORS		9	16	27	10	
	NO. OF TOTAL TUMURD		83	86	99	22	

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

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STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1 SEX : MALE

me-related Weeks	Items	Group Name	Control	10 ppm	30 ppm	90 ppm
0 - 106	NO. OF EXAMINED ANIMALS		50	50	50	50
	NO. OF ANIMALS WITH TUMORS		49	50	47	48
	NO. OF ANIMALS WITH SINGLE TUMORS		13	13	10	20
	NO. OF ANIMALS WITH MULTIPLE TUMORS		36	37	37	28
	NO. OF BENIGN TUMORS		88	81	80	42
	NO. OF MALIGNANT TUMORS		16	26	34	49
	NO. OF TOTAL TUMORS		104	107	114	91

(HPT070)

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APPENDIX M 2

NUMBER OF ANIMALS WITH TUMORS

AND NUMBER OF TUMORS-TIME RELATED : FEMALE

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

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Time-related Weeks	Items Group Nam		Control	10 ppm	30 ppm	90 ppm	
0 - 52	NO. OF EXAMINED ANIMALS		0	0	0	0	
	NO. OF ANIMALS WITH TUMORS		<u>^</u>	_			
	NO. OF ANIMALS WITH SINGLE TUMORS		0	0	0	0	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	0	
			U	U	0	0	
	NO. OF BENIGN TUMORS		0	0	0	0	
	NO. OF MALIGNANT TUMORS		0	0	0	0	
	NO. OF TOTAL TUMORS		0	0	0	0	
53 - 78	NO. OF EXAMINED ANIMALS		3	0.	3	5	
	NO. OF ANIMALS WITH TUMORS		_			-	
	NO. OF ANIMALS WITH TOMORS		3	0	3	4	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		2	0	1	2	
	NO. OF MATRICES WITH MOLIFILE TOMORS		1	0	2	2	
	NO. OF BENIGN TUMORS		4	•			
	NO. OF MALIGNANT TUMORS		4 2	0	4	2	
	NO. OF TOTAL TUMORS		6	0	1 5	4 6	
						0	
79 - 104	NO. OF EXAMINED ANIMALS		7	5	б	30	
	NO. OF ANIMALS WITH TUMORS		7	F	<u>^</u>		
	NO. OF ANIMALS WITH SINGLE TUMORS		4	5	6	27	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		3	4	3 3	15	
			0	4	3	12	
	NO. OF BENIGN TUMORS		7	7	5	12	
	NO. OF MALICNANT TUMORS		4	3	4	31	
	NO. OF TOTAL TUMORS		11	10	9	43	
105 - 106	NO. OF EXAMINED ANIMALS	· · · · · · · · · · · · · · · · · · ·	40	45			
			10	40	41	15	
	NO. OF ANIMALS WITH TUMORS		26	34	32	15	
	NO. OF ANIMALS WITH SINGLE TUMORS		20	20	32 20	15	
	NO. OF ANIMALS WITH MULTIPLE TUMORS		6	14	20 12	9 6	
					10	U	
	NO. OF BENIGN TUMORS		25	40	40	12	
	NO. OF MALIGNANT TUMORS		8	11	7	12	
	NO. OF TOTAL TUMORS		33	51	47	24	

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

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PAGE: 4

Time-related Weeks	Items	Group Name	Control	10 ppm	30 ppm	90 ppm	
0 - 106	NO. OF EXAMINED ANIMALS		50	50	50	50	
	NO. OF ANIMALS WITH TIMORS NO. OF ANIMALS WITH SINGLE TUMORS NO. OF ANIMALS WITH MULTIPLE TUMORS		36 26 10	39 21 18	41 24 17	46 26 20	
	NO. OF BENIGN TUMORS NO. OF MALIGNANT TUMORS NO. OF TOTAL TUMORS		36 14 50	47 14 61	49 12 61	26 47 73	
(HPT070)		-					

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APPENDIX N 1

HISTOPATHOLOGICAL FINDINGS :

NEOPLASTIC LESIONS : MALE

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] REPORT TYPE : A1		HISTOPATHOLOGICAL FINDINGS : ALL ANIMALS (0-105W)	NEOPLASTIC LESIO	NS (SUMMARY)		
	MALE					PAGE: 1
Organ	Findings	Group Name No. of animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
{Integumentary	y system/appandage)					
skin/app	keratoacanthoma		<50> 2 (4%)	<50> 2 (4%)	<50> 3 (6%)	<50> 1 (2%)
	sebaceous adenoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
subcutis	fibroma		<50> 8 (16%)	<50> 4 (8%)	<50> 6 (12%)	<50> 0 (0%)
	leiomyoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	fibrosarcoma		2 (4%)	2 (4%)	0 (0%)	0 (0%)
{Respiratory	system)					
nasal cavit	squamous cell papilloma		<50> 0 (0%)	<50> 0 (0%)	<50> 0 (0%)	<50> 1 (2%)
	adenoma		0 (0%)	0 (0%)	5 (10%)	0 (0%)
	squamous cell carcinoma		0 (0%)	0 (0%)	0 (0%)	35 (70%)
	ethesioneuroepithelioma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
lung	bronchiolar—alveolar adenoma		<50> 5 (10%)	<50> 2 (4%)	<50> 1 (2%)	<50> 1 (2%)
	bronchiolar-alveolar carcinoma		1 (2%)	0 (0%)	0 (0%)	0 (0%)
{Hematopoieti	c system)					
spleen	histiocytic sarcoma		<50> 0 (0%)	<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)

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

b (c) b: Number of animals with neoplasm c: b / a * 100

Organ	Findings	Group Name No. of animals on Study		Control 50		10 ppm 50		30 ppm 50		90 ppm 50
{Hematopoietic	system)									
spleen	mononuclear cell leukemia		10	<50> (20%)	16	<50> (32%)	19	<50> (38%)		<50> (14%)
{Digestive sys	stem)									
oral cavity	squamous cell papilloma		0	<50> (0%)	1	<50> (2%)	0	<50> (0%)	0	<50> (0%)
tongue	squamous cell papilloma		1	<50> (2%)	0	<49> (0%)	0	<50> (0%)	0	<50> (0%)
stomach	squamous cell papilloma		0	<50> (0%)	0	<50> (0%)	1	<50> (2%)	1	<50> (2%)
large intes	adenocarcinoma		0	<50> (0%)	0	<50> (0%)	1	<50> (2%)	0	<50> (0%)
liver	hepatocellular adenoma		0	<50> (0%)	1	<50> (2%)	1	<50> (2%)	0	<50> (0%)
	histiocytic sarcoma		0	(0%)	0	(0%)	1	(2%)	0	(0%)
	hepatocellular carcinoma		0	(0%)	1	(2%)	1	(2%)	1	(2%)
pancreas	islet cell adenoma		2	<50> (4%)	3	<50> (6%)	3	<50> (6%)	1	<50> (2%)
{Urinary system	em}									
urin bladd	transitional cell papilloma		0	<50> (0%)	C	<50> (0%)	0	<50> (0%)	1	<50> (2%)
{Endocrine sy	stem)									
pituitary	adenoma		8	<50> (16%)	14	<50> (28%)	7	<50> (14%)	2	<50> (4%)

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

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

b (c) b: Number of animals with neoplasm c: b/a*100

(HPT085)

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PAGE : 2

)rgan	Findings	Group Name No. of animals on Study		Control 50		10 ppm 50		30 ppm 50		90 ppm 50
Endocrine s	ystem)									
hyroid	C-cell adenoma			<50> (14%)	4	<49> (8%)	7	<50> (14%)	4	<50> (8%)
	follicular adenoma		0	(0%)	0	(0%)	1	(2%)	0	(0%)
	C-cell carcinoma		1	(2%)	1	(2%)	1	(2%)	1	(2%)
	follicular adenocarcinoma		0	(0%)	0	(0%)	3	(6%)	0	(0%)
adrenal	pheochromocytoma			<50> (8%)	6	<50> (12%)	2	<50> (4%)	1	<50> (2%)
	pheochromocytoma:malignant		2	(4%)	1	(2%)	0	(0%)	1	(2%)
	ganglioneuroma:malignant		0	(0%)	0	(0%)	1	(2%)	0	(0%)
{Reproductiv	e system}									
testis	interstitial cell tumor	4		<50> (94%)	38	<50> (76%)	40	<50> (80%)	24	<50> (48%)
	rete testis adenoma		0	(0%)	0	(0%)	0	(0%)	1	(2%)
nammary gl	fibroadenoma			<50> (4%)	0	<50> (0%)	0	<50> (0%)	0	<50> (0%)
prep/cli gl	adenoma			<50> (2%)	1	<50> (2%)	1	<50> (2%)	3	<50> (6%)
{Nervous sys	tem}									
brain	meningioma:benign			<50> (0%)	0	<50> (0%)	. 1	<50> (2%)	0	<50> (0%)

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

b (c) b: Number of animals with neoplasm c: b/a*100

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

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PAGE : 3

REPORT TYPE : A SEX : N	A1 MALB									PAGE : 4
Organ	Findings	Group Name No. of animals on Study		Control 50		10 ppm 50		30 ppm 50		90 ppm 50
(Nervous system	m)									
brain	glioma		0	<50> (0%)	1	<50> (2%)	1	<50> (2%)	1	<50> (2%)
periph nerv	schwannoma:malignant		0	<50> (0%)	0	<50> (0%)	2	<50> (4%)	0	<50> (0%)
{Special sense	organs/appendage)									
Zymbal gl	Zmbal gland tumor:benign		0	<50> (0%)	2	<50> (4%)	0	<50> (0%)	0	<50> (0%)
{Musculoskelet	al system)									
bone	osteosarcoma		0	<50> (0%)	2	<50> (4%)	0	<50> (0%)	0	<50> (0%)
{Body cavities)									
mediastinum	sarcoma:NOS		0	<50> (0%)	0	<50> (0%)	0	. <50> (0%)	1	<50> (2%)
peritoneum	fibroma		0	<50> (0%)	1	<50> (2%)	1	<50> (2%)	0	<50> (0%)
	mesothelioma		0	(0%)	1	(2%)	3	(6%)	1	(2%)
retroperit	schwannoma:malignant		0	<50> (0%)	0	<50> (0%)	1	<50> (2%)	0	<50> (0%)
adipose	lipoma		1	<50> (2%)	1	<50> (2%)	0	<50> (0%)	0	<50> (0%)

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj]

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

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(HPT085)

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

b (c) c:b/a * 100

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APPENDIX N 2

HISTOPATHOLOGICAL FINDINGS :

NEOPLASTIC LESIONS : FEMALE

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

: FEMALE PAGE: 6 SEX 10 ppm 30 ppm 90 ppm Group Name Control Findings___ No. of animals on Study 50 50 50 50 Organ {Integumentary system/appandage} skin/app <50> <50> <50> <50> squamous cell carcinoma 1 (2%) 0 (0%) 0 (0%) 0 (0%) <50> <50> <50> <50> subcutis fibroma 0 (0%) 1 (2%) 0 (0%) 0 (0%) leiomyoma 1 (2%) 0 (0%) 0 (0%) 0 (0%) {Respiratory system} <50> <50> <50> <50> nasal cavit adenoma 1 (2%) 1 (2%) 2 (4%) 0 (0%) chondroma 0 (0%) 0 (0%) 1 (2%) 0 (0%) squamous cell carcinoma 0 (0%) 0 (0%) 0 (0%) 28 (56%) sarcoma:NOS 0 (0%) 0 (0%) 0 (0%) 1 (2%) adenosquamous carcinoma 0 (0%) 0 (0%) 0 (0%) 1 (2%) ethesioneuroepithelioma 0 (0%) 0 (0%) 0 (0%) 2 (4%) lung <50> <50> <50> <50> bronchiolar-alveolar adenoma 1 (2%) 2 (4%) 1 (2%) 1 (2%) {Hematopoietic system} spleen <50> <50> <49> <50> mononuclear cell leukemia 7 (14%) 8 (16%) 5 (10%) 13 (26%)

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

b (c) b: Number of animals with neoplasm c: b/a*100

(HPT085)

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REPORT TYPE : SEX :	A1 FEMALE								PAGE :
Organ		up Name of animals on Study	Control 50		10 ppm 50		30 ppm 50		90 ppm 50
{Digestive sys	stem}								
stomach	squamous cell papilloma	0	<50> (0%)	0	<50> (0%)	1	<50> (2%)	0	<50> (0%)
small intes	fibroma	0	<50> (0%)	1	<50> (2%)	0	<50> (0%)	0	<50> (0%)
large intes	adenocarcinoma	0	<50> (0%)	0	<50> (0%)	1	<50> (2%)	0	<50> (0%)
pancreas	islet cell adenoma	0	<50> (0%)	1	<50> (2%)	0	<50> (0%)	0	<50> (0%)
{Urinary syste	em}								
kidney	mesenchymoma	0	<50> (0%)	1	<50> (2%)	0	<50> (0%)	0	<50> (0%)
urin bladd	transitional cell papilloma	0	<50> (0%)	0	<50> (0%)	1	<50> (2%)	1	<50> (2%)
{Endocrine sys	stem}								
pituitary	adenoma	15	<50> (30%)	16	<50> (32%)	14	<50> (28%)	5	<50> (10%)
	adenocarcinoma	0	(0%)	. 1	(2%)	1	(2%)	0	(0%)
thyroid	C-cell adenoma	4	<50> (8%)	7	<50> (14%)	9	<50> (18%)	4	<50> (8%)
	follicular adenoma	0	(0%)	0	(0%)	2	(4%)	0	(0%)
	C-cell carcinoma	1	(2%)	0	(0%)	2	(4%)	0	(0%)

STUDY NO. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj]

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

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

b (c) b : Number of animals with neoplasm c : b / a * 100

(HPT085)

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

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REPORT TYPE : SEX :	A1 FEMALE					PAGE : 8
Organ	Group M Findings No. of	Name animals on Study	Control 50	10 ppm 50	30 ppm 50	90 mg 50
{Endocrine sy	vstem}					
adrenal	pheochromocytoma	1	<50> (2%)	<50> 1 (2%)	<50> 0 (0%)	<50> 1 (2%)
	cortical adenoma	0	(0%)	0 (0%)	1 (2%)	0 (0%)
{Reproductive	a system}					
ovary	granulosa-theca cell tumor	0	<50> (0%)	<50> 1 (2%)	<50> 1 (2%)	<50> 1 (2%)
uterus	adenoma	0	<50> (0%)	<50> 1 (2%)	<50> 0 (0%)	<50> 0 (0%)
	leiomyoma	1	(2%)	0 (0%)	1 (2%)	2 (4%)
	endometrial stromal polyp	7	(14%)	6 (12%)	6 (12%)	7 (14%)
	squamous cell carcinoma	0	(0%)	1 (2%)	0 (0%)	0 (0%)
	adenocarcinoma	0	(0%)	0 (0%)	1 (2%)	0 (0%)
	endometrial stromal sarcoma	2	(4%)	1 (2%)	2 (4%)	2 (4%)
mammary gl	adenoma	1	<50> (2%)	<50> 3 (6%)	<50> 1 (2%)	<50> 0 (0%)
	fibroma	0	(0%)	0 (0%)	0 (0%)	1 (2%)
	fibroadenoma	4	(8%)	5 (10%)	5 (10%)	1 (2%)

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

b (c) b : Number of animals with neoplasm c:b/a * 100

(HPT085)

BAIS4

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

PAGE: 9 Group Name Control 10 ppm 30 ppm 90 ppm Findings_ No. of animals on Study 50 50 50 Organ____ 50 {Reproductive system} mammary gl <50> <50> <50> <50> adenocarcinoma 0 (0%) 2 (4%) 0 (0%) 0 (0%) prep/cli gl <50> <50> <50> <50> adenoma 0 (0%) 0 (0%) 2 (4%) 1 (2%) {Nervous system} spinal cord <50> <50> <50> <50> glioma 1 (2%) 1 (2%) 0 (0%) 0 (0%) {Special sense organs/appendage} Zymbal gl <50> <50> <50> <50> Zmbal gland tumor:benign 0 (0%) 0 (0%) 1 (2%) 0 (0%) {Musculoskeletal system} bone <50> <50> <50> <50> 0 (0%) 0 (0%) 0 (0%) ostecma 1 (2%) vertebra <50> <50> <50> <50> chordoma:malignant 1 (2%) 0 (0%) 0 (0%) 0 (0%) {Body cavities} peritoneum <50> <50> <50> <50> sarcoma:NOS 1 (2%) 0 (0%) 0 (0%) 0 (0%)

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

b (c) b: Number of animals with neoplasm c: b/a \star 100

(HPT085)

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APPENDIX O 1

NEOPLASTIC LESIONS-INCIDENCE

AND STATISTICAL ANALYSIS : MALE

STUDY No. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

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Group Name	Control	10 ppm	30 ppm	90 ppm	
	SITE : skin/appendage				
Tumor rate	TUMOR : keratoacanthoma				
Overall rates(a)	2/50(4.0)	2/50(4.0)	3/50(6.0)	1/50(2.0)	
Adjusted rates(b)	5. 26	5. 26	7.89	4.00	
Terminal rates(c)	2/38(5.3)	2/38(5.3)	3/38(7.9)	0/11(0.0)	
Statistical analysis	2,00(0.0)	2,00(0.0)	0,00(1:0)	0,11(0.0)	
Peto test					
Standard method(d)	P =				
Prevalence method(d)	P = 0.3525				
Combined analysis(d)	P =				
Cochran-Armitage test(e)	P = 0.5351				
Fisher Exact test(e)		P = 0.6913	P = 0.5000	P = 0.5000	
	· · · · · · · · · · · · · · · · · · ·				
	SITE : subcutis TUMOR : fibroma				
Tumor rate					
Overall rates(a)	8/50(16.0)	4/50(8.0)	6/50(12.0)	0/50(0.0)	
Adjusted rates(b)	19.51	10. 53	13. 16	0. 0	
Terminal rates(c)	7/38(18.4)	4/38(10.5)	5/38(13.2)	0/11(0.0)	
Statistical analysis					
Peto test					
Standard method(d)	P = 0.2731				
Prevalence method(d)	P = 0.9671				
Combined analysis(d)	P = 0.9529				
Cochran-Armitage test(e)	P = 0.0098 **				
Fisher Exact test(e)		P = 0.1783	P = 0.3871	P = 0.0029**	
	SITE : subcutis				
	TUMOR : fibroma, fibrosarcoma				
Tumor rate	The second second second				
Overall rates(a)	10/50(20.0)	6/50(12.0)	6/50(12.0)	0/50(0.0)	
Adjusted rates(b)	20.00	13. 16	13. 16	0.0	
Terminal rates(c)	7/38(18.4)	5/38(13.2)	5/38(13.2)	0/11(0.0)	
Statistical analysis	.,	0,00(20.2)	0,00 (10.2)	V/11(V.V/	
Peto test					
Standard method(d)	P = 0.8122				
Prevalence method(d)	P = 0.9741				
Combined analysis(d)	P = 0.9869				
Cochran-Armitage test(e)	P = 0.0021 **				
Fisher Exact test(e)		P = 0.2070	P = 0.2070	P = 0.0006**	

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STUDY No. : 0437 ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj] SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : nasal cavity			
	TUMOR : adenoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	5/50(10.0)	0/50(0.0)
Adjusted rates(b)	0.0	0.0	13. 16	0.0
Terminal rates(c)	0/38(0.0)	0/38(0.0)	5/38(13.2)	0/11(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P =			
Prevalence method(d)	P = 0.1624			
Combined analysis(d)	P =			
Cochran-Armitage test(e)	P = 0.8712			
Fisher Exact test(e)		P = N. C.	P = 0.0281*	$\mathbf{P} = \mathbf{N}.\mathbf{C}.$
	SITE : nasal cavity			
	TUMOR : squamous cell carcin	oma		
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	0/50(0.0)	35/50(70.0)
Adjusted rates(b)	.0.0	0.0	0.0	50.00
Terminal rates(c)	0/38(0.0)	0/38(0.0)	0/38(0.0)	5/11(45.5)
Statistical analysis			0,00(0.0)	5/11(45.5)
Peto test				
Standard method(d)	P < 0.0001**?			
Prevalence method(d)	P < 0.0001 * *?			
Combined analysis(d)	P < 0.0001 * ≭?			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = N. C.	P = N.C.	P < 0.0001 * *
	SITE : nasal cavity			
`umor rate	TUMOR : squamous cell papille	oma, squamous cell carcinoma		
Overall rates(a)	0/50(0.0)	0/50(0.0)		
Adjusted rates (b)	0.0	0/50(0.0)	0/50(0.0)	36/50(72.0)
Terminal rates(c)	0/38(0.0)	0.0 0/38(0.0)	0.0	50.00
Statistical analysis	0,00(0.0)	0/30(0.0)	0/38(0.0)	5/11(45.5)
Peto test				
Standard method(d)	P < 0.0001 ∗ ∗?			
Prevalence method(d)	P < 0.0001**?			
Combined analysis(d)	P < 0.0001 **?			
Cochran-Armitage test(e)	P < 0.0001 **			
Fisher Exact test(e)		P = N. C.	$\mathbf{D} = \mathbf{N} \mathbf{C}$	
		I = N. O.	P = N. C.	P < 0.0001 * *

STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

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Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : lung			
	TUMOR : bronchiolar-alveolar ader	oma		
fumor rate Overall rates(a)				
Adjusted rates(b)	5/50(10.0)	2/50(4.0)	1/50(2.0)	1/50(2.0)
Terminal rates(c)	11.90 4/38(10.5)	5.26 2/38(5.3)	2.63	2.78
Statistical analysis	4/38(10.3)	2/38(5.3)	1/38(2.6)	0/11(0.0)
Peto test				
Standard method(d)	P =			
Prevalence method(d)	P = 0.8692			
Combined analysis(d)	P =			
Cochran-Armitage test(e)	P = 0.1362			
Fisher Exact test(e)		P = 0.2180	P = 0.1022	P = 0.1022
	SITE : lung TUMOR : bronchiolar-alveolar adem	oms bronchioler-alveoler consistent		
umor rate	Tomon · Micheniolai alveolai aden	ona, broneniotar arveotar carcinoma		
Overall rates(a)	6/50(12.0)	2/50(4.0)	1/50(2.0)	1/50(2.0)
Adjusted rates(b)	14.29	5. 26	2.63	2.78
Terminal rates(c)	5/38(13.2)	2/38(5.3)	1/38(2.6)	0/11(0.0)
tatistical analysis			-, (,	0,11(0.0)
Peto test				
Standard method(d)	P =			
Prevalence method(d)	P = 0.9092			
Combined analysis(d)	P =			
Cochran-Armitage test(e)	P = 0.0856			
Fisher Exact test(e)		P = 0.1343	P = 0.0559	P = 0.0559
	SITE : spleen			
	TUMOR : mononuclear cell leukemia			
umor rate				
Overall rates (a)	10/50(20.0)	16/50(32.0)	19/50(38.0)	7/50(14.0)
Adjusted rates(b)	18.42	30.77	42.11	30.00
Terminal rates(c)	7/38(18.4)	11/38(28.9)	16/38(42.1)	3/11(27.3)
tatistical analysis Pate test				
Peto test	D = 0.1100			
Peto test Standard method(d)	P = 0.1180 P = 0.1820			
Peto test Standard method(d) Prevalence method(d)	P = 0.1830			
Peto test Standard method(d) Prevalence method(d) Combined analysis(d)	P = 0.1830 P = 0.0729			
Peto test Standard method(d) Prevalence method(d)	P = 0.1830	P = 0. 1271	P = 0.0385 ∗	P = 0.2977

STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

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Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : pancreas			
m	TUMOR : islet cell adenoma			
Tumor rate				
Overall rates(a) Adjusted rates(b)	2/50(4.0)	3/50(6.0)	3/50(6.0)	1/50(2.0)
Terminal rates(c)	5. 26 2/38(5.3)	7.89	7.89	2.50
Statistical analysis	2/38(5.3)	3/38(7.9)	3/38(7.9)	0/11(0.0)
Peto test				
Standard method(d)	P =			
Prevalence method(d)	P = 0.4582			
Combined analysis(d)	P =			
Cochran-Armitage test(e)	P = 0.4202			
Fisher Exact test(e)		P = 0.5000	P = 0.5000	P = 0.5000
	SITE : pituitary gland TUMOR : adenoma			
Tumor rate				
Overall rates(a)	8/50(16.0)	14/50(28.0)	7/50(14.0)	2/50(4.0)
Adjusted rates(b)	18.42	26. 32	15.79	10.00
Terminal rates(c)	7/38(18.4)	10/38(26.3)	6/38(15.8)	1/11(9.1)
Statistical analysis				-//
Peto test				
Standard method(d)	P = 0.3914			
Prevalence method(d)	P = 0.8854			
Combined analysis(d)	P = 0.8215			
Cochran-Armitage test(e) Fisher Exact test(e)	P = 0.0075**	D 0 1105		
Fisher Exact test(e)		P = 0.1135	P = 0.5000	P = 0.0458*
	SITE : thyroid			
fumor rate	TUMOR : C-cell adenoma			
Overall rates(a)	7/50(14.0)	4 (40 (
Adjusted rates (b)	18. 42	4/49 (8. 2)	7/50(14.0)	4/50(8.0)
Terminal rates(c)	7/38(18.4)	8.51 3/37(8.1)	16.28 6/38(15.8)	9.52
Statistical analysis	.,	0/01(0.1)	0/00(15.8)	0/11(0.0)
Peto test				
Standard method(d)	P =			
Prevalence method(d)	P = 0.5544			
Combined analysis(d)	P =			
Cochran-Armitage test(e)	P = 0.4870			

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STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : thyroid			
(Constant)	TUMOR : follicular adenocarci	noma		
Tumor rate				
Overall rates(a)	0/50(0.0)	0/49(0.0)	3/50(6.0)	0/50(0.0)
Adjusted rates(b) Terminal rates(c)	0.0 0/38(0.0)	0.0	7.89	0. 0
Statistical analysis	0/38(0.0)	0/37(0.0)	3/38(7,9)	0/11(0.0)
Peto test				
Standard method(d)	P =			
Prevalence method(d)	P = 0.2050			
Combined analysis(d)	P =			
Cochran-Armitage test(e)	P = 0.8962			
Fisher Exact test(e)		P = N. C.	P = 0.1212	P = N. C.
	SITE : thyroid		₩ <u></u>	
m .	TUMOR : C-cell adenoma, C-cell	carcinoma		
Tumor rate				
Overall rates(a) Adjusted rates(b)	8/50(16.0)	5/49(10.2)	8/50(16.0)	5/50(10.0)
Terminal rates(c)	18. 42 7/38(18. 4)	10.64	18.60	9.52
Statistical analysis	(738(18.4)	3/37(8.1)	7/38(18.4)	0/11(0.0)
Peto test				
Standard method(d)	P = 0.1663			
Prevalence method(d)	P = 0.6139			
Combined analysis(d)	P = 0.4918			
Cochran-Armitage test(e)	P = 0.5161			
Fisher Exact test(e)		P = 0.2900	P = 0.6071	P = 0.9760
			1 - 0.0071	P = 0.2768
	SITE : thyroid			
N	TUMOR : follicular adenoma, fo	llicular adenocarcinoma		
Cumor rate				
Overall rates(a) Adjusted rates(b)	0/50(0.0)	0/49(0.0)	4/50(8.0)	0/50(0.0)
Terminal rates(c)	0.0 0/38(0.0)	0.0	10. 53	0. 0
Statistical analysis	0/30(0.0)	0/37(0.0)	4/38(10.5)	0/11(0.0)
Peto test				
Standard method(d)	P =			
Prevalence method(d)	P = 0.1842			
Combined analysis(d)	P =			
Cochran-Armitage test(e)	P = 0.8800			
Fisher Exact test(e)	·	P = N. C.	P = 0.0587	P = N.C.
HPT360A)				r = 10.5

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STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

Group Name	Control	10 ppm	30 ppm	90 ppm	
	SITE : adrenal gland				
T	TUMOR : pheochromocytoma				
Tumor rate Overall rates(a)	4/50 (8.0)				
Adjusted rates(b)	4/50(8.0) 10.53	6/50(12.0)	2/50(4.0)	1/50(2.0)	
Terminal rates(c)	4/38(10.5)	15.79 6/38(15.8)	4.76	3. 13	
Statistical analysis	1,00(10.0)	0/36(13.8)	1/38(2.6)	0/11(0.0)	
Peto test					
Standard method(d)	P =				
Prevalence method(d)	P = 0.8466				
Combined analysis(d)	P =				
Cochran-Armitage test(e)	P = 0.0808				
Fisher Exact test(e)		P = 0.3703	P = 0.3389	P = 0.1811	
······	SITE : adrenal gland TUMOR : pheochromocytoma, pheoch:	romocyt.oma:malienant			
fumor rate					
Overall rates(a)	6/50(12.0)	7/50(14,0)	2/50(4.0)	2/50(4.0)	
Adjusted rates(b)	13.16	15.79	4.76	3. 23	
Terminal rates(c)	5/38(13.2)	6/38(15.8)	1/38(2.6)	0/11(0.0)	
Statistical analysis				•, 11(0.0)	
Peto test					
Standard method(d)	P = 0.3217				
Prevalence method(d)	P = 0.8894				
Prevalence method(d) Combined analysis(d)	P = 0.8045				
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e)					
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e)	P = 0.8045	P = 0.5000	P = 0.1343	P = 0.1343	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e)	P = 0.8045 P = 0.0782	P = 0.5000	P = 0. 1343	P = 0.1343	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e)	P = 0.8045 P = 0.0782 SITE : testis	P = 0.5000	P = 0. 1343	P = 0.1343	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e)	P = 0.8045 P = 0.0782	P = 0.5000	P = 0. 1343	P = 0.1343	<u></u>
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e)	P = 0.8045 P = 0.0782 SITE : testis TUMOR : interstitial cell tumor				
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) umor rate Overall rates(a)	P = 0.8045 P = 0.0782 SITE : testis TUMOR : interstitial cell tumor 47/50(94.0)	38/50(76.0)	40/50(80.0)	24/50(48.0)	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) umor rate Overall rates(a) Adjusted rates(b)	P = 0.8045 P = 0.0782 SITE : testis TUMOR : interstitial cell tumor 47/50(94.0) 97.44	38/50(76.0) 86.84	40/50(80. 0) 94. 74	24/50 (48. 0) 100. 00	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e)	P = 0.8045 P = 0.0782 SITE : testis TUMOR : interstitial cell tumor 47/50(94.0)	38/50(76.0)	40/50(80.0)	24/50(48.0)	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) umor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) tatistical analysis	P = 0.8045 P = 0.0782 SITE : testis TUMOR : interstitial cell tumor 47/50(94.0) 97.44	38/50(76.0) 86.84	40/50(80. 0) 94. 74	24/50 (48. 0) 100. 00	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) umor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) tatistical analysis	P = 0.8045 P = 0.0782 SITE : testis TUMOR : interstitial cell tumor 47/50(94.0) 97.44	38/50(76.0) 86.84	40/50(80. 0) 94. 74	24/50 (48. 0) 100. 00	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) umor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) tatistical analysis Peto test Standard method(d) Prevalence method(d)	P = 0.8045 P = 0.0782 SITE : testis TUMOR : interstitial cell tumor 47/50(94.0) 97.44 37/38(97.4)	38/50(76.0) 86.84	40/50(80. 0) 94. 74	24/50 (48. 0) 100. 00	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) umor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) tatistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d)	P = 0.8045 P = 0.0782 SITE : testis TUMOR : interstitial cell tumor 47/50(94.0) 97.44 37/38(97.4) P =	38/50(76.0) 86.84	40/50(80. 0) 94. 74	24/50 (48. 0) 100. 00	
Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) 'umor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) tatistical analysis Peto test Standard method(d) Prevalence method(d)	P = 0.8045 P = 0.0782 SITE : testis TUMOR : interstitial cell tumor 47/50(94.0) 97.44 37/38(97.4) P = P = 0.3458	38/50(76.0) 86.84	40/50(80. 0) 94. 74	24/50 (48. 0) 100. 00	

STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] SEX : MALE

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

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Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : preputial/clitoral gland TUMOR : adenoma			
Tumor rate				
Overall rates(a)	1/50(2.0)	1/50(2.0)	1/50(2.0)	
Adjusted rates(b)	2.63	2, 63	2. 63	3/50(6.0) 4.76
Terminal rates(c)	1/38(2.6)	1/38(2.6)	1/38(2.6)	4.76
Statistical analysis		1,00(1.0)	1/30(2.0)	0/11(0.0)
Peto test				
Standard method(d)	P = 0.1077			
Prevalence method(d)	P = 0.1861			
Combined analysis(d)	P = 0.0710			
Cochran-Armitage test(e)	P = 0.1721			
Fisher Exact test(e)		P = 0.7525	P = 0.7525	P = 0.3087
	SITE : peritoneum		NA NA I I I I I I I I I I I I I I I I I	
	TUMOR : mesothelioma			
Tumor rate				
Overall rates(a)	0/50(0.0)	1/50(2.0)	3/50(6.0)	1/50(2,0)
Adjusted rates(b)	0. 0	2.63	7.89	7.69
Terminal rates(c)	0/38(0.0)	1/38(2.6)	3/38(7.9)	0/11(0.0)
Statistical analysis			e, ee (110)	0/11(0:0)
Peto test				
Standard method(d)	P =			
Prevalence method(d)	P = 0.0845			
Combined analysis(d)	P =			
	P =P = 0.7213	P = 0.5000		

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(a): Number of tumor-bearing animals/number of animals examined at the site.

(b): Kaplan-Meier 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

(c): The Cochran-Armitage and Fisher exact test compare directly the overall incidence rates.

?: The conditional probabilities of the largest and smallest possible out comes can not estimated or this P-value is beyond the estimated P-value.

----- : There is no data which should be statistical analysis.

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

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

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APPENDIX O 2

NEOPLASTIC LESIONS-INCIDENCE

AND STATISTICAL ANALYSIS : FEMALE

STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj]

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

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FEMALE SEX

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Group Name	Control	10 ppm	30 ppn	90 ppm	
	SITE : nasal cavity				
_	TUMOR : squamous cell carcine	oma			
fumor rate			0(50(0.0)	28/50 (56.0)	
Overall rates(a) Adjusted rates(b)	0/50(0.0) 0.0	0/50(0.0) 0.0	0/50(0.0) 0.0	28/50(58.0) 37.50	
Terminal rates(c)	0/40(0.0)	0/45(0.0)	0/41(0.0)	5/15(33.3)	
tatistical analysis	0/ 40 (0.0/	0/40(0.0/	0/11(0.0)	0/10(00.0)	
Peto test					
Standard method(d)	P < 0.0001**?				
Prevalence method(d)	P < 0.0001 * *?				
Combined analysis(d)	P < 0.0001**?				
Cochran-Armitage test(e)	P < 0.0001 * *				
Fisher Exact test(e)		P = N. C.	P = N. C.	P < 0,0001**	
	SITE : nasal cavity	11 .			
fumor rate	TUMOR : squamous cell papill	oma, squamous cell carcinoma			
Overall rates(a)	0/50(0.0)	0/50(0.0)	0/50(0.0)	28/50(56.0)	
	0/00(0.0)	0/00(0.0)	0/00(0.0/	20/00(00.0)	
	0.0	0.0	0.0	37 50	
Adjusted rates(b)	0.0	0.0	0.0 0/41(0.0)	37.50 5/15(33.3)	
Adjusted rates(b) Terminal rates(c)	0.0 0/40(0.0)	0.0 0/45(0.0)	0.0 0/41(0.0)	37.50 5/15(33.3)	
Adjusted rates(b) Terminal rates(c)					
Adjusted rates(b) Terminal rates(c) Statistical analysis					
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d)	0/40(0.0)				
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**?				
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e)	0/40(0.0) P < 0.0001**? P < 0.0001**?	0/45(0.0)	0/41(0.0)	5/15(33.3)	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**?				
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen	0/45(0.0) P = N.C.	0/41(0.0)	5/15(33.3)	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001**	0/45(0.0) P = N.C.	0/41(0.0)	5/15(33.3)	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen TUMOR : mononuclear cell leu	0/45(0.0) P = N.C.	0/41(0.0) P = N.C.	5/15(33.3) P < 0.0001**	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen TUMOR : mononuclear cell leu 7/50(14.0)	0/45(0.0) P = N.C. 1kemia 8/50(16.0)	0/41(0.0) P = N.C. 5/49(10.2)	5/15(33.3) P < 0.0001 * * 13/50(26.0)	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) fumor rate Overall rates(a) Adjusted rates(b)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen TUMOR : mononuclear cell leu 7/50(14.0) 12.50	0/45(0.0) P = N.C. ikemia 8/50(16.0) 15.56	0/41(0.0) P = N.C. 5/49(10.2) 10.00	5/15(33.3) P < 0.0001 ≭ * 13/50(26.0) 41.18	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) fumor rate Overall rates(a) Adjusted rates(b) Terminal rates(c)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen TUMOR : mononuclear cell leu 7/50(14.0)	0/45(0.0) P = N.C. 1kemia 8/50(16.0)	0/41(0.0) P = N.C. 5/49(10.2)	5/15(33.3) P < 0.0001 * * 13/50(26.0)	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) Fumor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) Statistical analysis	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen TUMOR : mononuclear cell leu 7/50(14.0) 12.50	0/45(0.0) P = N.C. ikemia 8/50(16.0) 15.56	0/41(0.0) P = N.C. 5/49(10.2) 10.00	5/15(33.3) P < 0.0001 ≭ * 13/50(26.0) 41.18	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) Numor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen TUMOR : mononuclear cell leu 7/50(14.0) 12.50 5/40(12.5)	0/45(0.0) P = N.C. ikemia 8/50(16.0) 15.56	0/41(0.0) P = N.C. 5/49(10.2) 10.00	5/15(33.3) P < 0.0001 ≭ * 13/50(26.0) 41.18	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) fumor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen TUMOR : mononuclear cell leu 7/50(14.0) 12.50 5/40(12.5) P = 0.1084	0/45(0.0) P = N.C. ikemia 8/50(16.0) 15.56	0/41(0.0) P = N.C. 5/49(10.2) 10.00	5/15(33.3) P < 0.0001 ≭ * 13/50(26.0) 41.18	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) fumor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen TUMOR : mononuclear cell leu 7/50(14.0) 12.50 5/40(12.5) P = 0.1084 P = 0.0050**	0/45(0.0) P = N.C. ikemia 8/50(16.0) 15.56	0/41(0.0) P = N.C. 5/49(10.2) 10.00	5/15(33.3) P < 0.0001 ≭ * 13/50(26.0) 41.18	
Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d) Prevalence method(d) Combined analysis(d) Cochran-Armitage test(e) Fisher Exact test(e) Tumor rate Overall rates(a) Adjusted rates(b) Terminal rates(c) Statistical analysis Peto test Standard method(d)	0/40(0.0) P < 0.0001**? P < 0.0001**? P < 0.0001**? P < 0.0001** SITE : spleen TUMOR : mononuclear cell leu 7/50(14.0) 12.50 5/40(12.5) P = 0.1084	0/45(0.0) P = N.C. ikemia 8/50(16.0) 15.56	0/41(0.0) P = N.C. 5/49(10.2) 10.00	5/15(33.3) P < 0.0001 ≭ * 13/50(26.0) 41.18	

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STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj]

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

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SEX : FEMALE

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Group Name	Control	10 ppm	30 mqq	90 maga 09	<u></u> ,
	SITE : pituitary gland				
m	TUMOR : adenoma				
Tumor rate	15/50/ 20 0)	16/50(32.0)	14/50/ 28 0)	5/50(10.0)	
Overall rates(a) Adjusted rates(b)	15/50(30.0) 25.58	29.79	14/50 (28. 0) 26. 83	5/50(10.0) 18.52	
Terminal rates(c)	10/40(25.0)	13/45(28.9)	11/41(26.8)	2/15(13.3)	
Statistical analysis	20, 20, 20, 0,	10, 10 (2000)		2, 20 (2010)	
Peto test					
Standard method(d)	P = 0.8906				
Prevalence method(d)	P = 0.9538				
Combined analysis(d)	P = 0.9815				
Cochran-Armitage test(e)	P = 0.0054 * *				
Fisher Exact test(e)		P = 0.5000	P = 0.5000	P = 0.0114*	
	SITE : pituitary gland				
—	TUMOR : adenoma, adenocarcinoma				
Tumor rate Overall rates(a)	15/50(30.0)	17/50(34.0)	15/50(30.0)		
Adjusted rates(b)	25. 58	31.91	15/50(30.0) 26.83	5/50(10.0) 18.52	
Terminal rates(c)	10/40 (25. 0)	14/45(31.1)	11/41 (26.8)	2/15(13.3)	
Statistical analysis	10/40 (20.0)	11/ 10 (51. 1/	11/41 (20.0)	2/10(10.0)	
Peto test					
Standard method(d)	P = 0.8717				
Prevalence method(d)	P = 0.9601				
Combined analysis(d)	P = 0.9828				
Cochran-Armitage test(e)	P = 0.0042**				
Fisher Exact test(e)	· · · · · · · · · · · · · · · · · · ·	P = 0.4152	P = 0.5862	P = 0.0114*	
	SITE : thyroid				
	TUMOR : C-cell adenoma				
Tumor rate					
Overall rates(a)	4/50(8.0)	7/50(14.0)	9/50(18.0)	4/50(8.0)	
Adjusted rates(b)	8.89	14.00	20.00	13. 33	
Terminal rates(c)	2/40(5.0)	6/45(13.3)	8/41(19.5)	2/15(13.3)	
Statistical analysis					
Peto test Standard method(d)	P =				
Prevalence method(d)	P =P = 0.5749				
Combined analysis(d)	P =				
	P = 0.6180				
Cochran-Armitage test(e)					

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STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] SEX

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

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: FEMALE

Group Name	Control	10 ppm	30 mgg	90 ppm	
	SITE : thyroid				
_	TUMOR : C-cell adenoma, C-cel	1 carcinoma			
Tumor rate		7(50(14.0)	11/50(22.0)	4/50/ 0.0	
Overall rates(a) Adjusted rates(b)	5/50(10.0) 11.11	7/50(14.0) 14.00	24. 44	4/50(8.0) 13.33	
Terminal rates(c)	3/40(7.5)	6/45(13.3)	10/41 (24. 4)	2/15(13.3)	
Statistical analysis	, 20 (100)	0, 10 (1000)		2, 20 (2000)	
Peto test					
Standard method(d)	P =				
Prevalence method(d)	P = 0.6298				
Combined analysis(d)	P =				
Cochran-Armitage test(e)	P = 0.4861	D 0.0700	D 0.0055	B 0 5000	
Fisher Exact test(e)		P = 0.3798	P = 0.0857	P = 0.5000	
	SITE : uterus				
	TUMOR : endometrial stromal	polyp			
Tumor rate	- / /				
Overall rates(a)	7/50(14.0)	6/50(12.0)	6/50(12.0)	7/50(14.0)	
Adjusted rates(b)	14.00	13. 33	14.63	20.00	
Terminal rates(c) Statistical analysis	5/40(12.5)	6/45(13.3)	6/41(14.6)	3/15(20.0)	
Peto test					
Standard method(d)	P =				
Prevalence method(d)	P = 0.2599				
Combined analysis(d)	P =				
Cochran-Armitage test(e)	P = 0.8803				
Fisher Exact test(e)		P = 0.5000	P = 0.5000	P = 0.6129	
	SITE : mammary gland				
	TUMOR : adenoma				
Tumor rate	•				
Overall rates(a)	1/50(2.0)	3/50(6.0)	1/50(2.0)	0/50(0.0)	
Adjusted rates(b)	2. 27	6.38	2. 38	0.0	
Terminal rates(c)	0/40(0.0)	2/45(4.4)	0/41(0.0)	0/15(0.0)	
Statistical analysis					
Peto test	D -				
Standard method(d) Prevalence method(d)	P =				
Combined analysis(d)	P = 0.8551 P =				
Cochran-Armitage test(e)	P = 0.1836				

STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj]

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

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SEX : FEMALE

PAGE: 12

Group Name	Control	10 ppm	30 ppm	90 ppm	
	SITE : mammary gland TUMOR : fibroadenoma				
Tumor rate	TOMOR · TIDI Gadenonia				
Overall rates(a)	4/50(8.0)	5/50(10.0)	5/50(10.0)	1/50(2.0)	
Adjusted rates(b)	10.00	10. 42	10.20	4. 55	
Terminal rates(c)	4/40(10.0)	4/45(8.9)	4/41(9.8)	0/15(0.0)	
Statistical analysis					
Peto test					
Standard method(d)	P =				
Prevalence method(d)	P = 0.8358				
Combined analysis(d)	P =				
Cochran-Armitage test(e)	P = 0.1288				
Fisher Exact test(e)		P = 0.5000	P = 0.5000	P = 0.1811	
	SITE : mammary gland				
	TUMOR : adenoma, fibroma, fibro	adenoma			
Tumor rate					
Overall rates(a)	5/50(10.0)	8/50(16.0)	6/50(12.0)	2/50(4.0)	
Adjusted rates(b)	11.36	16.67	12.24	4. 55	
Terminal rates(c)	4/40(10.0)	6/45(13.3)	4/41(9.8)	0/15(0.0)	
Statistical analysis					
Peto test					
Standard method(d)	P =				
Prevalence method(d)	P = 0.9177				
Combined analysis(d)	P =				
Cochran-Armitage test(e)	P = 0.1091				
Fisher Exact test(e)		P = 0.2768	P = 0.5000	P = 0.2180	

(HPT360A)

BAIS4

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS

STUDY No. : 0437 ANIMAL : RAT F344/DuCr1Cr1j[F344/DuCrj] SEX : FEMALE

Group Name	Control	10 mgg	30 ppm	90 ppm	
	SITE : mammary gland				
m	TUMOR : adenoma, adenocarcin	oma, fibroma, fibroadenoma			
Tumor rate					
Overall rates(a)	5/50(10.0)	10/50(20.0)	6/50(12.0)	2/50(4.0)	
Adjusted rates(b)	11.36	19.15	12. 24	4. 55	
Terminal rates(c)	4/40(10.0)	7/45(15.6)	4/41 (9.8)	0/15(0.0)	
Statistical analysis					
Peto test					
Standard method(d)	P = 0.4769				
Prevalence method(d)	P = 0.9316				
Combined analysis(d)	P = 0.9395				
Cochran-Armitage test(e)	P = 0.0679				
	r = 0.0019	B 0 1010	D 0 5000	D 0 0100	
Fisher Exact test(e)		P = 0.1312	P = 0.5000	P = 0.2180	

(HPT360A)

(a): Number of tumor-bearing animals/number of animals examined at the site.

(b): Kaplan-Meier estimated tumor incidence at the end of the study after adjusting for intercurrent mortality.

(c): Observed tumor incidence at terminal kill.

(d): Beneath the control incidence are the P-values associated with the trend test.

Standard method : Death analysis

Prevalence method : Incidental tumor test

Combined analysis : Death analysis + Incidental tumor test

(e): The Cochran-Armitage and Fisher exact test compare directly the overall incidence rates.

? : The conditional probabilities of the largest and smallest possible out comes can not estimated or this P-value is beyond the estimated P-value.

----- : There is no data which should be statistical analysis.

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

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

BAIS4

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APPENDIX P 1

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

MALE : ALL ANIMALS

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

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	Ria Jiana	Group Name No. of Animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
)rgan	Findings	······································	<u> </u>			
[Integumentary	system/appandage}					
skin/app	leukemic cell infiltration		<50> 0	<50> 1	<50> 0	<50> 0
{Respiratory s	ystem)					
trachea	metastasis:thyroid tumor		<50> 1	<50> 0	<50> 0	<50> 0
ung	leukemic cell infiltration		<50> 4	<50> 4	<50> 4	<50> 5
	metastasis:liver tumor		0	0	1	0
	metastasis:thyroid tumor		1	0	1	0
	metastasis:subcutis tumor		0	2	0	0
	metastasis:bone tumor		0	1	0	0
	metastasis:nasal tumor		0	0	0	2
	metastasis:mediastinum tumor		0	0	0	1
(Hematopoietio	c system}					
oone marrow	leukemic cell infiltration		<50> 2	<50> 1	<50> 1	<50> 2
	metastasis:liver tumor		0	0	1	0
	metastasis:spleen tumor		0	1	0	0
lymph node	leukemic cell infiltration		<50> 3	<50> 3	<50> 1	<50> 0

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

0	D: 14	Group Name No. of Animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
Organ	Findings	······································				
(Hematopoieti	c system)					
lymph node	metastasis:spleen tumor		<50> 0	<50> 1	<50> 0	<50> 0
	metastasis:nasal tumor		0	0	0	3
{Circulatory	system)					
heart	leukemic cell infiltration		<50> 1	<50> 0	<50> 0	<50> 0
{Digestive sy	/stem)					
stomach	leukemic cell infiltration		<50> 0	<50> 0	<50> 1	<50> 0
liver	leukemic cell infiltration		<50> 4	<50> 5	<50> 6	<50> 4
	metastasis:bone tumor		0	1	0	0
pancreas	leukemic cell infiltration		<50> 1	<50> 1	<50> 1	<50> 0
{Urinary syst	tem}					
kidney	leukemic cell infiltration		<50> 2	<50> 2	<50> 1	<50> 0
urin bladd	leukemic cell infiltration		<50> 0	<50> 0	<50> 1	<50> 0
{Endocrine sy	ystem)					
pituitary	leukemic cell infiltration		<50> 0	<50> 1	<50> 1	<50> 0

b b : Number of animals with lesion

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

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Organ		Group Name Control No. of Animals on Study 50	10 ppm 50	30 ppm 50	90 ppm 50
{Endocrine sys	stem}				
adrenal	leukemic cell infiltration	<50> 0	<50> 1	<50> 1	<50> 0
{Reproductive	system}				
prostate	leukemic cell infiltration	<50> 1	<50> 1	<50> 0	<50> 0
{Nervous syste					
brain	leukemic cell infiltration	<50> 2	<50> 2	<50> 2	<50> 2
	metastasis:nasal tumor	0	0	0	2
spinal cord	leukemic cell infiltration	<50> 2	<50> 0	<50> 0	<50> 0
{Special sense	e organs/appendage)				
Harder gl	metastasis:nasal tumor	<50> 0	<50> 0	<50> 0	<50> 1
<a>b	a : Number of animals examined at the si b : Number of animals with lesion	te		· · · · · · · · · · · · · · · · · · ·	

(JPT150)

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APPENDIX P 2

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

MALE : DEAD AND MORIBUND ANIMALS

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

PAGE : 1

		Group Name	Control	10 ppm	30 ppm	mqq 09
Organ	Findings	No. of Animals on Study	12	12	12	39
(,	. /					
	y system/appandage}					
kin/app	leukemic cell infiltration		<12> 0	<12> 1	<12> 0	<39> 0
Respiratory	system}					
rachea	metastasis:thyroid tumor		<12> 1	<12> 0	<12> 0	<39> 0
lung			<12>	<12>	<12>	<39>
3	leukemic cell infiltration		3	3	3	4
	metastasis:thyroid tumor		1	0	0	0
	metastasis:subcutis tumor		0	1	0	0
	metastasis:nasal tumor		0	0	0	2
	metastasis:mediastinum tumor		0	0	0	1
(Hematopoieti	ic system}					
one marrow	1		<12>	<12>	<12>	<39>
	leukemic cell infiltration		2	1	1	2
	metastasis:spleen tumor		0	1	0	0
lymph node	leukemic cell infiltration		<12> 2	<12> 1	<12> 0	<39> 0
	metastasis:spleen tumor		0	1	0	0
	metastasis:nasal tumor		0	0	0	3
{Circulatory	system}					
heart	leukemic cell infiltration		<12> 1	<12> 0	<12> 0	<39> 0

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

b b : Number of animals with lesion

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

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		Group Name No. of Animals on Study	Control 12	10 ppm 12	30 ppm 12	90 ppm 39
Organ	Findings	No. Of Antwars on Study	12	12	12	35
		·				
{Digestive s	ystem)					
stomach			<12>	<12>	<12>	<39>
	leukemic cell infiltration		0	0	1	0
liver			<12>	<12>	<12>	<39>
	leukemic cell infiltration		3	4	3	3
pancreas			<12>	<12>	<12>	<39>
	leukemic cell infiltration		I	1	1	0
{Urinary sys	tem}					
kidney			<12>	<12>	<12>	<39>
,	leukemic cell infiltration		2	2	1	0
urin bladd			<12>	<12>	<12>	<39>
	leukemic cell infiltration		0	0	1	0
{Endocrine s	ystem}					
pituitary			<12>	<12>	<12>	<39>
- *	leukemic cell infiltration		0	0	1	0
adrenal			<12>	<12>	<12>	<39>
	leukemic cell infiltration		0	1	1	0
{Reproductiv	re system)					
prostate			<12>	<12>	<12>	<39>
	leukemic cell infiltration		1	1	0	0
{Nervous sys	tem}					
brain			<12>	<12>	<12>	<39>
	leukemic cell infiltration		2	2	2	2

b b : Number of animals with lesion

(JPT150)

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

12

2	10	ppm	30 12	mqq C	39	90	ppm

Organ	Findings		10	15	
				<u> </u>	
Nervous syste	em)				
brain	metastasis:nasal tumor	<12> 0	<12> 0	<12> 0	<39> 2
spinal cord	leukemic cell infiltration	<12> 2	<12> 0	<12> 0	<39> 0
{Special sense	e organs/appendage)				
Harder gl	metastasis:nasal tumor	<12> 0	<12> 0	<12> 0	<39> 1
<a>> b	a : Number of animals examined at the si b : Number of animals with lesion	te			· · · · · · · · · · · · · · · · · · ·

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Control

12

Group Name

No. of Animals on Study

(JPT150)

BAIS4

APPENDIX P 3

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

MALE : SACRIFICED ANIMALS

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

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rgan	Findings	Group Name No. of Animals on Study	Control 38	10 ppm 38	30 ppm 38	90 ppm 11
Respiratory	system}					
ung	leukemic cell infiltration		<38> 1	<38> 1	<38> 1	<11> 1
	metastasis:liver tumor		0	0	1	0
	metastasis:thyroid tumor		0	0	1	0
	metastasis:subcutis tumor		0	1	0	0
	metastasis:bone tumor		0	1	0	0
Hematopoieti	c system)					
one marrow	metastasis:liver tumor		<38> 0	<38> 0	<38> 1	<11> 0
ymph node	leukemic cell infiltration		<38> 1	<38> 2	<38> 1	<11> 0
Digestive sy	stem)					
iver	leukemic cell infiltration		<38> 1	<38> 1	<38> 3	<11> 1
	metastasis:bone tumor		0	1	0	0
Endocrine sy	rstem)					
oituitary	leukemic cell infiltration		<38> 0	<38> 1	<38> 0	<11> 0
(a> b	a : Number of animals examined at th b : Number of animals with lesion	le site			·····	

(JPT150)

APPENDIX P 4

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

FEMALE : ALL ANIMALS

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

-_____

		Group Name	Control	10 ppm	30 ppm	90 ppm
gan	Findings	No. of Animals on Study	50	50 FD	50 ⁵⁰ 50	50 50
					<u> </u>	
Respiratory	system)					
arynx	metastasis:vertebra tumor		<50> 1	<50> 0	<50> 0	<50> 0
Ing	leukemic cell infiltration		<50> 3	<50> 4	<50> 4	<50> 5
	metastasis:uterus tumor		0	1	0	0
	metastasis:mammary gland tumor		0	1	0	0
	metastasis:vertebra tumor		1	0	0	0
lematopoiet	ic system)					
one marrow	leukemic cell infiltration		<50> 0	<50> 0	<50> 1	<50> 3
ymph node	leukemic cell infiltration		<50> 0	<50> 2	<50> 0	<50> 5
	metastasis:vertebra tumor		1	0	0	0
	metastasis:skin/appendage tumor		1	0	0	0
	metastasis:large intestine tumor		0	0	1	0
hymus	metastasis:vertebra tumor		<50> 1	<50> 0	<50> 0	<50> 0
spleen	metastasis:peritoneum tumor		<50> 1	<50> 0	<50> 0	<50> 0
Circulatory	system}					
neart	leukemic cell infiltration		<50> 0	<50> 0	<50> 1	<50> 1

b : Number of animals with lesion

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

lrgan	Findings	Group Name No. of Animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
						<u> </u>
Digestive sy	stem}					
iver	leukemic cell infiltration		<50> 4	<50> 6	<50> 4	<50> 6
	metastasis:uterus tumor		0	1	0	0
	metastasis:large intestine tumor		0	0	1	0
ancreas	leukemic cell infiltration		<50> 0	<50> 0 .	<50> 0	<50> 1
	metastasis:uterus tumor		0	1	0	0
Urinary syst	em}					
idney	leukemic cell infiltration		<50> 0	<50> 0	<50> 1	<50> 0
Endocrine sy	stem)	· .				
ituitary	leukemic cell infiltration		<50> 0	<50> 1	<50> 0	<50> 3
hyroid	metastasis:vertebra tumor		<50> 1	<50> 0	<50> 0	<50> 0
drenal	leukemic cell infiltration		<50> 0	<50> 1	<50> 0	<50> 2
Reproductive	; system}					
vary	metastasis:uterus tumor		<50> 0	<50> 1	<50> 0	<50> 0

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

		Group Name No. of Animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
rgan	Findings					······································
{Reproductive	system}					
ovary	metastasis:large intestine tumor		<50> 0	<50> 0	<50> 1	<50> 0
{Nervous syst	em}					
brain	leukemic cell infiltration		<50> 0	<50> 0	<50> 1	<50> 0
	metastasis:pituitary tumor		0	1	1	0
	metastasis:nasal tumor		0	0	0	1
	metastasis:vertebra tumor		1	0	0	0
spinal cord	metastasis:vertebra tumor		<50> 1	<50> 0	<50> 0	<50> 0
{Special sens	e organs/appendage}					
еуе	metastasis:skin/appendage tumor		<50> 1	<50> 0	<50> 0	<50> 0
Harder gl	metastasis:nasal tumor		<50> 0	<50> 0	<50> 0	<50> 1
{Body cavitie	s}					
peritoneum	metastasis:uterus tumor		<50> 1	<50> 0	<50> 0	<50> 0
retroperit	metastasis:uterus tumor		<50> 0	<50> 1	<50> 0	<50> 0

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

SEX :	FEMALE					PAGE :
Organ	Findings	Group Name No. of Animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
{Body cavitie	es)					
retroperit	metastasis:large intestine tumor		<50> 0	<50> 0	<50> 1	<50> 0
<a>b	a : Number of animals examined at th b : Number of animals with lesion	ne site				
(IDT150)			 	<u></u>		DAT

(JPT150)

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APPENDIX P 5

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

FEMALE : DEAD AND MORIBUND ANIMALS

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

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rgan	Findings	Group Name No. of Animals on Study	Control 10	10 ppm 5	30 ppm 9	90 ppm 35
espiratory						
espiratory	system					
rynx	metastasis:vertebra tumor		<10> 1	< 5> 0	< 9> 0	<35> 0
ng	leukemic cell infiltration		<10> 2	< 5> 1	< 9> 1	<35> 4
	metastasis:uterus tumor		0	1	0	0
	metastasis:mammary gland tumor		0	1	0	0
	metastasis:vertebra tumor		1	0	0	0
ematopoieti	c system)					
ne marrow	leukemic cell infiltration		<10> 0	< 5> 0	< 9> 1	<35> 3
mph node	leukemic cell infiltration		<10> 0	< 5> 1	< 9> 0	<35> 3
	metastasis:vertebra tumor		1	0	0	0
	metastasis:skin/appendage tumor		1	0	0	0
	metastasis:large intestine tumor		0	0	1	0
1 ymu s	metastasis:vertebra tumor	·	<10> 1	< 5> 0	< 9> 0	<35> 0
Circulatory	system)					
eart	leukemic cell infiltration		<10> 0	< 5>0	< 9> 0	<35> 1
a > b	a : Number of animals examined at t b : Number of animals with lesion	he site		<u> </u>	· · · · · · · · · · · · · · · · · · ·	

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

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rgan	Findings	Group Name No. of Animals on Study	Control 10	10 ppm 5	30 ppm 9	90 ppm 35
	· ····································		<u> </u>	· .		
Digestive s	system}					
ver	leukemic cell infiltration		<10> 1	< 5> 1	< 9> 1	<35> 5
	metastasis:uterus tumor		0	1	0	0
	metastasis:large intestine tumor		0	0	1	0
ancreas	leukemic cell infiltration		<10> 0	< 5> 0	< 9>	<35> 1
	metastasis:uterus tumor		0	1	0	0
Jrinary sys	stem}					
dney	leukemic cell infiltration		<10> 0	< 5> 0	< 9> 1	<35> 0
Endocrine :	system)					
ituitary	leukemic cell infiltration		<10> 0	< 5> 0	< 9> 0	<35> 3
nyroid	metastasis:vertebra tumor		<10> 1	< 5> 0	< 9> 0	<35> 0
lrenal	leukemic cell infiltration		<10> 0	< 5> 0	< 9> 0	<35> 2
Reproducti	ve system}					
vary	metastasis:uterus tumor		<10> 0	< 5> 1	< 9> 0	<35> 0
a> b	a : Number of animals examined at t b : Number of animals with lesion	he site			- .	

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

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SEX :	FEMALE			<u>.</u>		PAGE
)rgan		Group Name No. of Animals on Study	Control 10	10 ppm 5	30 ppm 9	90 ppm 35
	· · · · · · · · · · · · · · · · · · ·					
(Reproductive	system}					
ovary	metastasis:large intestine tumor		<10> 0	< 5> 0	< 9> 1	<35> 0
{Nervous syste	em}					
orain	leukemic cell infiltration		<10> 0	< 5> 0	< 9> 1	<35> 0
	metastasis:pituitary tumor		0	0	1	0
	metastasis:nasal tumor		0	0	0	1
	metastasis:vertebra tumor		1	0	0	0
pinal cord	metastasis:vertebra tumor		<10> 1	< 5> 0	< 9> 0	<35> 0
{Special sense	e organs/appendage}					
еуе	metastasis:skin/appendage tumor		<10> 1	< 5> 0	< 9> 0	<35> 0
Harder gl	metastasis:nasal tumor		<10> 0	< 5> 0	< 9> 0	<35> 1
{Body cavities	s)					
retroperit	metastasis:uterus tumor		<10> 0	< 5> 1	< 9> 0	<35> 0
	metastasis:large intestine tumor		0	0	1	0
<a>b	a : Number of animals examined at the si b : Number of animals with lesion	te	· <u>-</u> · · · · · · · · · · · · · · · · · · ·			<u> </u>

(JPT150)

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APPENDIX P 6

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

FEMALE : SACRIFICED ANIMALS

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

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		Group Name	Control	10 ppm	30 ppm	90 ppm
rgan	Findings	No. of Animals on Study	40	45	41	15
Respiratory	system)					
ing	leukemic cell infiltration		<40> 1	<45> 3	<41> 3	<15> 1
Hematopoiet	ic system)					
ymph node	leukemic cell infiltration		<40> 0	<45> 1	<41> 0	<15> 2
pleen	metastasis:peritoneum tumor		<40> 1	<45> 0	<41> 0	<15> 0
Circulatory	y system)					
əart	leukemic cell infiltration		<40> 0	<45> 0	< 41 > 1	<15> 0
)igestive s	system)					
iver	leukemic cell infiltration		<40> 3	<45> 5	<41> 3	<15> 1
èndocrine s	system}					
ituitary	leukemic cell infiltration		<40> 0	<45> 1	<41> 0	<15> 0
lrenal	leukemic cell infiltration		<40> 0	<45> 1	<41> 0	<15> 0
Nervous sys	stem}					
rain	metastasis:pituitary tumor		<40> 0	<45> 1	<41> 0	<15> 0

<a>b b : Number of animals with lesion

(JPT150)

STUDY NO. : 0437 : RAT F344/DuCrlCrlj[F344/DuCrj] ANIMAL REPORT TYPE : A1 SEX : FEMALE

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

SEX : FEMALE					PAGE : 3
Organ Findings	Group Name No. of Animals on Study	Control 40	10 ppm 45	30 ppm 41	90 ppm 15
{Body cavities}		· · ·	· · · · · · · · · · · · · · · · · · ·		<u> </u>
		(10)			(15)
peritoneum metastasis:uterus tumor		<40> 1	<45> 0	<41> 0	<15> 0

	metastasis:uterus tumor	1	0	0
<a>b	a : Number of animals examined at the site b : Number of animals with lesion			

(JPT150)

BAIS4

APPENDIX Q

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-YEAR INHALATION STUDY OF BUTYL 2,3-EPOXYPROPYL ETHER

METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY IN THE 2-YEAR INHALATION STUDY OF BUTYL 2,3-EPOXYPROPYL ETHER

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 \times MCV/10 ^{10}	%	1
Mean corpuscular volume(MCV)	Light scattering method ¹⁾	fL	1
Mean corpuscular hemoglobin(MCH)	Calculated as Hgb/RBC $\times 10^{10}$	pg	1
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as Hgb/Hct $ imes 100^{10}$	g/dL	1
Platelet	Light scattering method ¹⁾	$ imes 10^{3}/\mu$ L	0
White blood cell(WBC)	Light scattering method $^{\mathfrak{d}}$	$ imes 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·COD·POD method ³⁾	mg/dL	0
Triglyceride	$LPL \cdot GK \cdot GPO \cdot POD method^{3}$	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
Creatinine	Jaffe method ³⁾	mg/dL	1
Sodium	Ion selective electrode method ³⁾	mEq/L	0
Potassium	Ion selective electrode method ³⁾	mEq/L	1
Chloride	Ion selective electrode method ³⁾	mEq/L	0
Calcium	OCPC method ³⁾	mg/dL	1
Inorganic phosphorus	PNP·XOD·POD method ³⁾	mg/dL	1

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

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

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

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