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

APPENDICES

APPENDICES

APPENDICES (CONTINUED)

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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

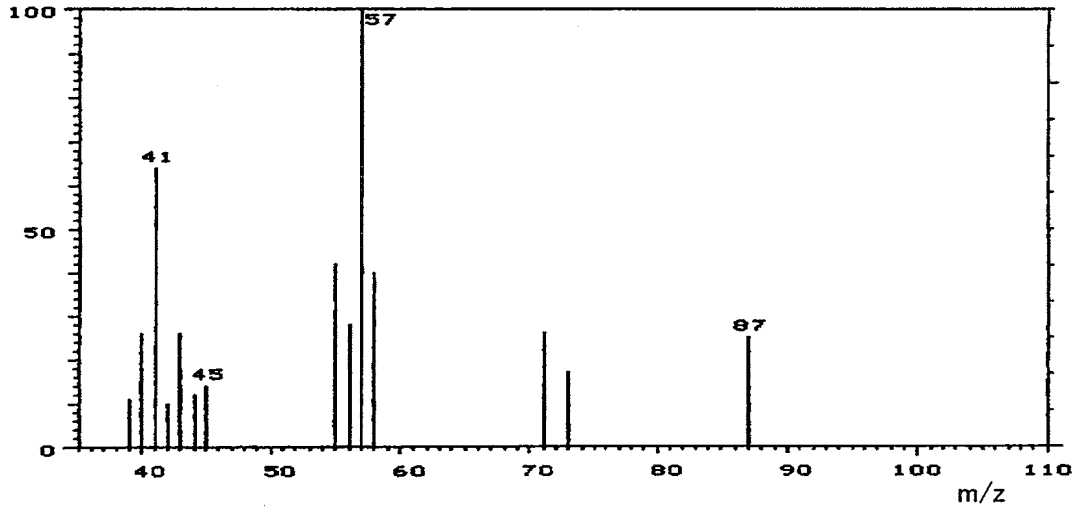
1. Spectral Data

Mass Spectrometry

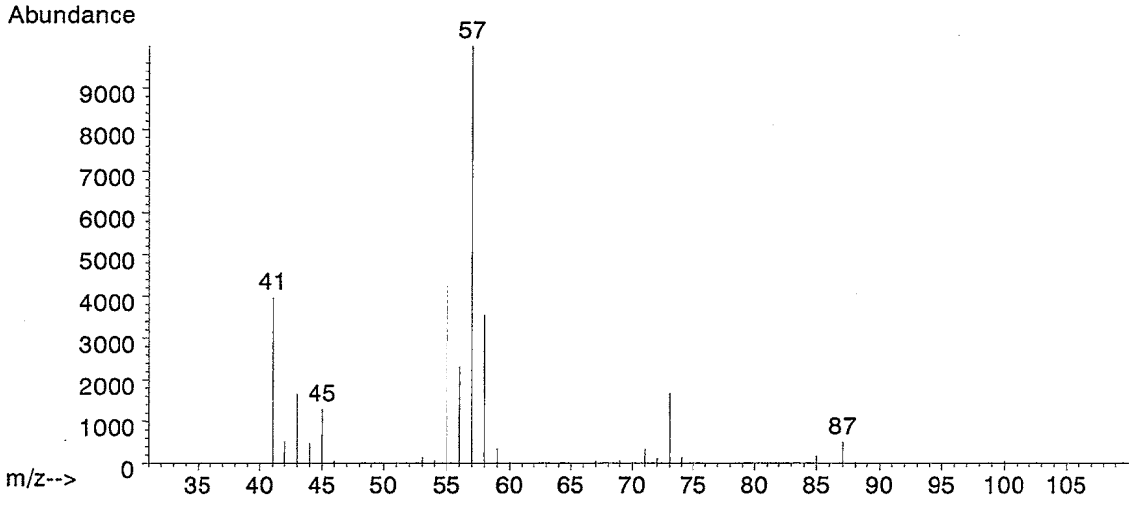
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Result: The mass spectrum was consistent with literature spectrum.

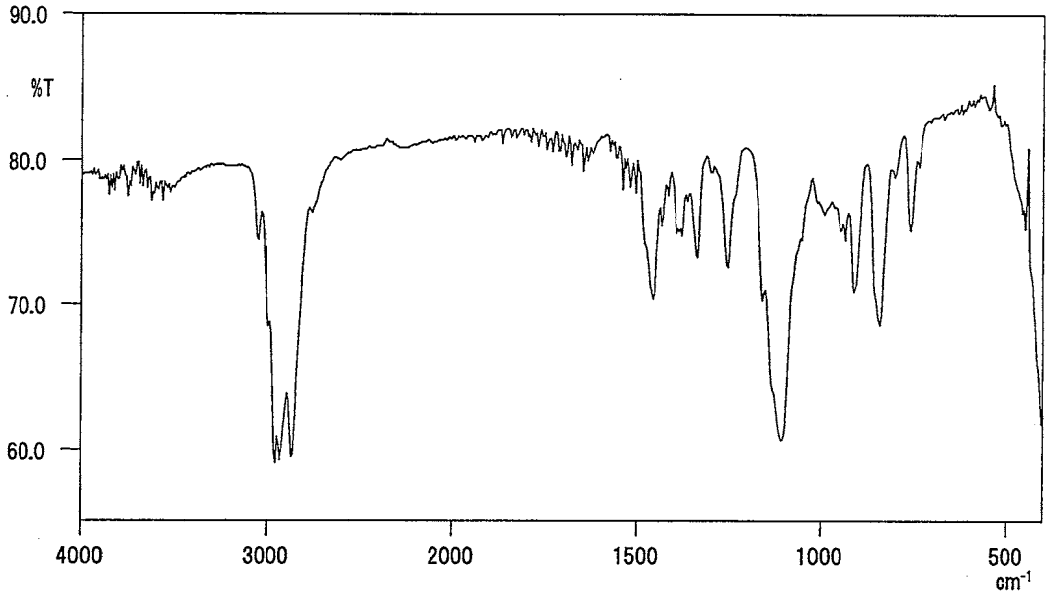
(*McLafferty FW, ed. 1994. Wiley Registry of Mass Spectral Data. 6th ed. New York, NY:John Wiley and Sons.)

Infrared Spectrometry

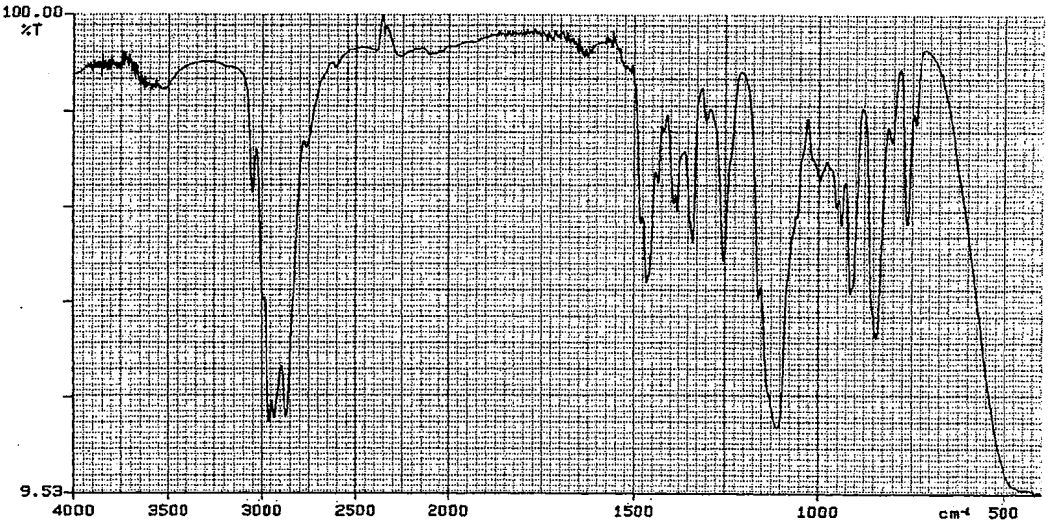
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1}



Infrared Spectrum of Test Substance* Wavenumber



Infrared Spectrum of Literature Data* Wavenumber

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

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

B. Lot No. : LDE4969

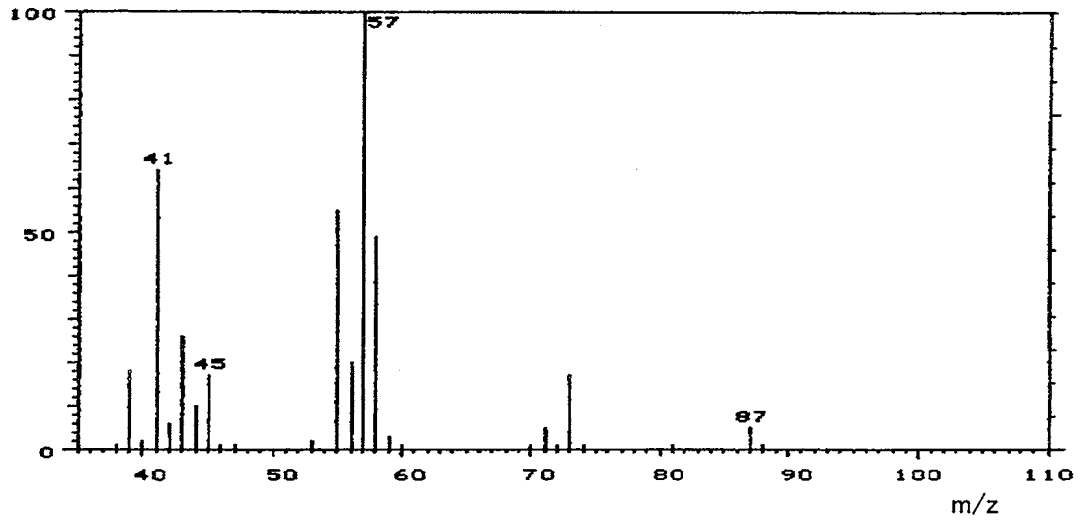
1. Spectral Data

Mass Spectrometry

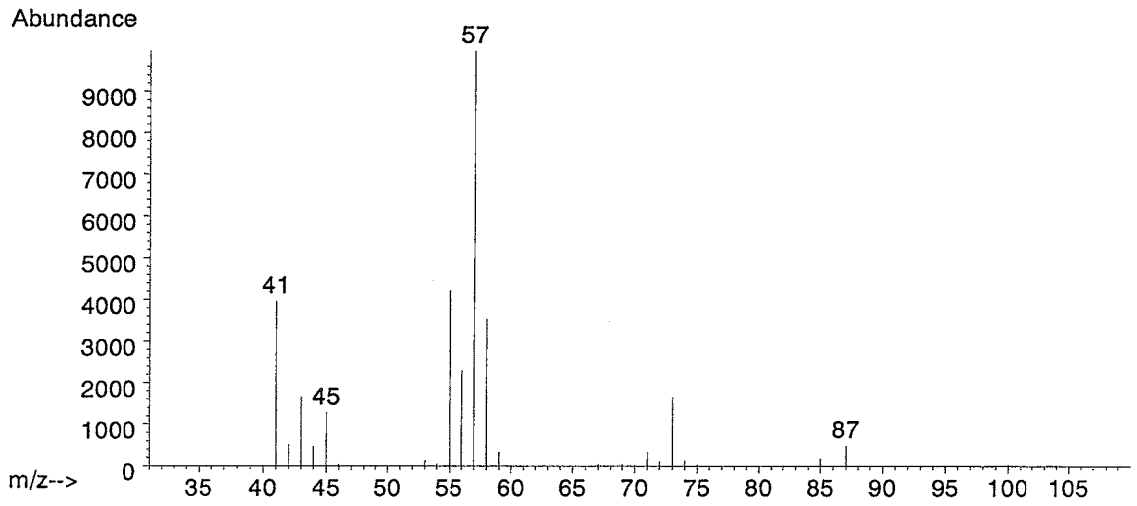
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Result: The mass spectrum was consistent with literature spectrum.

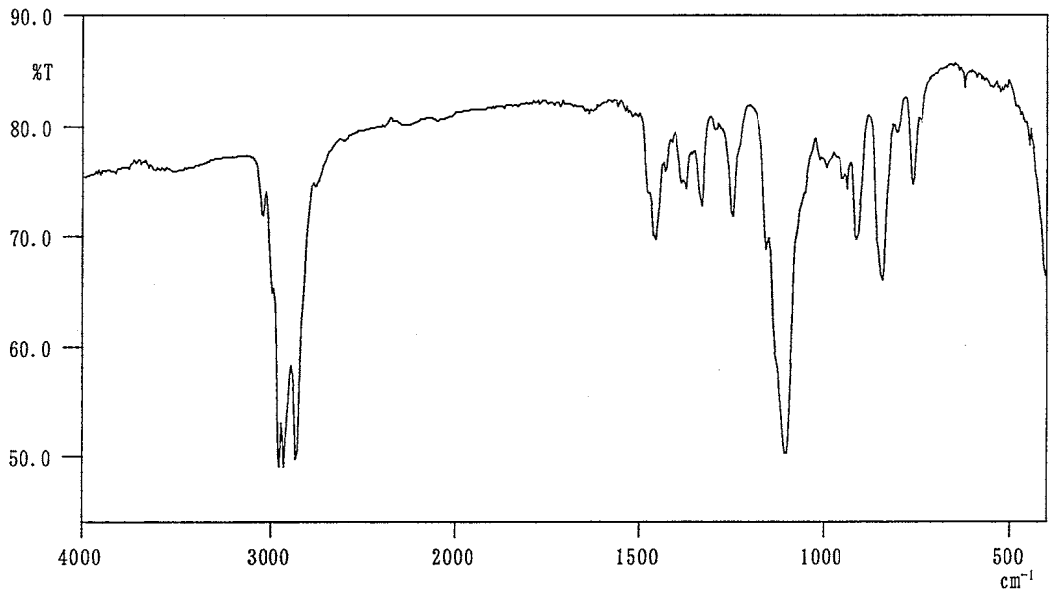
(*McLafferty FW, ed. 1994. Wiley Registry of Mass Spectral Data. 6th ed. New York, NY:John Wiley and Sons.)

Infrared Spectrometry

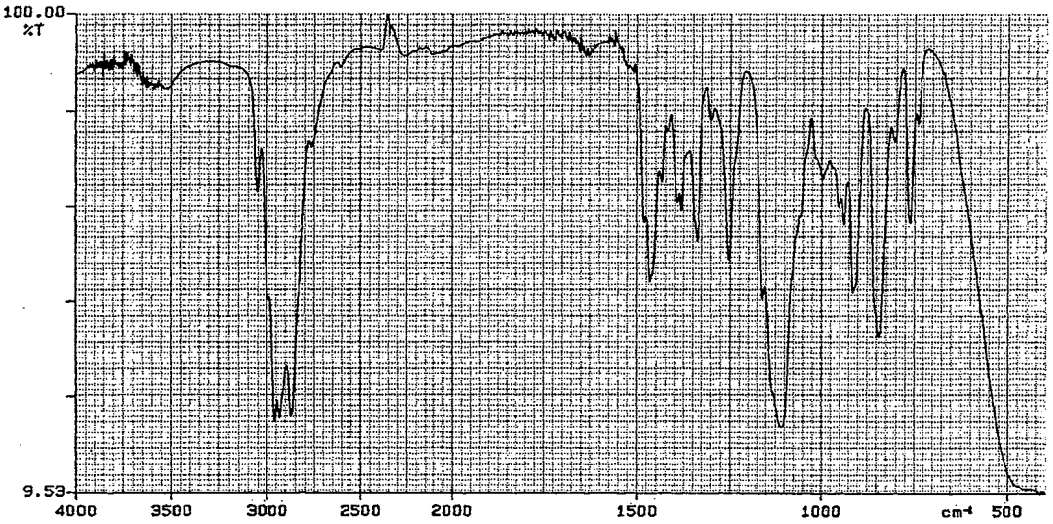
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1}



Infrared Spectrum of Test Substance* Wavenumber



Infrared Spectrum of Literature Data* Wavenumber

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

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

C. Lot No. : WAK4372

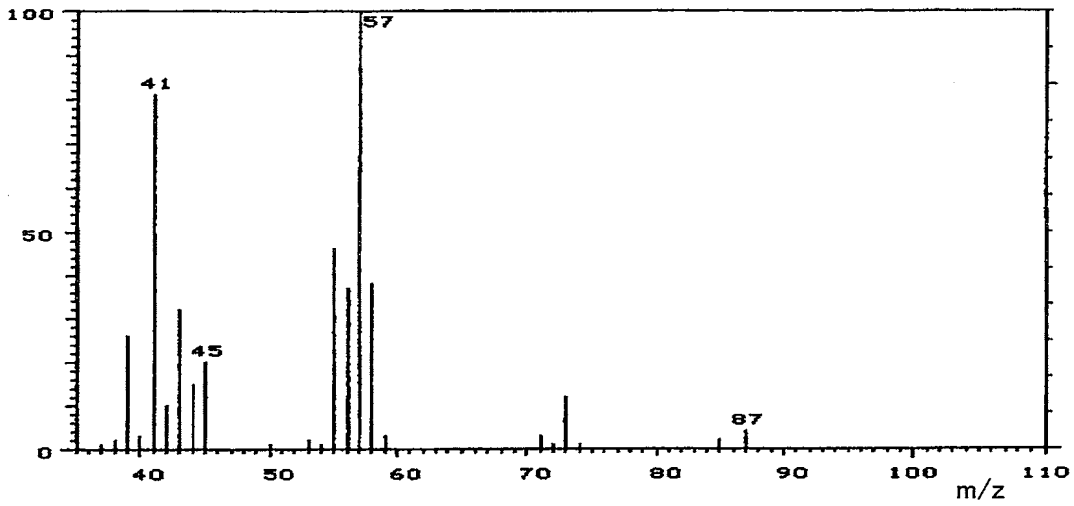
1. Spectral Data

Mass Spectrometry

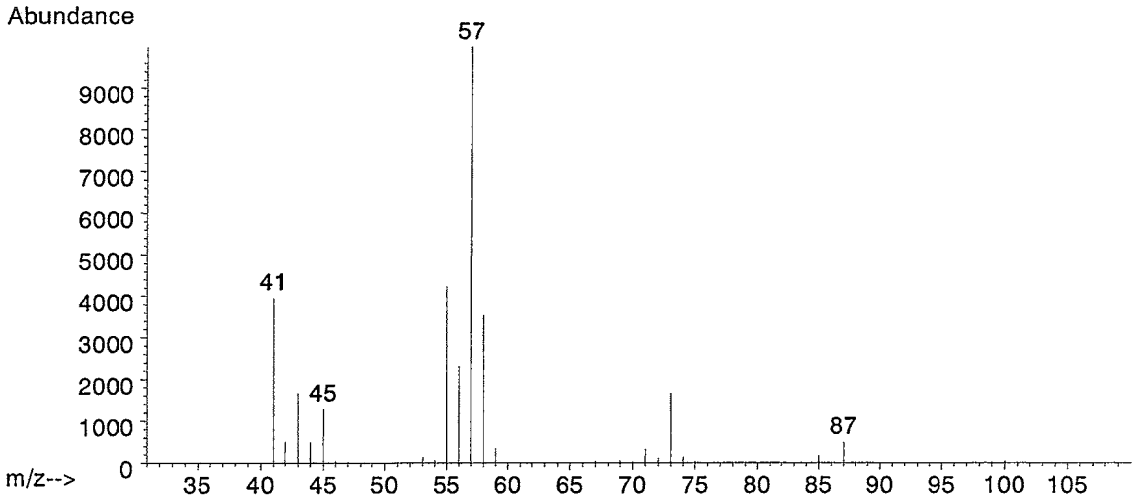
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Result: The mass spectrum was consistent with literature spectrum.

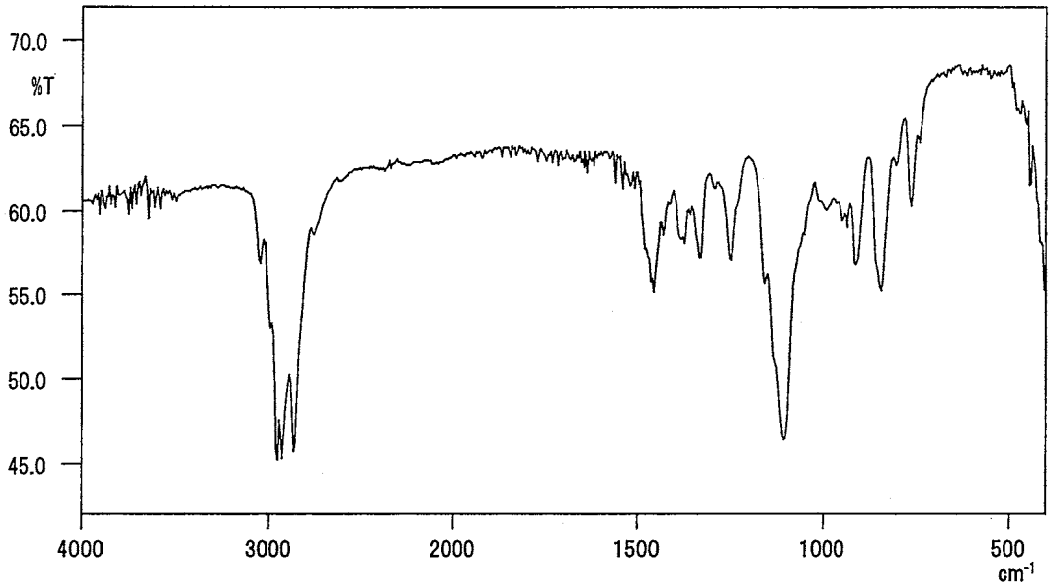
(*McLafferty FW, ed. 1994. Wiley Registry of Mass Spectral Data. 6th ed. New York, NY:John Wiley and Sons.)

Infrared Spectrometry

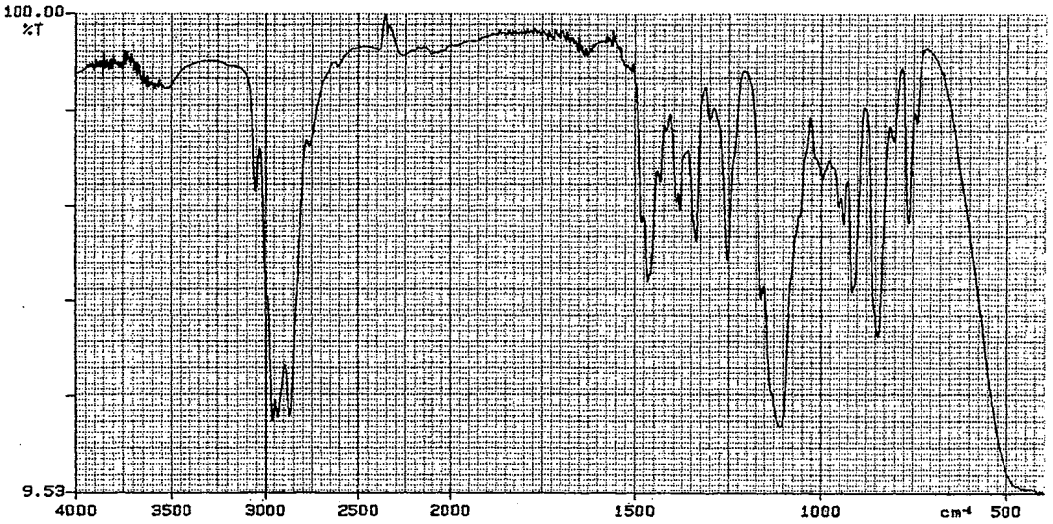
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1}



Infrared Spectrum of Test Substance* Wavenumber



Infrared Spectrum of Literature Data* Wavenumber

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

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

D. Lot No. : PKQ5714

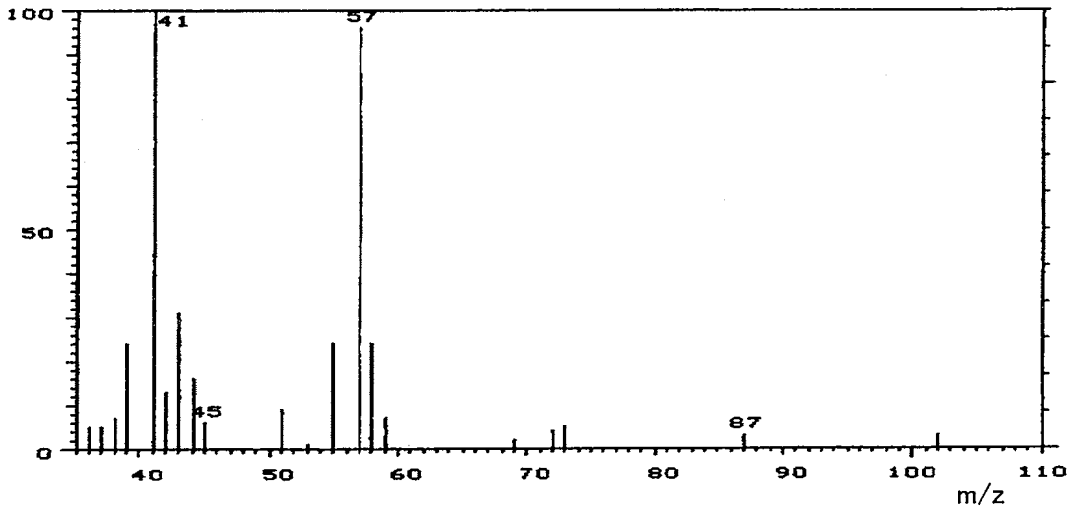
1. Spectral Data

Mass Spectrometry

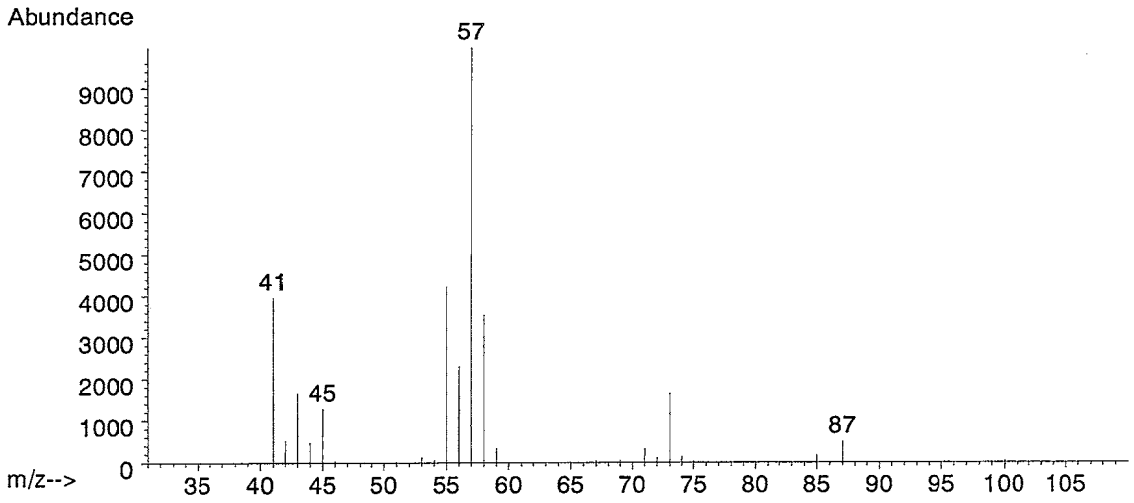
Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Mass Spectrum of Test Substance



Mass Spectrum of Literature Data*

Result: The mass spectrum was consistent with literature spectrum.

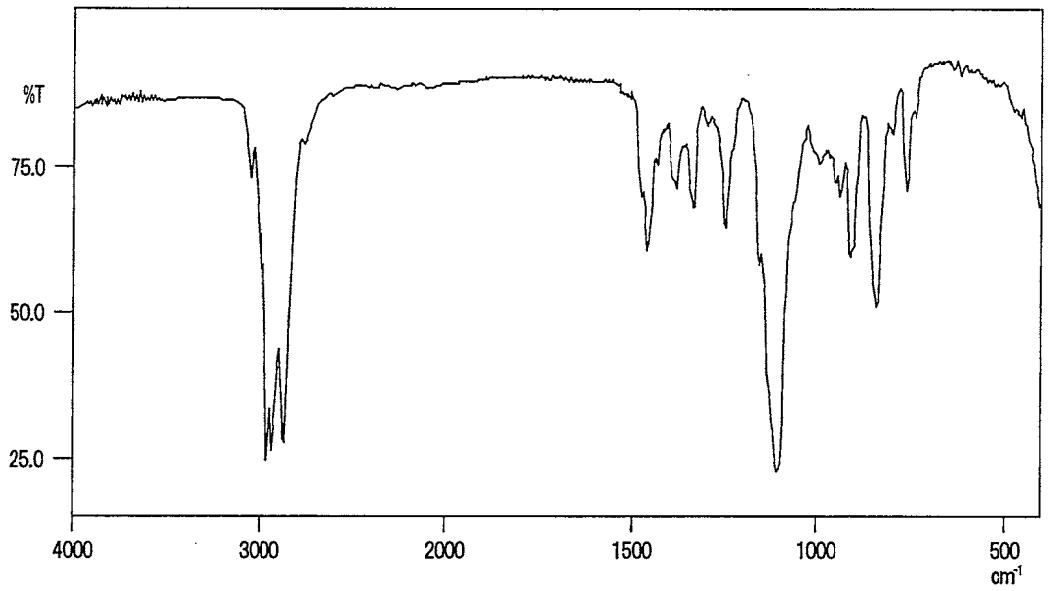
(*McLafferty FW, ed. 1994. Wiley Registry of Mass Spectral Data. 6th ed. New York, NY:John Wiley and Sons.)

Infrared Spectrometry

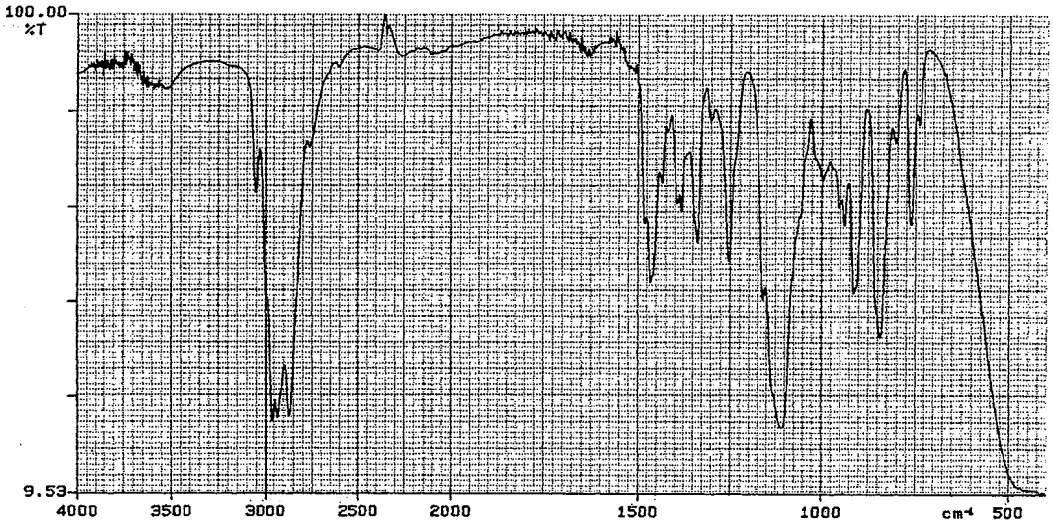
Instrument : Shimadzu FTIR-8200PC Infrared Spectrometer

Cell : KBr Liquid Cell

Resolution : 4 cm^{-1}



Infrared Spectrum of Test Substance* Wavenumber



Infrared Spectrum of Literature Data* Wavenumber

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

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

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 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

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 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

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

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 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 (%)
2002.10.07	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 Chromatography

Instrument : Hewlett Packard 5890A Gas Chromatograph

Column : Methyl Silicone (0.53 mmϕ × 60 m)

Column Temperature: 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 (%)
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

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

Group Name	Temperature (℃) Mean ± S.D.	Humidity (%) Mean ± S.D.	Ventilation Rate (L/min) Mean ± S.D.*1	Ventilation Rate (L/min) Mean ± S.D.*2	Air Change (time/h) Mean*1	Air Change (time/h) Mean*2
Control	23.1 ± 0.2	56.4 ± 1.7	856.8 ± 4.2	1708.3 ± 11.6	6.0	12.1
10 ppm	23.1 ± 0.2	55.1 ± 2.1	854.8 ± 2.8	1704.0 ± 12.1	6.0	12.0
30 ppm	23.0 ± 0.1	54.0 ± 2.3	854.8 ± 3.1	1706.6 ± 11.7	6.0	12.0
90 ppm	23.0 ± 0.1	53.7 ± 3.1	853.3 ± 3.5	1707.1 ± 12.7	6.0	12.1

＊1：Exposure period　＊2：After exposure period

APPENDIX C 1

CLINICAL OBSERVATION : MALE

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

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
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	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	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	1	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	1	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	1	1	0	0	0	0	0	0	0	0	0	0	0	0

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

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
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	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
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	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
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	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
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	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
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	0	0	0	0	1

Clinical sign	Group Name	Administration Week-day 57-7	58-7	59-7	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
DEATH	Control	0	0	0	0	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	1	1	1
	90 ppm	1	1	2	2	2	2	2	2	2	2	2	2	2	2
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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	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
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	0	0	0	0	0	0	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	1	1

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

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
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
MORIBUND 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 sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
DEATH	Control	0	0	0	0	0	0	2	2	2	5	6	6	6	7
	10 ppm	1	1	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	0	0	1	1	2	1	1	1	1
	90 ppm	2	4	3	2	1	0	0	0	1	4	2	1	2	0

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
DEATH	Control	7	7	7	7	7	8
	10 ppm	3	3	3	5	6	6
	30 ppm	5	5	5	5	5	5
	90 ppm	23	23	23	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	0	1	0	0	0
	30 ppm	1	1	0	0	0	0
	90 ppm	0	0	1	0	0	2

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
SOILED	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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

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

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
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
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	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	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
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	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
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
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
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	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
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	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

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
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
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	1	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
EXOPHTHALMOS	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	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	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
	90 ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2

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
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	1	1	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	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	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
EYE OPACITY	Control	0	0	0	0	1	1	1	1	1	0	0	0	0	0
	10 ppm	0	0	0	0	1	1	1	1	1	1	1	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CATARACT	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	2	2	2	2	2	2	2

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
SOILED	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	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	1	1	1	1	1	1	1	1	1	1	1	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	0	0
	30 ppm	0	0	0	0	0	0	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	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
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	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	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	5	5	6	7	7	7	7	7	7	7	7	7	7	7
	10 ppm	2	2	2	2	2	2	3	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	2	2	2	2	2	2	1	1	1	1	1	1

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
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	0	0	0	0	0	0	0	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	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	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	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	10 ppm	3	3	3	3	4	4	4	4	4	5	5	5	3	3
	30 ppm	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	90 ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	0

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
SOILED	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	0	0	0
	90 ppm	0	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
	90 ppm	0	0	0	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	0	0	0	0
	90 ppm	0	0	0	0	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 sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
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	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	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

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

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
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	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
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	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

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
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	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

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
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	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
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	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
M. 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

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
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
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	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
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	1	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	1
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	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
M. PERI-MOUTH	Control	0	0	0	0	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
M. PERI EAR	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	0	0	0	0	0	0	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 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
CORNEAL 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
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	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
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	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
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	1	0	1	0	0	1	1	1	2	2	1	1	1	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	0	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
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
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	1
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
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	1	0	1	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	0	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
	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 sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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. 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
M. 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
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
	30 ppm	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
M. 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
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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. 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
M. 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
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
	30 ppm	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
M. 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
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	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
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
M. 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
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
	30 ppm	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
M. FORELIMB	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	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	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	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
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
M. 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
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	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	0	0	0	0	0	0	0	0	0	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

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
M. 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	0	0	0	0	0	0
	10 ppm	0	0	0	0	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
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	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
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	1	1	1	1	1
M. 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
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	0	0	0	0	0	0	0	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

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
M. 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	0	0	0	0	0	0	0	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	0

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

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
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	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
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	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
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	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	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
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	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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

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
ANEMIA	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
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
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	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	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
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	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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

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
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	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	0	0	0	0
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	1	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
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	1	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	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
IRREGULAR 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	0
	90 ppm	0	1	1	1	1	2	1	3	3	1	1	2	2	2

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
ANEMIA	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	1	1	0	0
	30 ppm	0	0	2	1	0	0	0	1	1	0	0	0	0	0
	90 ppm	1	1	1	1	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	30 ppm	0	0	2	1	0	0	0	0	0	0	0	0	0	0
	90 ppm	1	1	1	1	0	0	0	0	0	0	0	0	0	0
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	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
EROSION	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
CRUSTA	Control	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	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	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	1	1	0	0	1	1
	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
IRREGULAR BREATHING	Control	0	0	0	0	0	0	0	0	0	1	0	1	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	0	0	1
	90 ppm	4	3	1	3	1	0	1	0	0	2	2	2	2	0

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
ANEMIA	Control	0	0	0	0	0	0
	10 ppm	0	0	0	1	1	1
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0
JAUNDICE	Control	0	0	0	0	0	0
	10 ppm	0	0	1	0	0	0
	30 ppm	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
	10 ppm	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0
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	1	1	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
IRREGULAR BREATHING	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

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
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	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	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
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	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	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
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	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	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
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	0	1	1	1
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	0
	30 ppm	0	0	0	0	0	0	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 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	1	1	1	1	1	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	1	1	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	1	1	1	1	1	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	0
	30 ppm	0	0	0	0	0	0	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 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	1	2	1	1	1	1	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	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

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
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	2	1	1	1	1	1	3	1	2	2	0	0	1	0
DEEP BREATHING	Control	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	2	1	0	0	0	0	0	3	1	0	0	2
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	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

Clinical sign	Group Name	Administration 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	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	4	3	3	2	2	3
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	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
ABNORMAL 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

APPENDIX C 2

CLINICAL OBSERVATION : FEMALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
	30 ppm	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
	30 ppm	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
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
	30 ppm	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
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
	30 ppm	0	0	0	0	0	0	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 sign	Group Name	Administration Week-day 57-7	58-7	59-7	60-7	61-7	62-7	63-7	64-7	65-7	66-7	67-7	68-7	69-7	70-7
DEATH	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	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	1	1	1	1	1	1
MORIBUND 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
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
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	0	0	1	1	1	1	1	1
	10 ppm	0	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	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
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	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
MORIBUND 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
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	1	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	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
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	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
PILOERECTION	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
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	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
SOILED PERI-GENITALIA	Control	1	1	0	1	1	1	0	0	0	0	0	0	0	0
	10 ppm	0	0	1	0	0	0	0	0	0	0	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	1	1	1	0	0	0	0	1	0

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
DEATH	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
MORIBUND 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
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	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
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	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
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	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

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
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
MORIBUND 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	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0
SOILED PERI-GENITALIA	Control	0	1	0	0	0	0
	10 ppm	0	0	1	1	1	0
	30 ppm	0	0	0	0	0	1
	90 ppm	0	0	0	1	0	1

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
EXOPHTHALMOS	Control	0	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
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
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	0
	30 ppm	0	0	0	0	0	0	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

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
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	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
EYE 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
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	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	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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	1	1	1	1	1	1	1	1	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	0	0	0	0	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

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
EXOPHTHALMOS	Control	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
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	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	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

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
EXOPHTHALMOS	Control	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
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	1	1	1	1	1
	90 ppm	0	0	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	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	0	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	1	1	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

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
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	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
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	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
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	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	0	0	0	0	0	0	0	1	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	1	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	1	0	0	0

Clinical sign	Group Name	Administration Week-day 71-7	72-7	73-7	74-7	75-7	76-7	77-7	78-7	79-7	80-7	81-7	82-7	83-7	84-7
EXOPHTHALMOS	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
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	1	0	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	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
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	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
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	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
INTERNAL 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
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	1	1	1	1	1	1	2	1

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
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
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	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
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	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
INTERNAL 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
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	3	3	1	1	1	0	0	1	0

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
EXOPHTHALMOS	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
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
	10 ppm	3	3	3	3	3	3
	30 ppm	2	2	2	2	2	2
	90 ppm	1	1	1	1	1	1
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
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	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
M. 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	0	0
	30 ppm	0	0	0	0	0	0	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. 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
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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. 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

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
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	0	0
	30 ppm	0	0	0	0	0	0	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. 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
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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. 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

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
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	0	0
	30 ppm	0	0	0	0	0	0	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. 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
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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. 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

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
M. 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	1	1	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. 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
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	1	1	1	1
	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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. 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

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
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	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
M. 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	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
M. 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
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

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
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
M. 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	0	0	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	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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. 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	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 85-7	86-7	87-7	88-7	89-7	90-7	91-7	92-7	93-7	94-7	95-7	96-7	97-7	98-7
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	1	1
M. PERI-MOUTH	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	0	0	0	0	0	0	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. 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	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. 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
M. 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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Clinical sign	Group Name	Administration Week-day 99-7	100-7	101-7	102-7	103-7	104-7
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
	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	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
	10 ppm	1	1	1	1	1	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	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	0	0	1	1
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	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 sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
M. 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
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
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
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
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

Clinical sign	Group Name	Administration Week-day 15-7	16-7	17-7	18-7	19-7	20-7	21-7	22-7	23-7	24-7	25-7	26-7	27-7	28-7
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
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
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
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
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

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
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
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
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
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
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

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
M. 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
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	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
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0	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
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
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
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

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
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
	30 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANEMIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10 ppm	0	0	0	0	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	1
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
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
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
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	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
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

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
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
	30 ppm	0	0	0	0	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
ANEMIA	Control	0	0	0	0	0	0	0	0	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
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
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
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
HEMORRHAGE	Control	0	0	1	0	0	0	0	0	0	1	2	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30 ppm	0	0	0	0	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	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	1	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	1	1	0	0	0	0	1	1	2

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
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	1	1	1	1
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. 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
ANEMIA	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	0
	30 ppm	1	0	0	0	0	0	1	1	0	0	0	0	0	0
	90 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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
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
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
HEMORRHAGE	Control	0	0	0	0	1	0	0	0	0	1	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	1	0	1	0	0	0	0	0
	90 ppm	1	0	0	0	0	0	0	0	0	0	0	0	0	0
IRREGULAR BREATHING	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	3	1	0	1	1	0	0	0	0

Clinical sign	Group Name	Administration 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	0	0	0	0
	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	0	0	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	0	1	1	0
EROSION	Control	0	0	0	0	0	0
	10 ppm	0	0	0	0	0	0
	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	0	0	0	0	0	0
	30 ppm	0	0	0	1	1	1
	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
IRREGULAR BREATHING	Control	1	1	0	0	0	0
	10 ppm	0	1	0	0	0	0
	30 ppm	0	0	0	0	0	0
	90 ppm	0	0	1	1	0	0

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7	14-7
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	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

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

Clinical sign	Group Name	Administration Week-day 29-7	30-7	31-7	32-7	33-7	34-7	35-7	36-7	37-7	38-7	39-7	40-7	41-7	42-7
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	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

Clinical sign	Group Name	Administration Week-day 43-7	44-7	45-7	46-7	47-7	48-7	49-7	50-7	51-7	52-7	53-7	54-7	55-7	56-7
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	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

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

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

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	0	0	0
	10 ppm	0	0	0	0	0	0	0	0	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
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	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

Clinical sign	Group Name	Administration 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
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	0	0	1

APPENDIX D 1

BODY WEIGHT CHANGES : MALE

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	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± 10	211± 11	231± 12	248± 12	262± 12
30 ppm	127± 5	155± 7	183± 9*	208± 9**	227± 10**	243± 11**	258± 11**
90 ppm	127± 5	145± 11**	168± 17**	191± 10**	207± 10**	220± 11**	230± 12**

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

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 7-7	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± 12	288± 12	297± 12**	305± 12*	314± 12*	319± 14**	327± 13*
30 ppm	270± 12**	282± 13**	292± 12**	300± 12**	308± 12**	317± 13**	323± 13**
90 ppm	240± 12**	247± 12**	254± 12**	259± 12**	266± 12**	283± 13**	280± 14**

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

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 14-7	18-7	22-7	26-7	30-7	34-7	38-7
Control	339± 15	357± 18	372± 19	384± 21	393± 22	404± 23	412± 24
10 ppm	332± 13*	351± 14	367± 16	379± 17	388± 18	399± 20	408± 22
30 ppm	330± 14**	348± 16*	363± 17*	375± 19*	385± 19	394± 21	402± 22*
90 ppm	280± 14**	294± 15**	304± 17**	314± 16**	320± 17**	326± 18**	332± 19**

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

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 42-7	46-7	50-7	54-7	58-7	62-7	66-7
Control	422± 25	429± 26	435± 26	439± 27	442± 27	444± 27	448± 27
10 ppm	418± 22	424± 22	431± 23	433± 23	436± 23	437± 22	440± 22
30 ppm	413± 22	419± 24	424± 25	424± 26	431± 26	429± 28*	434± 29*
90 ppm	343± 19**	342± 19**	348± 18**	351± 18**	349± 27**	348± 26**	354± 22**

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

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 70-7	74-7	78-7	82-7	86-7	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**

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

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 98-7	102-7	104-7
Control	432± 34	431± 30	422± 34
10 ppm	434± 27	428± 26	423± 26
30 ppm	423± 38	421± 30	418± 31
90 ppm	319± 27**	310± 37**	294± 32**

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

APPENDIX D 2

BODY WEIGHT CHANGES : FEMALE

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	95± 3	110± 5	123± 5	133± 6	141± 6	149± 7	154± 8
10 ppm	95± 3	108± 5	121± 6	131± 7	139± 7	147± 8	152± 9
30 ppm	95± 3	108± 4	119± 5*	130± 6	136± 6**	145± 7*	149± 7**
90 ppm	95± 3	102± 5**	113± 6**	124± 7**	131± 7**	140± 8**	143± 8**

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

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 7-7	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± 10
10 ppm	158± 10	160± 9	165± 10	168± 10	172± 11	176± 11	178± 11
30 ppm	153± 8**	156± 7**	161± 7**	165± 8**	169± 8**	173± 9*	174± 9**
90 ppm	148± 8**	151± 8**	155± 8**	157± 9**	162± 9**	168± 9**	166± 9**

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

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 14-7	18-7	22-7	26-7	30-7	34-7	38-7
Control	181± 11	188± 12	195± 13	199± 14	203± 14	207± 15	210± 16
10 ppm	180± 11	187± 11	194± 12	197± 13	202± 14	207± 13	210± 13
30 ppm	175± 9*	183± 10	189± 11*	194± 10	200± 12	205± 12	209± 13
90 ppm	165± 9**	170± 9**	175± 9**	179± 9**	182± 9**	185± 9**	188± 10**

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

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 42-7	46-7	50-7	54-7	58-7	62-7	66-7
Control	217± 16	222± 17	226± 18	229± 18	233± 20	234± 21	239± 23
10 ppm	216± 13	220± 14	228± 16	229± 16	232± 16	236± 18	242± 19
30 ppm	216± 14	218± 14	227± 15	229± 16	233± 17	235± 17	241± 18
90 ppm	195± 11**	195± 11**	201± 13**	201± 11**	201± 12**	203± 12**	210± 12**

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

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 70-7	74-7	78-7	82-7	86-7	90-7	94-7
Control	242± 24	249± 27	255± 29	258± 30	261± 31	267± 28	269± 30
10 ppm	248± 21	255± 21	260± 22	262± 21	267± 20	271± 22	272± 20
30 ppm	245± 19	251± 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 ≦ 0.01 Test of Dunnett

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

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 98-7	102-7	104-7
Control	271± 33	271± 30	269± 35
10 ppm	274± 21	274± 23	272± 24
30 ppm	274± 21	274± 25	270± 28
90 ppm	206± 21**	207± 24**	206± 24**

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

APPENDIX E 1

FOOD CONSUMPTION CHANGES : MALE

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group 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	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± 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± 1.6**	14.6± 1.0**	14.9± 1.0**	14.7± 1.0**	14.6± 0.9**	14.9± 1.0**

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

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)	14-7(7)
Control	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± 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± 0.8**
90 ppm	14.0± 0.7**	14.0± 0.9**	14.1± 0.7**	14.5± 0.9**	16.1± 1.1**	14.3± 0.9**	13.7± 0.7**

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

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 18-7(7)	22-7(7)	26-7(7)	30-7(7)	34-7(7)	38-7(7)	42-7(7)
Control	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 ppm	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

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 46-7(7)	50-7(7)	54-7(7)	58-7(7)	62-7(7)	66-7(7)	70-7(7)
Control	16.9± 1.1	17.0± 1.1	16.7± 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± 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± 1.8**	15.4± 1.0**	16.0± 1.2**

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

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 74-7(7)	78-7(7)	82-7(7)	86-7(7)	90-7(7)	94-7(7)	98-7(7)
Control	17.2± 1.1	16.8± 1.0	17.0± 1.1	16.6± 1.1	16.0± 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± 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**

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

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group 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

APPENDIX E 2

FOOD CONSUMPTION CHANGES : FEMALE

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group 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

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

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)	14-7(7)
Control	10.2± 0.8	10.9± 0.9	10.1± 1.1	10.7± 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 ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 18-7(7)	22-7(7)	26-7(7)	30-7(7)	34-7(7)	38-7(7)	42-7(7)
Control	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± 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

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 46-7(7)	50-7(7)	54-7(7)	58-7(7)	62-7(7)	66-7(7)	70-7(7)
Control	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± 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
REPORT TYPE : A1 104
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 74-7(7)	78-7(7)	82-7(7)	86-7(7)	90-7(7)	94-7(7)	98-7(7)
Control	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**

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

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

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 102-7(7)	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

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

APPENDIX F 1

HEMATOLOGY : MALE

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
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± 2.7**	997± 399

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

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	38	5.94± 1.99	0± 1	48± 8	2± 1	0± 0	5± 2	44± 9	2± 4
10 ppm	37	7.71± 6.45	0± 1	45± 11	2± 1	0± 0	5± 2	44± 10	4± 13
30 ppm	38	7.26± 6.05	0± 1	45± 9	2± 1	0± 0	4± 2	45± 9	4± 13
90 ppm	8	9.74± 5.56	1± 1	37± 13*	2± 2	0± 0	3± 2	45± 14	13± 19

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

APPENDIX F 2

HEMATOLOGY : FEMALE

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
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± 2.8	41.1± 6.6	51.9± 3.6	18.1± 1.3	35.0± 2.5	624± 161

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

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	38	3.51± 2.10	1± 2	42± 10	2± 1	0± 0	4± 2	49± 9	2± 6
10 ppm	45	7.04± 20.51	0± 1	38± 11	2± 1	0± 0	4± 2	51± 12	4± 15
30 ppm	41	5.91± 9.57	0± 1	38± 12	2± 1	0± 0	4± 2	49± 15	8± 23
90 ppm	15	5.17± 4.98	0± 1	40± 8	1± 1	0± 0	3± 2	52± 4	3± 6

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

APPENDIX G 1

BIOCHEMISTRY : MALE

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ		ALBUMIN g/dℓ		A/G RATIO		T-BILIRUBIN mg/dℓ		GLUCOSE mg/dℓ		T-CHOLESTEROL mg/dℓ		TRIGLYCERIDE mg/dℓ	
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±	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±	23	172±	54	112±	62
90 ppm	8	6.3±	0.2	2.5±	0.3**	0.7±	0.1	0.39±	0.74	129±	33	94±	22**	44±	41**

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

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dl	AST IU/l	ALT IU/l	LDH IU/l	ALP IU/l	G-GTP IU/l	CK IU/l
Control	38	275± 130	103± 121	42± 19	194± 88	205± 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± 63	87± 67	38± 17	198± 112	237± 94	8± 5	111± 73
90 ppm	8	164± 34**	156± 111**	62± 32	202± 93	370± 144**	6± 4	169± 105**

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

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ		CREATININE mg/dℓ		SODIUM mEq/ℓ		POTASSIUM mEq/ℓ		CHLORIDE mEq/ℓ		CALCIUM mg/dℓ		INORGANIC PHOSPHORUS mg/dℓ	
Control	38	20.7±	8.6	0.6±	0.1	142±	2	3.8±	0.3	104±	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±	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±	0.4*	104±	2	10.0±	0.2*	4.9±	0.5**

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

APPENDIX G 2

BIOCHEMISTRY : FEMALE

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	TOTAL PROTEIN g／dℓ		ALBUMIN g／dℓ		A/G RATIO		T-BILIRUBIN mg／dℓ		GLUCOSE mg／dℓ		T-CHOLESTEROL mg／dℓ		TRIGLYCERIDE mg／dℓ	
Control	38	6.7±	0.6	3.4±	0.4	1.1±	0.1	0.16±	0.18	140±	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±	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±	32	104±	38	35±	20

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

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dℓ	AST IU/ℓ	ALT IU/ℓ	LDH IU/ℓ	ALP IU/ℓ	G-GTP IU/ℓ	CK IU/ℓ
Control	38	226± 38	115± 40	54± 19	214± 64	142± 59	2± 1	95± 18
10 ppm	45	245± 43	150± 107	66± 34	242± 97	140± 62	3± 2	108± 62
30 ppm	41	267± 81**	192± 210	70± 49	436± 871	170± 150	4± 4	117± 82
90 ppm	15	192± 62	135± 73	71± 47	233± 94	236± 150**	4± 4*	181± 188**

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

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (105W)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ	CREATININE mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ	INORGANIC PHOSPHORUS mg/dℓ
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± 0.1	140± 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± 0.4**	4.1± 0.9
90 ppm	15	22.4± 15.8	0.5± 0.1	140± 2*	4.0± 0.5	102± 2	10.0± 0.3	4.5± 1.0

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

APPENDIX H 1

URINALYSIS : MALE

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Bilirubin −	+	2+	3+	CHI
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		9	2	0	0	0	0	**	10	0	1	0	

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

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
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	7	4	0	0	0	**	11	0	0	0	0	

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

APPENDIX H 2

URINALYSIS : FEMALE

STUDY NO. : 0437 URINALYSIS
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Bilirubin −	+	2+	3+	CHI
Control	39	0	1	2	3	6	21	6		1	5	7	10	11	5		39	0	0	0	0	0		27	10	2	0	0	0		39	0	0	0	
10 ppm	46	1	1	2	5	7	27	3		0	4	8	13	14	7		46	0	0	0	0	0		39	7	0	0	0	0		46	0	0	0	
30 ppm	42	0	3	2	5	6	21	5		0	4	3	9	21	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	7	2	0	0	*	15	0	0	0	0	0		12	2	0	1	0	0		15	0	0	0	

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

STUDY NO. : 0437 URINALYSIS
ANIMAL : RAT F344/DuCrj
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

Group Name	NO. of Animals	Occult blood −	±	+	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	

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

APPENDIX I 1

GROSS FINDINGS : MALE

ALL ANIMALS

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

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

Organ	Findings	Group Name / NO. of Animals	Control 50	(%)	10 ppm 50	(%)	30 ppm 50	(%)	90 ppm 50	(%)
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)
forestomach	ulcer		1	(2)	1	(2)	0	(0)	0	(0)

Organ	Findings	Group Name / NO. of Animals	Control 50	(%)	10 ppm 50	(%)	30 ppm 50	(%)	90 ppm 50	(%)
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)

Organ	Findings	Group Name / NO. of Animals	Control 50	(%)	10 ppm 50	(%)	30 ppm 50	(%)	90 ppm 50	(%)
pituitary	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)
thyroid	enlarged		1	(2)	2	(4)	4	(8)	2	(4)
	nodule		1	(2)	1	(2)	0	(0)	0	(0)
adrenal	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)
brain	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)
eye	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)
mediastinum	mass		0	(0)	0	(0)	0	(0)	1	(2)
peritoneum	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)

Organ	Findings	Group Name / NO. of Animals	Control 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)

APPENDIX I 2

GROSS FINDINGS : MALE

DEAD AND MORIBUND ANIMALS

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

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

Organ	Findings	Group Name / NO. of Animals	Control 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)
heart	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)

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)

Organ	Findings	Group Name / NO. of Animals	Control 12	(%)	10 ppm 12	(%)	30 ppm 12	(%)	90 ppm 39	(%)
brain	nodule		0	(0)	1	(8)	1	(8)	0	(0)
spinal cord	red zone		1	(8)	0	(0)	0	(0)	0	(0)
eye	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)
mediastinum	mass		0	(0)	0	(0)	0	(0)	1	(3)
peritoneum	nodule		0	(0)	0	(0)	0	(0)	1	(3)
	mass		1	(8)	0	(0)	0	(0)	0	(0)
retroperit	mass		0	(0)	0	(0)	3	(25)	0	(0)
abdominal c	ascites		0	(0)	0	(0)	0	(0)	4	(10)
thoracic ca	hemorrhage		0	(0)	0	(0)	0	(0)	1	(3)
	pleural fluid		1	(8)	3	(25)	0	(0)	2	(5)
other	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)
whole body	anemic		0	(0)	1	(8)	0	(0)	0	(0)

APPENDIX I 3

GROSS FINDINGS : MALE

SACRIFICED ANIMALS

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrlCrlj[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)
	nodular		1	(3)	0	(0)	0	(0)	0	(0)
	herniation		3	(8)	5	(13)	4	(11)	2	(18)

Organ	Findings	Group Name / NO. of Animals	Control 38	(%)	10 ppm 38	(%)	30 ppm 38	(%)	90 ppm 11	(%)
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)
eye	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

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

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)
eye	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)

APPENDIX I 5

GROSS FINDINGS : FEMALE

DEAD AND MORIBUND ANIMALS

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)

Organ	Findings	Group Name / NO. of Animals	Control 10	(%)	10 ppm 5	(%)	30 ppm 9	(%)	90 ppm 35	(%)
pituitary	red zone		1	(10)	1	(20)	0	(0)	3	(9)
	nodule		2	(20)	0	(0)	2	(22)	2	(6)
	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)
ovary	enlarged		0	(0)	0	(0)	1	(11)	1	(3)
	nodule		0	(0)	1	(20)	0	(0)	0	(0)
uterus	nodule		1	(10)	1	(20)	2	(22)	4	(11)
vagina	nodule		1	(10)	0	(0)	0	(0)	0	(0)
spinal cord	brown zone		1	(10)	0	(0)	0	(0)	0	(0)
eye	turbid		0	(0)	0	(0)	0	(0)	7	(20)
	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)
thoracic ca	pleural fluid		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)

APPENDIX I 6

GROSS FINDINGS : FEMALE

SACRIFICED ANIMALS

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)

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)
eye	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)

APPENDIX J 1

ORGAN WEIGHT, ABSOLUTE : MALE

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

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

Group Name	NO. of Animals	Body Weight	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
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± 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± 0.498**	2.470± 0.209**

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

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

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

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
Control	38	1.276±	1.895	11.561±	2.041	2.068±	0.051
10 ppm	38	1.192±	0.633	11.752±	1.680	2.083±	0.052
30 ppm	38	1.445±	1.634	11.790±	2.997	2.097±	0.063
90 ppm	11	1.512±	1.972	9.581±	3.890	2.036±	0.067

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

APPENDIX J 2

ORGAN WEIGHT, ABSOLUTE : FEMALE

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

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

Group Name	NO. of Animals	Body Weight	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	40	251± 35	0.082± 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± 0.134
30 ppm	41	252± 27	0.065± 0.013	0.192± 0.490	0.862± 0.087	1.050± 0.234	1.816± 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 Test of Dunnett

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

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

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
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

APPENDIX K 1

ORGAN WEIGHT, RELATIVE : MALE

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: %

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

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
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± 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 ≦ 0.01 Test of Dunnett

STUDY NO. : 0437
ANIMAL : RAT F344/DuCrj
REPORT TYPE : A1
SEX : MALE
UNIT: %

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

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
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**

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

APPENDIX K 2

ORGAN WEIGHT, RELATIVE : FEMALE

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

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

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
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± 0.006	0.046± 0.009	0.332± 0.025	0.413± 0.096	0.697± 0.085
30 ppm	41	252± 27	0.026± 0.005	0.071± 0.159	0.345± 0.050	0.425± 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**

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

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

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

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	40	0.356± 0.560	2.590± 0.418	0.757± 0.107
10 ppm	45	0.310± 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

APPENDIX L 1

HISTOPATHOLOGICAL FINDINGS :

NON-NEOPLASTIC LESIONS : MALE

ALL ANIMALS

Organ	Findings	Group Name / Grade	Control 1 (%)	Control 2 (%)	Control 3 (%)	Control 4 (%)	10 ppm 1 (%)	10 ppm 2 (%)	10 ppm 3 (%)	10 ppm 4 (%)	30 ppm 1 (%)	30 ppm 2 (%)	30 ppm 3 (%)	30 ppm 4 (%)	90 ppm 1 (%)	90 ppm 2 (%)	90 ppm 3 (%)	90 ppm 4 (%)
		No. of Animals on Study	50				50				50				50			
{Integumentary system/appandage}																		
skin/app			<50>				<50>				<50>				<50>			
	mineralization		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	scab		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	epidermal cyst		0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
subcutis			<50>				<50>				<50>				<50>			
	abscess		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
{Respiratory system}																		
nasal cavit			<50>				<50>				<50>				<50>			
	exudate		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (6)	0 (0)	0 (0)
	squamous cell hyperplasia with atypia		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	1 (2)	30 (60)	1 (2)	0 (0) **

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<50>				<50>				<50>				<50>			
	eosinophilic change:olfactory epithelium		18	23	1	0	20	20	1	0	11	22	1	0	9	6	0	0 **
			(36)	(46)	(2)	(0)	(40)	(40)	(2)	(0)	(22)	(44)	(2)	(0)	(18)	(12)	(0)	(0)
	eosinophilic change:respiratory epithelium		2	3	0	0	4	0	0	0	2	0	0	0	0	0	0	0
			(4)	(6)	(0)	(0)	(8)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:foreign body		7	17	0	0	8	15	0	0	6	23	0	0	2	7	0	0 **
			(14)	(34)	(0)	(0)	(16)	(30)	(0)	(0)	(12)	(46)	(0)	(0)	(4)	(14)	(0)	(0)
	inflammation:respiratory epithelium		0	0	0	0	1	1	0	0	0	2	0	0	4	17	1	0 **
			(0)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(8)	(34)	(2)	(0)
	respiratory metaplasia:olfactory epithelium		3	0	0	0	0	1	0	0	4	1	0	0	2	6	0	0 *
			(6)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(8)	(2)	(0)	(0)	(4)	(12)	(0)	(0)
	respiratory metaplasia:gland		5	14	0	0	9	10	0	0	5	12	0	0	3	17	1	0
			(10)	(28)	(0)	(0)	(18)	(20)	(0)	(0)	(10)	(24)	(0)	(0)	(6)	(34)	(2)	(0)
	squamous cell metaplasia:respiratory epithelium		0	0	0	0	1	1	0	0	4	6	0	0 **	4	38	0	0 **
			(0)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(8)	(12)	(0)	(0)	(8)	(76)	(0)	(0)
	squamous cell metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<50>				<50>				<50>				<50>			
	hyperplasia with atypia:respiratory epithelium		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:submucosal gland		0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
	hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	5	3	0	0 *	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(6)	(0)	(0)	(0)	(0)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	1	0	0	7	2	0	0 **	10	14	0	0 **
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(14)	(4)	(0)	(0)	(20)	(28)	(0)	(0)
lung			<50>				<50>				<50>				<50>			
	congestion		0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	hemorrhage		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory infiltration		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	accumulation of foamy cells		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name / Grade	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Respiratory system}																		
lung			<50>				<50>				<50>				<50>			
	bronchiolar-alveolar cell hyperplasia		0	3	0	0	0	1	0	0	0	2	0	0	0	1	0	0
			(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)
	inflammation:foreign body		0	0	0	0	0	0	0	0	0	0	0	0	1	8	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(16)	(0)	(0)
{Hematopoietic system}																		
bone marrow			<50>				<50>				<50>				<50>			
	thrombus		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	granulation		1	0	0	0	3	1	0	0	0	1	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(6)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	increased hematopoiesis		4	0	0	0	5	0	0	0	5	0	0	0	14	0	0	0 *
			(8)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(28)	(0)	(0)	(0)
	decreased hematopoiesis		0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0
			(0)	(2)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
lymph node			<50>				<50>				<50>				<50>			
	lymphadenitis		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)

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

Organ	Findings	Group Name / Grade	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Hematopoietic system}																		
spleen			<50>				<50>				<50>				<50>			
	congestion		0	6	0	0	1	3	0	0	1	3	0	0	0	0	0	0 *
			(0)	(12)	(0)	(0)	(2)	(6)	(0)	(0)	(2)	(6)	(0)	(0)	(0)	(0)	(0)	(0)
	deposit of hemosiderin		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	fibrosis		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	increased extramedullary hematopoiesis		1	3	0	0	0	4	0	0	2	1	1	0	0	2	0	0
			(2)	(6)	(0)	(0)	(0)	(8)	(0)	(0)	(4)	(2)	(2)	(0)	(0)	(4)	(0)	(0)
{Circulatory system}																		
heart			<50>				<50>				<50>				<50>			
	thrombus		0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)
	necrosis:focal		0	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(2)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Circulatory system}																		
heart			<50>				<50>				<50>				<50>			
	mineralization		0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		3	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	myocardial fibrosis		14	36	0	0	15	31	0	0	22	27	0	0	24	21	0	0 **
			(28)	(72)	(0)	(0)	(30)	(62)	(0)	(0)	(44)	(54)	(0)	(0)	(48)	(42)	(0)	(0)
	subendocardial fibrosis		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	arteritis		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Digestive system}																		
oral cavity			<50>				<50>				<50>				<50>			
	squamous cell hyperplasia		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
tooth			<50>				<50>				<50>				<50>			
	inflammation		0	1	0	0	0	0	0	0	0	1	0	0	1	2	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(2)	(4)	(0)	(0)

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

Organ	Findings	Group Name / No. of Animals on Study / Grade	Control 50				10 ppm 50				30 ppm 50				90 ppm 50			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Digestive system}																		
tongue			<50>				<49>				<50>				<50>			
	inflammatory infiltration		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)
stomach			<50>				<50>				<50>				<50>			
	mineralization		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	epidermal cyst		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)
	atrophy:glandular mucosa		1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	erosion:forestomach		2 (4)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	1 (2)	1 (2)	0 (0)	0 (0)	4 (8)	0 (0)	0 (0)	0 (0)
	ulcer:forestomach		0 (0)	2 (4)	0 (0)	0 (0)	1 (2)	3 (6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)
	hyperplasia:forestomach		0 (0)	4 (8)	0 (0)	0 (0)	2 (4)	3 (6)	0 (0)	0 (0)	1 (2)	2 (4)	0 (0)	0 (0)	3 (6)	0 (0)	0 (0)	0 * (0)
	erosion:glandular stomach		7 (14)	1 (2)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 * (0)	3 (6)	0 (0)	0 (0)	0 (0)	8 (16)	1 (2)	0 (0)	0 (0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
stomach			<50>				<50>				<50>				<50>			
	ulcer:glandular stomach		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
small intes			<50>				<50>				<50>				<50>			
	inflammation		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver			<50>				<50>				<50>				<50>			
	herniation		3	0	0	0	5	0	0	0	4	0	0	0	9	0	0	0
			(6)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(18)	(0)	(0)	(0)
	hemorrhage		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	necrosis:central		0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)
	necrosis:focal		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	fatty change		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<50>				<50>				<50>				<50>			
	fatty change:central		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	granulation		3	1	0	0	2	0	0	0	2	1	0	0	0	0	0	0
			(6)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	clear cell focus		7	4	0	0	5	8	0	0	3	5	0	0	1	1	0	0 *
			(14)	(8)	(0)	(0)	(10)	(16)	(0)	(0)	(6)	(10)	(0)	(0)	(2)	(2)	(0)	(0)
	acidophilic cell focus		0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	basophilic cell focus		3	1	0	0	0	1	0	0	1	1	0	0	1	0	0	0
			(6)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(2)	(2)	(0)	(0)	(2)	(0)	(0)	(0)
	spongiosis hepatis		3	0	0	0	1	1	0	0	7	0	0	0	2	0	0	0
			(6)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(14)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	bile duct hyperplasia		0	48	0	0	1	47	1	0	5	44	0	0	5	43	0	0
			(0)	(96)	(0)	(0)	(2)	(94)	(2)	(0)	(10)	(88)	(0)	(0)	(10)	(86)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<50>				<50>				<50>				<50>			
	biliary cyst		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
pancreas			<50>				<50>				<50>				<50>			
	atrophy		1	7	1	0	4	11	1	0	5	8	0	0	1	2	0	0
			(2)	(14)	(2)	(0)	(8)	(22)	(2)	(0)	(10)	(16)	(0)	(0)	(2)	(4)	(0)	(0)
	islet cell hyperplasia		0	2	0	0	0	4	0	0	0	1	0	0	0	0	0	0
			(0)	(4)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
{Urinary system}																		
kidney			<50>				<50>				<50>				<50>			
	necrosis:focal		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	deposit of hemosiderin		0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)

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

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

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
urin bladd			<50>				<50>				<50>				<50>			
	hemorrhage		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	simple hyperplasia:transitional epithelium		1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
{Endocrine system}																		
pituitary			<50>				<50>				<50>				<50>			
	cyst		0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)
	hyperplasia		2	6	0	0	0	8	0	0	1	4	0	0	0	2	0	0
			(4)	(12)	(0)	(0)	(0)	(16)	(0)	(0)	(2)	(8)	(0)	(0)	(0)	(4)	(0)	(0)
	Rathke pouch		1	2	0	0	0	0	0	0	2	1	0	0	0	3	0	0
			(2)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(0)	(6)	(0)	(0)
thyroid			<50>				<49>				<50>				<50>			
	cyst		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
thyroid			<50>				<49>				<50>				<50>			
	C-cell hyperplasia		6	1	0	0	7	5	0	0	3	5	0	0	2	2	0	0
			(12)	(2)	(0)	(0)	(14)	(10)	(0)	(0)	(6)	(10)	(0)	(0)	(4)	(4)	(0)	(0)
	focal follicular cell hyperplasia		0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
parathyroid			<50>				<49>				<50>				<50>			
	hyperplasia		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
adrenal			<50>				<50>				<50>				<50>			
	hyperplasia:cortical cell		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:medulla		2	4	0	0	1	4	0	0	0	4	0	0	0	1	0	0
			(4)	(8)	(0)	(0)	(2)	(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(2)	(0)	(0)
	focal fatty change:cortex		0	2	0	0	0	3	0	0	1	1	0	0	3	1	0	0
			(0)	(4)	(0)	(0)	(0)	(6)	(0)	(0)	(2)	(2)	(0)	(0)	(6)	(2)	(0)	(0)
{Reproductive system}																		
testis			<50>				<50>				<50>				<50>			
	atrophy		0	3	44	0	0	1	47	0	2	2	43	0	10	6	24	0 **
			(0)	(6)	(88)	(0)	(0)	(2)	(94)	(0)	(4)	(4)	(86)	(0)	(20)	(12)	(48)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
testis			<50>				<50>				<50>				<50>			
	mineralization		10	1	0	0	8	0	0	0	8	0	0	0	11	0	0	0
			(20)	(2)	(0)	(0)	(16)	(0)	(0)	(0)	(16)	(0)	(0)	(0)	(22)	(0)	(0)	(0)
	arteritis		1	1	0	0	2	1	0	0	0	0	1	0	0	0	0	0
			(2)	(2)	(0)	(0)	(4)	(2)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)
	interstitial cell hyperplasia		0	1	0	0	6	0	0	0 *	4	0	0	0	10	0	0	0 **
			(0)	(2)	(0)	(0)	(12)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
prostate			<50>				<50>				<50>				<50>			
	inflammation		9	3	1	0	6	7	0	0	5	6	2	0	4	1	0	0
			(18)	(6)	(2)	(0)	(12)	(14)	(0)	(0)	(10)	(12)	(4)	(0)	(8)	(2)	(0)	(0)
	hyperplasia		7	1	0	0	9	0	0	0	8	0	0	0	1	0	0	0 *
			(14)	(2)	(0)	(0)	(18)	(0)	(0)	(0)	(16)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
mammary gl			<50>				<50>				<50>				<50>			
	galactocele		0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Nervous system}																		
brain			<50>				<50>				<50>				<50>			
	hemorrhage		1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Nervous system}																		
brain			<50>				<50>				<50>				<50>			
	necrosis:focal		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	vacuolic change		1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	gliosis		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	dilatation:cerebral ventricle		0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)
spinal cord			<50>				<50>				<50>				<50>			
	hemorrhage		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)
	gliosis		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
{Special sense organs/appendage}																		
eye			<50>				<50>				<50>				<50>			
	hemorrhage		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)

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

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

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Body cavities}																		
peritoneum			<50>				<50>				<50>				<50>			
	inflammation		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

APPENDIX L 2

HISTOPATHOLOGICAL FINDINGS :

NON-NEOPLASTIC LESIONS : MALE

DEAD AND MORIBUND ANIMALS

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			<12>				<12>				<12>				<39>			
	epidermal cyst		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
{Respiratory system}																		
nasal cavit			<12>				<12>				<12>				<39>			
	exudate		0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	1	0	0	0	0	23	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(59)	(0)	(0)
	eosinophilic change:olfactory epithelium		3	3	0	0	4	2	0	0	0	1	0	0	3	4	0	0
			(25)	(25)	(0)	(0)	(33)	(17)	(0)	(0)	(0)	(8)	(0)	(0)	(8)	(10)	(0)	(0)
	eosinophilic change:respiratory epithelium		0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(8)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:foreign body		0	4	0	0	2	3	0	0	0	4	0	0	2	2	0	0 *
			(0)	(33)	(0)	(0)	(17)	(25)	(0)	(0)	(0)	(33)	(0)	(0)	(5)	(5)	(0)	(0)
	inflammation:respiratory epithelium		0	0	0	0	0	1	0	0	0	2	0	0	4	9	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(17)	(0)	(0)	(10)	(23)	(0)	(0)

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

Organ	Findings	Grade	Control 12				10 ppm 12				30 ppm 12				90 ppm 39			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Respiratory system}																		
nasal cavit			<12>				<12>				<12>				<39>			
	respiratory metaplasia:olfactory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	0 (0)	1 (3)	5 (13)	0 (0)	0 (0)
	respiratory metaplasia:gland		0 (0)	5 (42)	0 (0)	0 (0)	1 (8)	2 (17)	0 (0)	0 (0)	0 (0)	5 (42)	0 (0)	0 (0)	1 (3)	12 (31)	1 (3)	0 (0)
	squamous cell metaplasia:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	1 (8)	4 (33)	0 (0)	0 * (0)	3 (8)	29 (74)	0 (0)	0 ** (0)
	squamous cell metaplasia: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)	4 (10)	0 (0)	0 (0)	0 (0)
	hyperplasia:submucosal gland		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (8)	0 (0)	0 (0)
	atrophy:olfactory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	5 (42)	2 (17)	0 (0)	0 ** (0)	9 (23)	10 (26)	0 (0)	0 ** (0)
lung			<12>				<12>				<12>				<39>			
	congestion		0 (0)	1 (8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)
	hemorrhage		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
lung			<12>				<12>				<12>				<39>			
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	bronchiolar-alveolar cell hyperplasia		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)
	inflammation:foreign body		0	0	0	0	0	0	0	0	0	0	0	0	1	7	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(18)	(0)	(0)
{Hematopoietic system}																		
bone marrow			<12>				<12>				<12>				<39>			
	granulation		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	increased hematopoiesis		3	0	0	0	2	0	0	0	3	0	0	0	9	0	0	0
			(25)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(25)	(0)	(0)	(0)	(23)	(0)	(0)	(0)
	decreased hematopoiesis		0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0
			(0)	(8)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
lymph node			<12>				<12>				<12>				<39>			
	lymphadenitis		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
spleen			<12>				<12>				<12>				<39>			
	deposit of hemosiderin		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	increased extramedullary hematopoiesis		0	2	0	0	0	1	0	0	0	1	0	0	0	2	0	0
			(0)	(17)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(5)	(0)	(0)
{Circulatory system}																		
heart			<12>				<12>				<12>				<39>			
	thrombus		0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
			(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)
	necrosis:focal		0	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0
			(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(3)	(3)	(0)	(0)
	mineralization		0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	myocardial fibrosis		3	9	0	0	5	5	0	0	5	6	0	0	19	15	0	0
			(25)	(75)	(0)	(0)	(42)	(42)	(0)	(0)	(42)	(50)	(0)	(0)	(49)	(38)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Circulatory system}																		
heart			<12>				<12>				<12>				<39>			
	subendocardial fibrosis		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Digestive system}																		
oral cavity			<12>				<12>				<12>				<39>			
	squamous cell hyperplasia		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
tooth			<12>				<12>				<12>				<39>			
	inflammation		0	1	0	0	0	0	0	0	0	0	0	0	1	2	0	0
			(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(5)	(0)	(0)
tongue			<12>				<12>				<12>				<39>			
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
stomach			<12>				<12>				<12>				<39>			
	mineralization		0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	epidermal cyst		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
stomach			<12>				<12>				<12>				<39>			
	atrophy:glandular mucosa		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	erosion:forestomach		2	0	0	0	0	0	0	0	1	1	0	0	4	0	0	0
			(17)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(8)	(0)	(0)	(10)	(0)	(0)	(0)
	ulcer:forestomach		0	2	0	0	1	3	0	0	0	0	0	0	1	0	0	0 *
			(0)	(17)	(0)	(0)	(8)	(25)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	hyperplasia:forestomach		0	4	0	0	1	3	0	0	1	2	0	0	3	0	0	0 **
			(0)	(33)	(0)	(0)	(8)	(25)	(0)	(0)	(8)	(17)	(0)	(0)	(8)	(0)	(0)	(0)
	erosion:glandular stomach		2	1	0	0	1	0	0	0	2	0	0	0	5	1	0	0
			(17)	(8)	(0)	(0)	(8)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(13)	(3)	(0)	(0)
	ulcer:glandular stomach		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver			<12>				<12>				<12>				<39>			
	herniation		0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(18)	(0)	(0)	(0)
	hemorrhage		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<12>				<12>				<12>				<39>			
	necrosis:central		0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)
	necrosis:focal		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	fatty change		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	fatty change:central		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	granulation		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	spongiosis hepatis		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	bile duct hyperplasia		0	10	0	0	1	9	1	0	4	7	0	0	5	32	0	0
			(0)	(83)	(0)	(0)	(8)	(75)	(8)	(0)	(33)	(58)	(0)	(0)	(13)	(82)	(0)	(0)
	biliary cyst		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
pancreas			<12>				<12>				<12>				<39>			
	atrophy		1	0	1	0	2	0	1	0	0	2	0	0	0	1	0	0
			(8)	(0)	(8)	(0)	(17)	(0)	(8)	(0)	(0)	(17)	(0)	(0)	(0)	(3)	(0)	(0)
	islet cell hyperplasia		0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Urinary system}																		
kidney			<12>				<12>				<12>				<39>			
	necrosis:focal		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	deposit of hemosiderin		0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
	inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
	mineralization:central		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	chronic nephropathy		8	1	0	0	7	1	0	0	1	3	0	0 *	11	0	0	0 **
			(67)	(8)	(0)	(0)	(58)	(8)	(0)	(0)	(8)	(25)	(0)	(0)	(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 ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Grade	Control 1	Control 2	Control 3	Control 4	10 ppm 1	10 ppm 2	10 ppm 3	10 ppm 4	30 ppm 1	30 ppm 2	30 ppm 3	30 ppm 4	90 ppm 1	90 ppm 2	90 ppm 3	90 ppm 4
		No. of Animals on Study	12				12				12				39			
{Urinary system}																		
kidney			<12>				<12>				<12>				<39>			
	hydronephrosis		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization:cortico-medullary junction		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	mineralization:papilla		1	0	0	0	1	0	0	0	1	0	0	0	3	2	0	0
			(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(8)	(5)	(0)	(0)
	mineralization:pelvis		2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(17)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization:cortex		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
urin bladd			<12>				<12>				<12>				<39>			
	hemorrhage		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	simple hyperplasia:transitional epithelium		1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
{Endocrine system}																		
pituitary			<12>				<12>				<12>				<39>			
	cyst		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)	(8)	(0)	(0)	(0)	(5)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary			<12>				<12>				<12>				<39>			
	hyperplasia		0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(3)	(0)	(0)
	Rathke pouch		1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
			(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)
thyroid			<12>				<12>				<12>				<39>			
	C-cell hyperplasia		1	0	0	0	3	1	0	0	0	1	0	0	0	2	0	0
			(8)	(0)	(0)	(0)	(25)	(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(5)	(0)	(0)
parathyroid			<12>				<12>				<12>				<39>			
	hyperplasia		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
adrenal			<12>				<12>				<12>				<39>			
	hyperplasia:medulla		0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	focal fatty change:cortex		0	0	0	0	0	1	0	0	1	0	0	0	3	1	0	0
			(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(8)	(0)	(0)	(0)	(8)	(3)	(0)	(0)
{Reproductive system}																		
testis			<12>				<12>				<12>				<39>			
	atrophy		0	2	8	0	0	1	9	0	2	2	5	0	10	6	13	0
			(0)	(17)	(67)	(0)	(0)	(8)	(75)	(0)	(17)	(17)	(42)	(0)	(26)	(15)	(33)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
testis			<12>				<12>				<12>				<39>			
	mineralization		2	0	0	0	2	0	0	0	0	0	0	0	7	0	0	0
			(17)	(0)	(0)	(0)	(17)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(18)	(0)	(0)	(0)
	interstitial cell hyperplasia		0	0	0	0	3	0	0	0	3	0	0	0	10	0	0	0
			(0)	(0)	(0)	(0)	(25)	(0)	(0)	(0)	(25)	(0)	(0)	(0)	(26)	(0)	(0)	(0)
prostate			<12>				<12>				<12>				<39>			
	inflammation		0	1	1	0	1	2	0	0	1	2	2	0	3	1	0	0
			(0)	(8)	(8)	(0)	(8)	(17)	(0)	(0)	(8)	(17)	(17)	(0)	(8)	(3)	(0)	(0)
	hyperplasia		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Nervous system}																		
brain			<12>				<12>				<12>				<39>			
	hemorrhage		1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	vacuolic change		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Nervous system}																		
brain			<12>				<12>				<12>				<39>			
	mineralization		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	gliosis		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	dilatation:cerebral ventricle		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)
spinal cord			<12>				<12>				<12>				<39>			
	hemorrhage		0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	gliosis		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye			<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 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Special sense organs/appendage}																		
eye			<12>				<12>				<12>				<39>			
	cataract		0	0	0	0	1	1	0	0	0	1	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(8)	(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(5)	(0)	(0)
	retinal atrophy		4	0	0	0	4	0	1	0	6	0	1	0	9	0	2	0
			(33)	(0)	(0)	(0)	(33)	(0)	(8)	(0)	(50)	(0)	(8)	(0)	(23)	(0)	(5)	(0)
	keratitis		1	0	0	0	1	0	0	0	0	0	0	0	9	13	2	0 *
			(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(23)	(33)	(5)	(0)
Harder gl			<12>				<12>				<12>				<39>			
	degeneration		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)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	lymphocytic infiltration		0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Musculoskeletal system}																		
muscle			<12>				<12>				<12>				<39>			
	mineralization		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	12				12				12				39			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Body cavities}																		
peritoneum			<12>				<12>				<12>				<39>			
	inflammation		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

APPENDIX L 3

HISTOPATHOLOGICAL FINDINGS :

NON-NEOPLASTIC LESIONS : MALE

SACRIFICED ANIMALS

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			<38>				<38>				<38>				<11>			
	mineralization		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	scab		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	epidermal cyst		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
subcutis			<38>				<38>				<38>				<11>			
	abscess		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Respiratory system}																		
nasal cavit			<38>				<38>				<38>				<11>			
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	0	0	0	0	1	7	1	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(9)	(64)	(9)	(0)
	eosinophilic change:olfactory epithelium		15	20	1	0	16	18	1	0	11	21	1	0	6	2	0	0
			(39)	(53)	(3)	(0)	(42)	(47)	(3)	(0)	(29)	(55)	(3)	(0)	(55)	(18)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<38>				<38>				<38>				<11>			
	eosinophilic change:respiratory epithelium		2	2	0	0	3	0	0	0	2	0	0	0	0	0	0	0
			(5)	(5)	(0)	(0)	(8)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:foreign body		7	13	0	0	6	12	0	0	6	19	0	0	0	5	0	0
			(18)	(34)	(0)	(0)	(16)	(32)	(0)	(0)	(16)	(50)	(0)	(0)	(0)	(45)	(0)	(0)
	inflammation:respiratory epithelium		0	0	0	0	1	0	0	0	0	0	0	0	0	8	1	0 **
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(73)	(9)	(0)
	respiratory metaplasia:olfactory epithelium		3	0	0	0	0	1	0	0	3	1	0	0	1	1	0	0
			(8)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(8)	(3)	(0)	(0)	(9)	(9)	(0)	(0)
	respiratory metaplasia:gland		5	9	0	0	8	8	0	0	5	7	0	0	2	5	0	0
			(13)	(24)	(0)	(0)	(21)	(21)	(0)	(0)	(13)	(18)	(0)	(0)	(18)	(45)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		0	0	0	0	1	0	0	0	3	2	0	0	1	9	0	0 **
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(8)	(5)	(0)	(0)	(9)	(82)	(0)	(0)
	squamous cell metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
	hyperplasia with atypia:respiratory epithelium		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<38>				<38>				<38>				<11>			
	hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	5	3	0	0 *	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(13)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	2	0	0	0	1	4	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(9)	(36)	(0)	(0)
lung			<38>				<38>				<38>				<11>			
	inflammatory infiltration		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	accumulation of foamy cells		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	bronchiolar-alveolar cell hyperplasia		0	3	0	0	0	1	0	0	0	1	0	0	0	0	0	0
			(0)	(8)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:foreign body		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(9)	(0)	(0)
{Hematopoietic system}																		
bone marrow			<38>				<38>				<38>				<11>			
	thrombus		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
bone marrow			<38>				<38>				<38>				<11>			
	granulation		1	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
	increased hematopoiesis		1	0	0	0	3	0	0	0	2	0	0	0	5	0	0	0 **
			(3)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(45)	(0)	(0)	(0)
spleen			<38>				<38>				<38>				<11>			
	congestion		0	6	0	0	1	3	0	0	1	3	0	0	0	0	0	0
			(0)	(16)	(0)	(0)	(3)	(8)	(0)	(0)	(3)	(8)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(9)	(0)	(0)
	fibrosis		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	increased extramedullary hematopoiesis		1	1	0	0	0	3	0	0	2	0	1	0	0	0	0	0
			(3)	(3)	(0)	(0)	(0)	(8)	(0)	(0)	(5)	(0)	(3)	(0)	(0)	(0)	(0)	(0)
{Circulatory system}																		
heart			<38>				<38>				<38>				<11>			
	inflammatory cell nest		3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(8)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Circulatory system}																		
heart			<38>				<38>				<38>				<11>			
	myocardial fibrosis		11	27	0	0	10	26	0	0	17	21	0	0	5	6	0	0
			(29)	(71)	(0)	(0)	(26)	(68)	(0)	(0)	(45)	(55)	(0)	(0)	(45)	(55)	(0)	(0)
	subendocardial fibrosis		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	arteritis		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Digestive system}																		
tooth			<38>				<38>				<38>				<11>			
	inflammation		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
stomach			<38>				<38>				<38>				<11>			
	erosion:forestomach		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:forestomach		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
stomach			<38>				<38>				<38>				<11>			
	erosion:glandular stomach		5	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0
			(13)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(27)	(0)	(0)	(0)
small intes			<38>				<38>				<38>				<11>			
	inflammation		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver			<38>				<38>				<38>				<11>			
	herniation		3	0	0	0	5	0	0	0	4	0	0	0	2	0	0	0
			(8)	(0)	(0)	(0)	(13)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(18)	(0)	(0)	(0)
	granulation		3	1	0	0	1	0	0	0	2	1	0	0	0	0	0	0
			(8)	(3)	(0)	(0)	(3)	(0)	(0)	(0)	(5)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	clear cell focus		7	4	0	0	5	8	0	0	3	5	0	0	1	1	0	0
			(18)	(11)	(0)	(0)	(13)	(21)	(0)	(0)	(8)	(13)	(0)	(0)	(9)	(9)	(0)	(0)
	acidophilic cell focus		0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<38>				<38>				<38>				<11>			
	basophilic cell focus		3	1	0	0	0	1	0	0	1	1	0	0	1	0	0	0
			(8)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(3)	(3)	(0)	(0)	(9)	(0)	(0)	(0)
	spongiosis hepatis		3	0	0	0	1	1	0	0	7	0	0	0	1	0	0	0
			(8)	(0)	(0)	(0)	(3)	(3)	(0)	(0)	(18)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
	bile duct hyperplasia		0	38	0	0	0	38	0	0	1	37	0	0	0	11	0	0
			(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(3)	(97)	(0)	(0)	(0)	(100)	(0)	(0)
pancreas			<38>				<38>				<38>				<11>			
	atrophy		0	7	0	0	2	11	0	0	5	6	0	0	1	1	0	0
			(0)	(18)	(0)	(0)	(5)	(29)	(0)	(0)	(13)	(16)	(0)	(0)	(9)	(9)	(0)	(0)
	islet cell hyperplasia		0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0
			(0)	(5)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
{Urinary system}																		
kidney			<38>				<38>				<38>				<11>			
	chronic nephropathy		8	25	2	0	5	30	2	0	13	22	2	0	7	1	0	0 **
			(21)	(66)	(5)	(0)	(13)	(79)	(5)	(0)	(34)	(58)	(5)	(0)	(64)	(9)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney			<38>				<38>				<38>				<11>			
	tubular necrosis		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(9)	(0)	(0)
	mineralization:papilla		3	0	0	0	4	0	0	0	2	0	0	0	1	0	0	0
			(8)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
	mineralization:pelvis		2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Endocrine system}																		
pituitary			<38>				<38>				<38>				<11>			
	cyst		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia		2	6	0	0	0	6	0	0	1	3	0	0	0	1	0	0
			(5)	(16)	(0)	(0)	(0)	(16)	(0)	(0)	(3)	(8)	(0)	(0)	(0)	(9)	(0)	(0)
	Rathke pouch		0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0
			(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
thyroid			<38>				<37>				<38>				<11>			
	cyst		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
thyroid			<38>				<37>				<38>				<11>			
	C-cell hyperplasia		5	1	0	0	4	4	0	0	3	4	0	0	2	0	0	0
			(13)	(3)	(0)	(0)	(11)	(11)	(0)	(0)	(8)	(11)	(0)	(0)	(18)	(0)	(0)	(0)
	focal follicular cell hyperplasia		0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
adrenal			<38>				<38>				<38>				<11>			
	hyperplasia:cortical cell		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:medulla		2	4	0	0	1	2	0	0	0	4	0	0	0	1	0	0
			(5)	(11)	(0)	(0)	(3)	(5)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(9)	(0)	(0)
	focal fatty change:cortex		0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0
			(0)	(5)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)
{Reproductive system}																		
testis			<38>				<38>				<38>				<11>			
	atrophy		0	1	36	0	0	0	38	0	0	0	38	0	0	0	11	0
			(0)	(3)	(95)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Reproductive system}																		
testis			<38>				<38>				<38>				<11>			
	mineralization		8	1	0	0	6	0	0	0	8	0	0	0	4	0	0	0
			(21)	(3)	(0)	(0)	(16)	(0)	(0)	(0)	(21)	(0)	(0)	(0)	(36)	(0)	(0)	(0)
	arteritis		1	1	0	0	2	1	0	0	0	0	1	0	0	0	0	0
			(3)	(3)	(0)	(0)	(5)	(3)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)
	interstitial cell hyperplasia		0	1	0	0	3	0	0	0	1	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(8)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
prostate			<38>				<38>				<38>				<11>			
	inflammation		9	2	0	0	5	5	0	0	4	4	0	0	1	0	0	0
			(24)	(5)	(0)	(0)	(13)	(13)	(0)	(0)	(11)	(11)	(0)	(0)	(9)	(0)	(0)	(0)
	hyperplasia		6	1	0	0	8	0	0	0	8	0	0	0	1	0	0	0
			(16)	(3)	(0)	(0)	(21)	(0)	(0)	(0)	(21)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
mammary gl			<38>				<38>				<38>				<11>			
	galactocele		0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Nervous system}																		
brain			<38>				<38>				<38>				<11>			
	necrosis:focal		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Nervous system}																		
brain			<38>				<38>				<38>				<11>			
	dilatation:cerebral ventricle		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
spinal cord			<38>				<38>				<38>				<11>			
	gliosis		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye			<38>				<38>				<38>				<11>			
	cataract		3	5	0	0	2	2	0	0	0	4	0	0	0	0	0	0
			(8)	(13)	(0)	(0)	(5)	(5)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(0)	(0)	(0)
	retinal atrophy		28	0	8	0	32	0	4	0	34	0	4	0	9	0	0	0
			(74)	(0)	(21)	(0)	(84)	(0)	(11)	(0)	(89)	(0)	(11)	(0)	(82)	(0)	(0)	(0)
	keratitis		2	0	0	0	2	0	0	0	0	0	0	0	1	0	1	0
			(5)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(9)	(0)	(9)	(0)
Harder gl			<38>				<38>				<38>				<11>			
	degeneration		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	38				38				38				11			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Special sense organs/appendage}																		
Harder gl			<38>				<38>				<38>				<11>			
	lymphocytic infiltration		3	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0
			(8)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(9)	(0)	(0)	(0)

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

APPENDIX L 4

HISTOPATHOLOGICAL FINDINGS :

NON-NEOPLASTIC LESIONS : FEMALE

ALL ANIMALS

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			<50>				<50>				<50>				<50>			
	angiectasis		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
{Respiratory system}																		
nasal cavit			<50>				<50>				<50>				<50>			
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	0	0	0	0	9	30	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(18)	(60)	(0)	(0)
	eosinophilic change:olfactory epithelium		1	35	13	0	2	46	2	0 *	3	46	1	0 **	10	25	0	0 **
			(2)	(70)	(26)	(0)	(4)	(92)	(4)	(0)	(6)	(92)	(2)	(0)	(20)	(50)	(0)	(0)
	eosinophilic change:respiratory epithelium		22	5	0	0	20	6	0	0	11	2	0	0 *	1	0	0	0 **
			(44)	(10)	(0)	(0)	(40)	(12)	(0)	(0)	(22)	(4)	(0)	(0)	(2)	(0)	(0)	(0)
	inflammation:foreign body		3	1	0	0	3	1	0	0	1	1	0	0	0	0	0	0
			(6)	(2)	(0)	(0)	(6)	(2)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:respiratory epithelium		0	0	0	0	0	0	0	0	2	0	0	0	8	23	1	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(16)	(46)	(2)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<50>				<50>				<50>				<50>			
	inflammation:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	respiratory metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
	respiratory metaplasia:gland		16	3	0	0	24	1	0	0	21	1	0	0	14	5	0	0
			(32)	(6)	(0)	(0)	(48)	(2)	(0)	(0)	(42)	(2)	(0)	(0)	(28)	(10)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		0	0	0	0	1	0	0	0	6	0	0	0 *	2	41	0	0 **
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(4)	(82)	(0)	(0)
	squamous cell metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(16)	(0)	(0)	(0)
	hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	6	0	0	0 *	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	1	0	0	0	21	8	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(42)	(16)	(0)	(0)
lung			<50>				<50>				<50>				<50>			
	congestion		0	1	0	0	0	0	0	0	1	0	0	0	0	2	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(4)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
lung			<50>				<50>				<50>				<50>			
	hemorrhage		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	bronchiolar-alveolar cell hyperplasia		0	1	0	0	1	1	0	0	1	2	0	0	1	0	0	0
			(0)	(2)	(0)	(0)	(2)	(2)	(0)	(0)	(2)	(4)	(0)	(0)	(2)	(0)	(0)	(0)
	inflammation:foreign body		0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)
{Hematopoietic system}																		
bone marrow			<50>				<50>				<50>				<50>			
	granulation		14	1	0	0	15	4	0	0	15	3	0	0	10	0	0	0
			(28)	(2)	(0)	(0)	(30)	(8)	(0)	(0)	(30)	(6)	(0)	(0)	(20)	(0)	(0)	(0)
	increased hematopoiesis		6	0	0	0	3	0	0	0	4	0	0	0	5	0	0	0
			(12)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(10)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
bone marrow			<50>				<50>				<50>				<50>			
	decreased hematopoiesis		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
spleen			<50>				<50>				<49>				<50>			
	congestion		0	2	0	0	0	1	0	0	0	0	0	0	0	1	0	0
			(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	deposit of hemosiderin		0	2	0	0	0	1	0	0	0	3	0	0	0	5	0	0
			(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(10)	(0)	(0)
	granulation		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	fibrosis		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	increased extramedullary hematopoiesis		0	2	1	0	0	2	1	0	0	2	3	0	0	5	0	0
			(0)	(4)	(2)	(0)	(0)	(4)	(2)	(0)	(0)	(4)	(6)	(0)	(0)	(10)	(0)	(0)
{Circulatory system}																		
heart			<50>				<50>				<50>				<50>			
	thrombus		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Circulatory system}																		
heart			<50>				<50>				<50>				<50>			
	necrosis:focal		0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	mineralization		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	inflammatory cell nest		1	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0
			(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	myocardial fibrosis		30	5	0	0	31	3	0	0	34	5	0	0	25	2	0	0
			(60)	(10)	(0)	(0)	(62)	(6)	(0)	(0)	(68)	(10)	(0)	(0)	(50)	(4)	(0)	(0)
	subendocardial fibrosis		1	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Digestive system}																		
tongue			<50>				<50>				<50>				<50>			
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
tongue			<50>				<50>				<50>				<50>			
	arteritis		1	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0
			(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
stomach			<50>				<50>				<50>				<50>			
	basal cell hyperplasia		1	0	0	0	3	0	0	0	1	0	0	0	4	0	0	0
			(2)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(8)	(0)	(0)	(0)
	erosion:forestomach		0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(8)	(0)	(0)	(0)
	ulcer:forestomach		0	2	0	0	0	1	1	0	0	2	0	0	2	3	0	0
			(0)	(4)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(4)	(0)	(0)	(4)	(6)	(0)	(0)
	hyperplasia:forestomach		4	2	0	0	0	2	0	0	0	2	0	0	6	2	0	0
			(8)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)	(12)	(4)	(0)	(0)
	erosion:glandular stomach		3	0	0	0	2	1	0	0	0	0	0	0	2	0	0	0
			(6)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	ulcer:glandular stomach		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)	(2)	(2)	(0)	(0)
small intes			<50>				<50>				<50>				<50>			
	erosion		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)

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

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

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
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Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<50>				<50>				<50>				<50>			
	bile duct hyperplasia		7	2	0	0	4	2	0	0	7	4	0	0	4	0	0	0
			(14)	(4)	(0)	(0)	(8)	(4)	(0)	(0)	(14)	(8)	(0)	(0)	(8)	(0)	(0)	(0)
pancreas			<50>				<50>				<50>				<50>			
	atrophy		2	2	0	0	1	2	0	0	1	2	0	0	1	2	1	0
			(4)	(4)	(0)	(0)	(2)	(4)	(0)	(0)	(2)	(4)	(0)	(0)	(2)	(4)	(2)	(0)
{Urinary system}																		
kidney			<50>				<50>				<50>				<50>			
	hyaline droplet		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	deposit of hemosiderin		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	chronic nephropathy		9	4	0	0	18	3	1	0	16	4	2	0	1	0	0	0 **
			(18)	(8)	(0)	(0)	(36)	(6)	(2)	(0)	(32)	(8)	(4)	(0)	(2)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney			<50>				<50>				<50>				<50>			
	hydronephrosis		0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization:cortico-medullary junction		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	mineralization:papilla		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization:pelvis		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	mineralization:cortex		0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
urin bladd			<50>				<50>				<50>				<50>			
	nodular hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Endocrine system}																		
pituitary			<50>				<50>				<50>				<50>			
	angiectasis		0	0	0	0	2	1	0	0	0	1	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary			<50>				<50>				<50>				<50>			
	cyst		2	9	0	0	0	5	0	0	1	9	0	0	0	10	0	0
			(4)	(18)	(0)	(0)	(0)	(10)	(0)	(0)	(2)	(18)	(0)	(0)	(0)	(20)	(0)	(0)
	hyperplasia		0	4	0	0	0	11	0	0	0	5	0	0	0	4	0	0
			(0)	(8)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(8)	(0)	(0)
	Rathke pouch		1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
thyroid			<50>				<50>				<50>				<50>			
	C-cell hyperplasia		6	4	0	0	7	2	0	0	7	4	0	0	1	2	0	0
			(12)	(8)	(0)	(0)	(14)	(4)	(0)	(0)	(14)	(8)	(0)	(0)	(2)	(4)	(0)	(0)
	focal follicular cell hyperplasia		0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(2)	(0)	(0)	(0)
adrenal			<50>				<50>				<50>				<50>			
	peliosis-like lesion		0	2	0	0	0	1	0	0	0	1	0	0	0	5	0	0
			(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(10)	(0)	(0)
	hyperplasia:cortical cell		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
adrenal			<50>				<50>				<50>				<50>			
	hyperplasia:medulla		0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	focal fatty change:cortex		0	5	0	0	0	5	0	0	0	3	0	0	3	4	0	0
			(0)	(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(6)	(0)	(0)	(6)	(8)	(0)	(0)
{Reproductive system}																		
uterus			<50>				<50>				<50>				<50>			
	hyperplasia:epithelium		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:gland		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	cystic endometrial hyperplasia		1	0	0	0	2	1	0	0	0	0	0	0	2	2	0	0
			(2)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(4)	(0)	(0)
mammary gl			<50>				<50>				<50>				<50>			
	hyperplasia		0	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(4)	(0)	(2)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Nervous system}																		
brain			<50>				<50>				<50>				<50>			
	hemorrhage		2	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0
			(4)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)
	necrosis:focal		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)	(2)	(0)	(0)	(0)	(2)	(0)	(0)
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
spinal cord			<50>				<50>				<50>				<50>			
	gliosis		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye			<50>				<50>				<50>				<50>			
	hemorrhage		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)	(2)	(2)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Special sense organs/appendage}																		
eye			<50>				<50>				<50>				<50>			
	cataract		2	2	0	0	1	3	0	0	0	2	0	0	0	2	0	0
			(4)	(4)	(0)	(0)	(2)	(6)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(4)	(0)	(0)
	retinal atrophy		37	1	4	0	44	0	4	0	42	0	2	0	28	0	3	0
			(74)	(2)	(8)	(0)	(88)	(0)	(8)	(0)	(84)	(0)	(4)	(0)	(56)	(0)	(6)	(0)
	keratitis		1	1	0	0	0	0	0	0	1	0	0	0	10	12	1	2 **
			(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(20)	(24)	(2)	(4)
	iritis		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Harder gl			<50>				<50>				<50>				<50>			
	degeneration		3	0	0	0	2	1	0	0	2	0	0	0	0	1	0	0
			(6)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(2)	(0)	(0)
	inflammatory infiltration		0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
	lymphocytic infiltration		4	0	0	0	2	0	0	0	6	0	0	0	3	0	0	0
			(8)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	granulation		3	0	0	0	5	0	0	0	3	0	0	0	1	0	0	0
			(6)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(6)	(0)	(0)	(0)	(2)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	50				50				50				50			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Special sense organs/appendage}																		
nasolacr d			<50>				<50>				<50>				<50>			
	inflammation		0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
{Musculoskeletal system}																		
bone			<50>				<50>				<50>				<50>			
	osteosclerosis		5	3	0	0	1	1	0	0	6	2	0	0	5	2	0	0
			(10)	(6)	(0)	(0)	(2)	(2)	(0)	(0)	(12)	(4)	(0)	(0)	(10)	(4)	(0)	(0)

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

APPENDIX L 5

HISTOPATHOLOGICAL FINDINGS :

NON-NEOPLASTIC LESIONS : FEMALE

DEAD AND MORIBUND ANIMALS

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	10				5				9				35			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<10>				< 5>				< 9>				<35>			
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	0	0	0	0	5	21	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(14)	(60)	(0)	(0)
	eosinophilic change:olfactory epithelium		1	7	1	0	1	4	0	0	2	7	0	0	7	13	0	0 *
			(10)	(70)	(10)	(0)	(20)	(80)	(0)	(0)	(22)	(78)	(0)	(0)	(20)	(37)	(0)	(0)
	eosinophilic change:respiratory epithelium		2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:foreign body		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:respiratory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	5	13	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(14)	(37)	(0)	(0)
	respiratory metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	respiratory metaplasia:gland		1	1	0	0	3	0	0	0	2	1	0	0	6	4	0	0
			(10)	(10)	(0)	(0)	(60)	(0)	(0)	(0)	(22)	(11)	(0)	(0)	(17)	(11)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		0	0	0	0	0	0	0	0	4	0	0	0	1	28	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(44)	(0)	(0)	(0)	(3)	(80)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	10				5				9				35			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<10>				< 5>				< 9>				<35>			
	squamous cell metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
	hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	1	0	0	0	12	6	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(34)	(17)	(0)	(0)
lung			<10>				< 5>				< 9>				<35>			
	congestion		0	1	0	0	0	0	0	0	1	0	0	0	0	2	0	0
			(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(0)	(6)	(0)	(0)
	hemorrhage		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
	inflammation:foreign body		0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)
{Hematopoietic system}																		
bone marrow			<10>				< 5>				< 9>				<35>			
	granulation		1	0	0	0	1	0	0	0	0	1	0	0	4	0	0	0
			(10)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(11)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	10				5				9				35			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
bone marrow			<10>				< 5>				< 9>				<35>			
	increased hematopoiesis		3	0	0	0	1	0	0	0	3	0	0	0	3	0	0	0
			(30)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(33)	(0)	(0)	(0)	(9)	(0)	(0)	(0)
	decreased hematopoiesis		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
spleen			<10>				< 5>				< 9>				<35>			
	congestion		0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
	deposit of hemosiderin		0	2	0	0	0	0	0	0	0	2	0	0	0	3	0	0
			(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(9)	(0)	(0)
	increased extramedullary hematopoiesis		0	1	0	0	0	2	1	0	0	1	2	0	0	4	0	0
			(0)	(10)	(0)	(0)	(0)	(40)	(20)	(0)	(0)	(11)	(22)	(0)	(0)	(11)	(0)	(0)
{Circulatory system}																		
heart			<10>				< 5>				< 9>				<35>			
	thrombus		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	10				5				9				35			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Circulatory system}																		
heart			<10>				< 5>				< 9>				<35>			
	necrosis:focal		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	mineralization		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	myocardial fibrosis		3	1	0	0	3	0	0	0	6	0	0	0	18	0	0	0
			(30)	(10)	(0)	(0)	(60)	(0)	(0)	(0)	(67)	(0)	(0)	(0)	(51)	(0)	(0)	(0)
{Digestive system}																		
stomach			<10>				< 5>				< 9>				<35>			
	basal cell hyperplasia		0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)
	erosion:forestomach		0	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(9)	(0)	(0)	(0)

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

Organ	Findings	Group Name / No. of Animals on Study / Grade	Control 10				10 ppm 5				30 ppm 9				90 ppm 35			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Digestive system}																		
stomach			<10>				< 5>				< 9>				<35>			
	ulcer:forestomach		0	2	0	0	0	1	1	0	0	2	0	0	2	3	0	0
			(0)	(20)	(0)	(0)	(0)	(20)	(20)	(0)	(0)	(22)	(0)	(0)	(6)	(9)	(0)	(0)
	hyperplasia:forestomach		3	2	0	0	0	2	0	0	0	2	0	0	4	2	0	0
			(30)	(20)	(0)	(0)	(0)	(40)	(0)	(0)	(0)	(22)	(0)	(0)	(11)	(6)	(0)	(0)
	erosion:glandular stomach		3	0	0	0	1	1	0	0	0	0	0	0	2	0	0	0
			(30)	(0)	(0)	(0)	(20)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	ulcer:glandular stomach		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)	(3)	(3)	(0)	(0)
small intes			<10>				< 5>				< 9>				<35>			
	erosion		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
liver			<10>				< 5>				< 9>				<35>			
	herniation		0	0	0	0	1	0	0	0	0	0	0	0	10	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(29)	(0)	(0)	(0)
	necrosis:central		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	10				5				9				35			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<10>				< 5>				< 9>				<35>			
	fatty change:central		0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	lymphocytic infiltration		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
	granulation		1	1	0	0	0	0	0	0	2	0	0	0	0	0	1	0
			(10)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(0)	(0)	(3)	(0)
	basophilic cell focus		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)	(3)	(3)	(0)	(0)
	bile duct hyperplasia		2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
pancreas			<10>				< 5>				< 9>				<35>			
	atrophy		1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(3)	(0)
{Urinary system}																		
kidney			<10>				< 5>				< 9>				<35>			
	inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	10				5				9				35			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney			<10>				< 5>				< 9>				<35>			
	chronic nephropathy		1	2	0	0	2	0	0	0	0	1	0	0	1	0	0	0 *
			(10)	(20)	(0)	(0)	(40)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(3)	(0)	(0)	(0)
	hydronephrosis		0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(11)	(0)	(0)	(0)	(0)	(0)	(0)
	mineralization:cortico-medullary junction		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	mineralization:pelvis		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
	mineralization:cortex		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
{Endocrine system}																		
pituitary			<10>				< 5>				< 9>				<35>			
	angiectasis		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
	cyst		0	0	0	0	0	0	0	0	0	1	0	0	0	7	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(20)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	10				5				9				35			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary			<10>				< 5>				< 9>				<35>			
	hyperplasia		0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
			(0)	(10)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
thyroid			<10>				< 5>				< 9>				<35>			
	C-cell hyperplasia		1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(0)	(0)	(0)
	focal follicular cell hyperplasia		0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(11)	(0)	(0)	(3)	(0)	(0)	(0)
adrenal			<10>				< 5>				< 9>				<35>			
	peliosis-like lesion		0	1	0	0	0	0	0	0	0	1	0	0	0	5	0	0
			(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(14)	(0)	(0)
	focal fatty change:cortex		0	1	0	0	0	0	0	0	0	1	0	0	2	3	0	0
			(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(11)	(0)	(0)	(6)	(9)	(0)	(0)
{Reproductive system}																		
uterus			<10>				< 5>				< 9>				<35>			
	cystic endometrial hyperplasia		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	10				5				9				35			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Nervous system}																		
brain			<10>				< 5>				< 9>				<35>			
	hemorrhage		2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(0)	(0)
	necrosis:focal		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)	(11)	(0)	(0)	(0)	(3)	(0)	(0)
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye			<10>				< 5>				< 9>				<35>			
	hemorrhage		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)	(3)	(3)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)
	cataract		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)
	retinal atrophy		2	0	0	0	3	0	0	0	3	0	0	0	16	0	2	0
			(20)	(0)	(0)	(0)	(60)	(0)	(0)	(0)	(33)	(0)	(0)	(0)	(46)	(0)	(6)	(0)

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
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(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	10				5				9				35			
		Grade	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Special sense organs/appendage}																		
eye			<10>				< 5>				< 9>				<35>			
	keratitis		0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	10 (29)	10 (29)	1 (3)	2 * (6)
Harder gl			<10>				< 5>				< 9>				<35>			
	degeneration		0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)
	inflammatory infiltration		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)
	lymphocytic infiltration		1 (10)	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)
	granulation		0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
{Musculoskeletal system}																		
bone			<10>				< 5>				< 9>				<35>			
	osteosclerosis		0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (11)	1 (11)	0 (0)	0 (0)	3 (9)	2 (6)	0 (0)	0 (0)

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

APPENDIX L 6

HISTOPATHOLOGICAL FINDINGS :

NON-NEOPLASTIC LESIONS : FEMALE

SACRIFICED ANIMALS

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Integumentary system/appandage}																		
skin/app			<40>				<45>				<41>				<15>			
	angiectasis		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)
{Respiratory system}																		
nasal cavit			<40>				<45>				<41>				<15>			
	squamous cell hyperplasia with atypia		0	0	0	0	0	0	0	0	0	0	0	0	4	9	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(27)	(60)	(0)	(0)
	eosinophilic change:olfactory epithelium		0	28	12	0	1	42	2	0 **	1	39	1	0 **	3	12	0	0 **
			(0)	(70)	(30)	(0)	(2)	(93)	(4)	(0)	(2)	(95)	(2)	(0)	(20)	(80)	(0)	(0)
	eosinophilic change:respiratory epithelium		20	5	0	0	19	6	0	0	11	2	0	0 *	1	0	0	0 **
			(50)	(13)	(0)	(0)	(42)	(13)	(0)	(0)	(27)	(5)	(0)	(0)	(7)	(0)	(0)	(0)
	inflammation:foreign body		3	1	0	0	2	1	0	0	1	1	0	0	0	0	0	0
			(8)	(3)	(0)	(0)	(4)	(2)	(0)	(0)	(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammation:respiratory epithelium		0	0	0	0	0	0	0	0	2	0	0	0	3	10	1	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(20)	(67)	(7)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
nasal cavit			<40>				<45>				<41>				<15>			
	inflammation:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)
	respiratory metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0 *
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
	respiratory metaplasia:gland		15	2	0	0	21	1	0	0	19	0	0	0	8	1	0	0
			(38)	(5)	(0)	(0)	(47)	(2)	(0)	(0)	(46)	(0)	(0)	(0)	(53)	(7)	(0)	(0)
	squamous cell metaplasia:respiratory epithelium		0	0	0	0	1	0	0	0	2	0	0	0	1	13	0	0 **
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(7)	(87)	(0)	(0)
	squamous cell metaplasia:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)
	hyperplasia:transitional epithelium		0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	atrophy:olfactory epithelium		0	0	0	0	0	0	0	0	0	0	0	0	9	2	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(60)	(13)	(0)	(0)
lung			<40>				<45>				<41>				<15>			
	inflammation		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(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 ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
lung			<40>				<45>				<41>				<15>			
	bronchiolar-alveolar cell hyperplasia		0	1	0	0	1	1	0	0	1	2	0	0	1	0	0	0
			(0)	(3)	(0)	(0)	(2)	(2)	(0)	(0)	(2)	(5)	(0)	(0)	(7)	(0)	(0)	(0)
{Hematopoietic system}																		
bone marrow			<40>				<45>				<41>				<15>			
	granulation		13	1	0	0	14	4	0	0	15	2	0	0	6	0	0	0
			(33)	(3)	(0)	(0)	(31)	(9)	(0)	(0)	(37)	(5)	(0)	(0)	(40)	(0)	(0)	(0)
	increased hematopoiesis		3	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0
			(8)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
	decreased hematopoiesis		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
spleen			<40>				<45>				<40>				<15>			
	congestion		0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	deposit of hemosiderin		0	0	0	0	0	1	0	0	0	1	0	0	0	2	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(13)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Hematopoietic system}																		
spleen			<40>				<45>				<40>				<15>			
	granulation		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	fibrosis		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)
	increased extramedullary hematopoiesis		0	1	1	0	0	0	0	0	0	1	1	0	0	1	0	0
			(0)	(3)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(3)	(0)	(0)	(7)	(0)	(0)
{Circulatory system}																		
heart			<40>				<45>				<41>				<15>			
	necrosis:focal		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	inflammatory cell nest		1	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	myocardial fibrosis		27	4	0	0	28	3	0	0	28	5	0	0	7	2	0	0
			(68)	(10)	(0)	(0)	(62)	(7)	(0)	(0)	(68)	(12)	(0)	(0)	(47)	(13)	(0)	(0)
	subendocardial fibrosis		1	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
tongue			<40>				<45>				<41>				<15>			
	inflammatory infiltration		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
	arteritis		1	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0
			(3)	(0)	(0)	(0)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
stomach			<40>				<45>				<41>				<15>			
	basal cell hyperplasia		1	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(7)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	erosion:forestomach		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)
	hyperplasia:forestomach		1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(13)	(0)	(0)	(0)
	erosion:glandular stomach		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
liver			<40>				<45>				<41>				<15>			
	herniation		9	0	0	0	9	0	0	0	6	0	0	0	2	0	0	0
			(23)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(15)	(0)	(0)	(0)	(13)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Digestive system}																		
liver			<40>				<45>				<41>				<15>			
	fatty change:central		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	lymphocytic infiltration		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	granulation		11	6	2	0	14	8	6	0	11	8	3	0	4	1	0	0
			(28)	(15)	(5)	(0)	(31)	(18)	(13)	(0)	(27)	(20)	(7)	(0)	(27)	(7)	(0)	(0)
	inflammatory cell nest		1	3	0	0	0	1	0	0	3	0	0	0	0	0	0	0
			(3)	(8)	(0)	(0)	(0)	(2)	(0)	(0)	(7)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	clear cell focus		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	basophilic cell focus		14	8	0	0	7	9	0	0	4	7	0	0 *	2	1	0	0
			(35)	(20)	(0)	(0)	(16)	(20)	(0)	(0)	(10)	(17)	(0)	(0)	(13)	(7)	(0)	(0)
	bile duct hyperplasia		5	2	0	0	4	2	0	0	6	4	0	0	3	0	0	0
			(13)	(5)	(0)	(0)	(9)	(4)	(0)	(0)	(15)	(10)	(0)	(0)	(20)	(0)	(0)	(0)
pancreas			<40>				<45>				<41>				<15>			
	atrophy		1	2	0	0	1	2	0	0	1	2	0	0	1	1	0	0
			(3)	(5)	(0)	(0)	(2)	(4)	(0)	(0)	(2)	(5)	(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 ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Grade	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
			1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)	1 (%)	2 (%)	3 (%)	4 (%)
{Urinary system}																		
kidney			<40>				<45>				<41>				<15>			
	hyaline droplet		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	deposit of hemosiderin		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	chronic nephropathy		8 (20)	2 (5)	0 (0)	0 (0)	16 (36)	3 (7)	1 (2)	0 (0)	16 (39)	3 (7)	2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	hydronephrosis		0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization:papilla		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	mineralization:cortex		0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
urin bladd			<40>				<45>				<41>				<15>			
	nodular hyperplasia:transitional epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
{Endocrine system}																		
pituitary			<40>				<45>				<41>				<15>			
	angiectasis		0 (0)	0 (0)	0 (0)	0 (0)	2 (4)	1 (2)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
pituitary			<40>				<45>				<41>				<15>			
	cyst		2	9	0	0	0	5	0	0	1	8	0	0	0	3	0	0
			(5)	(23)	(0)	(0)	(0)	(11)	(0)	(0)	(2)	(20)	(0)	(0)	(0)	(20)	(0)	(0)
	hyperplasia		0	3	0	0	0	10	0	0	0	5	0	0	0	3	0	0
			(0)	(8)	(0)	(0)	(0)	(22)	(0)	(0)	(0)	(12)	(0)	(0)	(0)	(20)	(0)	(0)
	Rathke pouch		1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
			(3)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
thyroid			<40>				<45>				<41>				<15>			
	C-cell hyperplasia		5	4	0	0	7	1	0	0	7	3	0	0	1	2	0	0
			(13)	(10)	(0)	(0)	(16)	(2)	(0)	(0)	(17)	(7)	(0)	(0)	(7)	(13)	(0)	(0)
adrenal			<40>				<45>				<41>				<15>			
	peliosis-like lesion		0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(3)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:cortical cell		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:medulla		0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0
			(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Endocrine system}																		
adrenal			<40>				<45>				<41>				<15>			
	focal fatty change:cortex		0	4	0	0	0	5	0	0	0	2	0	0	1	1	0	0
			(0)	(10)	(0)	(0)	(0)	(11)	(0)	(0)	(0)	(5)	(0)	(0)	(7)	(7)	(0)	(0)
{Reproductive system}																		
uterus			<40>				<45>				<41>				<15>			
	hyperplasia:epithelium		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	hyperplasia:gland		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(7)	(0)	(0)	(0)
	cystic endometrial hyperplasia		0	0	0	0	2	1	0	0	0	0	0	0	2	2	0	0 **
			(0)	(0)	(0)	(0)	(4)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(13)	(13)	(0)	(0)
mammary gl			<40>				<45>				<41>				<15>			
	hyperplasia		0	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(5)	(0)	(2)	(0)	(0)	(0)	(0)	(0)
{Nervous system}																		
brain			<40>				<45>				<41>				<15>			
	hemorrhage		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

Organ	Findings	Group Name	Control				10 ppm				30 ppm				90 ppm			
		No. of Animals on Study	40				45				41				15			
		Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Nervous system}																		
spinal cord			<40>				<45>				<41>				<15>			
	gliosis		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(7)	(0)	(0)	(0)
{Special sense organs/appendage}																		
eye			<40>				<45>				<41>				<15>			
	cataract		2	2	0	0	1	3	0	0	0	2	0	0	0	1	0	0
			(5)	(5)	(0)	(0)	(2)	(7)	(0)	(0)	(0)	(5)	(0)	(0)	(0)	(7)	(0)	(0)
	retinal atrophy		35	1	4	0	41	0	4	0	39	0	2	0	12	0	1	0
			(88)	(3)	(10)	(0)	(91)	(0)	(9)	(0)	(95)	(0)	(5)	(0)	(80)	(0)	(7)	(0)
	keratitis		1	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0
			(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(13)	(0)	(0)
	iritis		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Harder gl			<40>				<45>				<41>				<15>			
	degeneration		3	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0
			(8)	(0)	(0)	(0)	(2)	(2)	(0)	(0)	(5)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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

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

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

APPENDIX M 1

NUMBER OF ANIMALS WITH TUMORS

AND NUMBER OF TUMORS-TIME RELATED : MALE

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

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

Time-related Weeks	Items	Group Name	Control	10 ppm	30 ppm	90 ppm
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		0	0	0	0
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	0
	NO. OF BENIGN TUMORS		0	0	0	0
	NO. OF MALIGNANT TUMORS		0	0	0	0
	NO. OF TOTAL TUMORS		0	0	0	0
53 - 78	NO. OF EXAMINED ANIMALS		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
105 - 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		9	16	27	10
	NO. OF TOTAL TUMORS		83	86	99	22

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

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

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 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

APPENDIX M 2

NUMBER OF ANIMALS WITH TUMORS

AND NUMBER OF TUMORS-TIME RELATED : FEMALE

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

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

Time-related Weeks	Items	Group Name	Control	10 ppm	30 ppm	90 ppm
0 - 52	NO. OF EXAMINED ANIMALS		0	0	0	0
	NO. OF ANIMALS WITH TUMORS		0	0	0	0
	NO. OF ANIMALS WITH SINGLE TUMORS		0	0	0	0
	NO. OF ANIMALS WITH MULTIPLE TUMORS		0	0	0	0
	NO. OF BENIGN TUMORS		0	0	0	0
	NO. OF MALIGNANT TUMORS		0	0	0	0
	NO. OF TOTAL TUMORS		0	0	0	0
53 - 78	NO. OF EXAMINED ANIMALS		3	0	3	5
	NO. OF ANIMALS WITH TUMORS		3	0	3	4
	NO. OF ANIMALS WITH SINGLE TUMORS		2	0	1	2
	NO. OF ANIMALS WITH MULTIPLE TUMORS		1	0	2	2
	NO. OF BENIGN TUMORS		4	0	4	2
	NO. OF MALIGNANT TUMORS		2	0	1	4
	NO. OF TOTAL TUMORS		6	0	5	6
79 - 104	NO. OF EXAMINED ANIMALS		7	5	6	30
	NO. OF ANIMALS WITH TUMORS		7	5	6	27
	NO. OF ANIMALS WITH SINGLE TUMORS		4	1	3	15
	NO. OF ANIMALS WITH MULTIPLE TUMORS		3	4	3	12
	NO. OF BENIGN TUMORS		7	7	5	12
	NO. OF MALIGNANT TUMORS		4	3	4	31
	NO. OF TOTAL TUMORS		11	10	9	43
105 - 106	NO. OF EXAMINED ANIMALS		40	45	41	15
	NO. OF ANIMALS WITH TUMORS		26	34	32	15
	NO. OF ANIMALS WITH SINGLE TUMORS		20	20	20	9
	NO. OF ANIMALS WITH MULTIPLE TUMORS		6	14	12	6
	NO. OF BENIGN TUMORS		25	40	40	12
	NO. OF MALIGNANT TUMORS		8	11	7	12
	NO. OF TOTAL TUMORS		33	51	47	24

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

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

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 TUMORS		36	39	41	46
	NO. OF ANIMALS WITH SINGLE TUMORS		26	21	24	26
	NO. OF ANIMALS WITH MULTIPLE TUMORS		10	18	17	20
	NO. OF BENIGN TUMORS		36	47	49	26
	NO. OF MALIGNANT TUMORS		14	14	12	47
	NO. OF TOTAL TUMORS		50	61	61	73

APPENDIX N 1

HISTOPATHOLOGICAL FINDINGS :

NEOPLASTIC LESIONS : MALE

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

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

Organ	Findings	Group Name / No. of animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
{Integumentary system/appandage}						
skin/app			<50>	<50>	<50>	<50>
	keratoacanthoma		2 (4%)	2 (4%)	3 (6%)	1 (2%)
	sebaceous adenoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
subcutis			<50>	<50>	<50>	<50>
	fibroma		8 (16%)	4 (8%)	6 (12%)	0 (0%)
	leiomyoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
	fibrosarcoma		2 (4%)	2 (4%)	0 (0%)	0 (0%)
{Respiratory system}						
nasal cavit			<50>	<50>	<50>	<50>
	squamous cell papilloma		0 (0%)	0 (0%)	0 (0%)	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			<50>	<50>	<50>	<50>
	bronchiolar-alveolar adenoma		5 (10%)	2 (4%)	1 (2%)	1 (2%)
	bronchiolar-alveolar carcinoma		1 (2%)	0 (0%)	0 (0%)	0 (0%)
{Hematopoietic system}						
spleen			<50>	<50>	<50>	<50>
	histiocytic sarcoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)

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

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

< 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
{Endocrine system}						
thyroid			<50>	<49>	<50>	<50>
	C-cell adenoma		7 (14%)	4 (8%)	7 (14%)	4 (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			<50>	<50>	<50>	<50>
	pheochromocytoma		4 (8%)	6 (12%)	2 (4%)	1 (2%)
	pheochromocytoma:malignant		2 (4%)	1 (2%)	0 (0%)	1 (2%)
	ganglioneuroma:malignant		0 (0%)	0 (0%)	1 (2%)	0 (0%)
{Reproductive system}						
testis			<50>	<50>	<50>	<50>
	interstitial cell tumor		47 (94%)	38 (76%)	40 (80%)	24 (48%)
	rete testis adenoma		0 (0%)	0 (0%)	0 (0%)	1 (2%)
mammary gl			<50>	<50>	<50>	<50>
	fibroadenoma		2 (4%)	0 (0%)	0 (0%)	0 (0%)
prep/cli gl			<50>	<50>	<50>	<50>
	adenoma		1 (2%)	1 (2%)	1 (2%)	3 (6%)
{Nervous system}						
brain			<50>	<50>	<50>	<50>
	meningioma:benign		0 (0%)	0 (0%)	1 (2%)	0 (0%)

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

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

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

APPENDIX N 2

HISTOPATHOLOGICAL FINDINGS :

NEOPLASTIC LESIONS : FEMALE

Organ	Findings	Group Name	Control	10 ppm	30 ppm	90 ppm
		No. of animals on Study	50	50	50	50
{Integumentary system/appandage}						
skin/app			<50>	<50>	<50>	<50>
	squamous cell carcinoma		1 (2%)	0 (0%)	0 (0%)	0 (0%)
subcutis			<50>	<50>	<50>	<50>
	fibroma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
	leiomyoma		1 (2%)	0 (0%)	0 (0%)	0 (0%)
{Respiratory system}						
nasal cavit			<50>	<50>	<50>	<50>
	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

Organ	Findings	Group Name / No. of animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
{Digestive system}						
stomach			<50>	<50>	<50>	<50>
	squamous cell papilloma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
small intes			<50>	<50>	<50>	<50>
	fibroma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
large intes			<50>	<50>	<50>	<50>
	adenocarcinoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
pancreas			<50>	<50>	<50>	<50>
	islet cell adenoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
{Urinary system}						
kidney			<50>	<50>	<50>	<50>
	mesenchymoma		0 (0%)	1 (2%)	0 (0%)	0 (0%)
urin bladd			<50>	<50>	<50>	<50>
	transitional cell papilloma		0 (0%)	0 (0%)	1 (2%)	1 (2%)
{Endocrine system}						
pituitary			<50>	<50>	<50>	<50>
	adenoma		15 (30%)	16 (32%)	14 (28%)	5 (10%)
	adenocarcinoma		0 (0%)	1 (2%)	1 (2%)	0 (0%)
thyroid			<50>	<50>	<50>	<50>
	C-cell adenoma		4 (8%)	7 (14%)	9 (18%)	4 (8%)
	follicular adenoma		0 (0%)	0 (0%)	2 (4%)	0 (0%)
	C-cell carcinoma		1 (2%)	0 (0%)	2 (4%)	0 (0%)

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

Organ	Findings	Group Name / No. of animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
{Endocrine system}						
adrenal			<50>	<50>	<50>	<50>
	pheochromocytoma		1 (2%)	1 (2%)	0 (0%)	1 (2%)
	cortical adenoma		0 (0%)	0 (0%)	1 (2%)	0 (0%)
{Reproductive system}						
ovary			<50>	<50>	<50>	<50>
	granulosa-theca cell tumor		0 (0%)	1 (2%)	1 (2%)	1 (2%)
uterus			<50>	<50>	<50>	<50>
	adenoma		0 (0%)	1 (2%)	0 (0%)	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			<50>	<50>	<50>	<50>
	adenoma		1 (2%)	3 (6%)	1 (2%)	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

Organ	Findings	Group Name / No. of animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 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>
	osteoma		0 (0%)	0 (0%)	0 (0%)	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 * 100

APPENDIX O 1

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS : MALE

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : skin/appendage			
	TUMOR : keratoacanthoma			
Tumor rate				
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				
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				
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				
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**

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*	P = N.C.
	SITE : nasal cavity TUMOR : squamous cell carcinoma			
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				
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 TUMOR : squamous cell papilloma, squamous cell carcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	0/50(0.0)	36/50(72.0)
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				
Peto test				
Standard method(d)	P < 0.0001**?			
Prevalence method(d)	P < 0.0001**?			
Combined analysis(d)	P < 0.0001**?			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = N.C.	P = N.C.	P < 0.0001**

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : lung			
	TUMOR : bronchiolar-alveolar adenoma			
Tumor rate				
Overall rates(a)	5/50(10.0)	2/50(4.0)	1/50(2.0)	1/50(2.0)
Adjusted rates(b)	11.90	5.26	2.63	2.78
Terminal rates(c)	4/38(10.5)	2/38(5.3)	1/38(2.6)	0/11(0.0)
Statistical analysis				
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 adenoma, bronchiolar-alveolar carcinoma			
Tumor rate				
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)
Statistical analysis				
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			
Tumor 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)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.1180			
Prevalence method(d)	P = 0.1830			
Combined analysis(d)	P = 0.0729			
Cochran-Armitage test(e)	P = 0.1275			
Fisher Exact test(e)		P = 0.1271	P = 0.0385*	P = 0.2977

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : pancreas TUMOR : islet cell adenoma			
Tumor rate				
Overall rates(a)	2/50(4.0)	3/50(6.0)	3/50(6.0)	1/50(2.0)
Adjusted rates(b)	5.26	7.89	7.89	2.50
Terminal rates(c)	2/38(5.3)	3/38(7.9)	3/38(7.9)	0/11(0.0)
Statistical analysis				
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)	P = 0.0075**			
Fisher Exact test(e)		P = 0.1135	P = 0.5000	P = 0.0458*
	SITE : thyroid TUMOR : C-cell adenoma			
Tumor rate				
Overall rates(a)	7/50(14.0)	4/49(8.2)	7/50(14.0)	4/50(8.0)
Adjusted rates(b)	18.42	8.51	16.28	9.52
Terminal rates(c)	7/38(18.4)	3/37(8.1)	6/38(15.8)	0/11(0.0)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.5544			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.4870			
Fisher Exact test(e)		P = 0.2740	P = 0.6129	P = 0.2623

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : thyroid TUMOR : follicular adenocarcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/49(0.0)	3/50(6.0)	0/50(0.0)
Adjusted rates(b)	0.0	0.0	7.89	0.0
Terminal rates(c)	0/38(0.0)	0/37(0.0)	3/38(7.9)	0/11(0.0)
Statistical analysis				
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 TUMOR : C-cell adenoma, C-cell carcinoma			
Tumor rate				
Overall rates(a)	8/50(16.0)	5/49(10.2)	8/50(16.0)	5/50(10.0)
Adjusted rates(b)	18.42	10.64	18.60	9.52
Terminal rates(c)	7/38(18.4)	3/37(8.1)	7/38(18.4)	0/11(0.0)
Statistical analysis				
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 = 0.2768
	SITE : thyroid TUMOR : follicular adenoma, follicular adenocarcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/49(0.0)	4/50(8.0)	0/50(0.0)
Adjusted rates(b)	0.0	0.0	10.53	0.0
Terminal rates(c)	0/38(0.0)	0/37(0.0)	4/38(10.5)	0/11(0.0)
Statistical analysis				
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.

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : adrenal gland TUMOR : pheochromocytoma			
Tumor rate				
Overall rates(a)	4/50(8.0)	6/50(12.0)	2/50(4.0)	1/50(2.0)
Adjusted rates(b)	10.53	15.79	4.76	3.13
Terminal rates(c)	4/38(10.5)	6/38(15.8)	1/38(2.6)	0/11(0.0)
Statistical analysis				
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, pheochromocytoma:malignant			
Tumor 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				
Peto test				
Standard method(d)	P = 0.3217			
Prevalence method(d)	P = 0.8894			
Combined analysis(d)	P = 0.8045			
Cochran-Armitage test(e)	P = 0.0782			
Fisher Exact test(e)		P = 0.5000	P = 0.1343	P = 0.1343
	SITE : testis TUMOR : interstitial cell tumor			
Tumor rate				
Overall rates(a)	47/50(94.0)	38/50(76.0)	40/50(80.0)	24/50(48.0)
Adjusted rates(b)	97.44	86.84	94.74	100.00
Terminal rates(c)	37/38(97.4)	33/38(86.8)	36/38(94.7)	11/11(100.0)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.3458			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = 0.0113*	P = 0.0357*	P < 0.0001**

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)	3/50(6.0)
Adjusted rates(b)	2.63	2.63	2.63	4.76
Terminal rates(c)	1/38(2.6)	1/38(2.6)	1/38(2.6)	0/11(0.0)
Statistical analysis				
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 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				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.0845			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.7213			
Fisher Exact test(e)		P = 0.5000	P = 0.1212	P = 0.5000

(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.

APPENDIX O 2

NEOPLASTIC LESIONS-INCIDENCE AND STATISTICAL ANALYSIS : FEMALE

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : nasal cavity TUMOR : squamous cell carcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	0/50(0.0)	28/50(56.0)
Adjusted rates(b)	0.0	0.0	0.0	37.50
Terminal rates(c)	0/40(0.0)	0/45(0.0)	0/41(0.0)	5/15(33.3)
Statistical analysis				
Peto test				
Standard method(d)	P < 0.0001**?			
Prevalence method(d)	P < 0.0001**?			
Combined analysis(d)	P < 0.0001**?			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = N.C.	P = N.C.	P < 0.0001**
	SITE : nasal cavity TUMOR : squamous cell papilloma, squamous cell carcinoma			
Tumor rate				
Overall rates(a)	0/50(0.0)	0/50(0.0)	0/50(0.0)	28/50(56.0)
Adjusted rates(b)	0.0	0.0	0.0	37.50
Terminal rates(c)	0/40(0.0)	0/45(0.0)	0/41(0.0)	5/15(33.3)
Statistical analysis				
Peto test				
Standard method(d)	P < 0.0001**?			
Prevalence method(d)	P < 0.0001**?			
Combined analysis(d)	P < 0.0001**?			
Cochran-Armitage test(e)	P < 0.0001**			
Fisher Exact test(e)		P = N.C.	P = N.C.	P < 0.0001**
	SITE : spleen TUMOR : mononuclear cell leukemia			
Tumor rate				
Overall rates(a)	7/50(14.0)	8/50(16.0)	5/49(10.2)	13/50(26.0)
Adjusted rates(b)	12.50	15.56	10.00	41.18
Terminal rates(c)	5/40(12.5)	7/45(15.6)	4/40(10.0)	6/15(40.0)
Statistical analysis				
Peto test				
Standard method(d)	P = 0.1084			
Prevalence method(d)	P = 0.0050**			
Combined analysis(d)	P = 0.0023**			
Cochran-Armitage test(e)	P = 0.0749			
Fisher Exact test(e)		P = 0.5000	P = 0.3942	P = 0.1054

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : pituitary gland TUMOR : adenoma			
Tumor rate				
Overall rates(a)	15/50(30.0)	16/50(32.0)	14/50(28.0)	5/50(10.0)
Adjusted rates(b)	25.58	29.79	26.83	18.52
Terminal rates(c)	10/40(25.0)	13/45(28.9)	11/41(26.8)	2/15(13.3)
Statistical analysis				
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)	5/50(10.0)
Adjusted rates(b)	25.58	31.91	26.83	18.52
Terminal rates(c)	10/40(25.0)	14/45(31.1)	11/41(26.8)	2/15(13.3)
Statistical analysis				
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 = 0.5749			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.6180			
Fisher Exact test(e)		P = 0.2623	P = 0.1168	P = 0.6425

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : thyroid			
	TUMOR : C-cell adenoma, C-cell carcinoma			
Tumor rate				
Overall rates(a)	5/50(10.0)	7/50(14.0)	11/50(22.0)	4/50(8.0)
Adjusted rates(b)	11.11	14.00	24.44	13.33
Terminal rates(c)	3/40(7.5)	6/45(13.3)	10/41(24.4)	2/15(13.3)
Statistical analysis				
Peto test				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.6298			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.4861			
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)	5/40(12.5)	6/45(13.3)	6/41(14.6)	3/15(20.0)
Statistical analysis				
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				
Standard method(d)	P = ------			
Prevalence method(d)	P = 0.8551			
Combined analysis(d)	P = ------			
Cochran-Armitage test(e)	P = 0.1836			
Fisher Exact test(e)		P = 0.3087	P = 0.7525	P = 0.5000

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : mammary gland TUMOR : fibroadenoma			
Tumor rate				
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, fibroadenoma			
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

Group Name	Control	10 ppm	30 ppm	90 ppm
	SITE : mammary gland			
	TUMOR : adenoma, adenocarcinoma, 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			
Fisher Exact test(e)		P = 0.1312	P = 0.5000	P = 0.2180

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

APPENDIX P 1

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

MALE : ALL ANIMALS

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

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

Organ	Findings	Group Name / No. of Animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
{Integumentary system/appandage}						
skin/app			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	1	0	0
{Respiratory system}						
trachea			<50>	<50>	<50>	<50>
	metastasis:thyroid tumor		1	0	0	0
lung			<50>	<50>	<50>	<50>
	leukemic cell infiltration		4	4	4	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
{Hematopoietic system}						
bone marrow			<50>	<50>	<50>	<50>
	leukemic cell infiltration		2	1	1	2
	metastasis:liver tumor		0	0	1	0
	metastasis:spleen tumor		0	1	0	0
lymph node			<50>	<50>	<50>	<50>
	leukemic cell infiltration		3	3	1	0

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

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

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

Organ	Findings	Group Name / No. of Animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
{Endocrine system}						
adrenal			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	1	1	0
{Reproductive system}						
prostate			<50>	<50>	<50>	<50>
	leukemic cell infiltration		1	1	0	0
{Nervous system}						
brain			<50>	<50>	<50>	<50>
	leukemic cell infiltration		2	2	2	2
	metastasis:nasal tumor		0	0	0	2
spinal cord			<50>	<50>	<50>	<50>
	leukemic cell infiltration		2	0	0	0
{Special sense organs/appendage}						
Harder gl			<50>	<50>	<50>	<50>
	metastasis:nasal tumor		0	0	0	1

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

APPENDIX P 2

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

MALE : DEAD AND MORIBUND ANIMALS

Organ	Findings	Group Name / No. of Animals on Study	Control 12	10 ppm 12	30 ppm 12	90 ppm 39
{Integumentary system/appandage}						
skin/app			<12>	<12>	<12>	<39>
	leukemic cell infiltration		0	1	0	0
{Respiratory system}						
trachea			<12>	<12>	<12>	<39>
	metastasis:thyroid tumor		1	0	0	0
lung			<12>	<12>	<12>	<39>
	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
{Hematopoietic system}						
bone marrow			<12>	<12>	<12>	<39>
	leukemic cell infiltration		2	1	1	2
	metastasis:spleen tumor		0	1	0	0
lymph node			<12>	<12>	<12>	<39>
	leukemic cell infiltration		2	1	0	0
	metastasis:spleen tumor		0	1	0	0
	metastasis:nasal tumor		0	0	0	3
{Circulatory system}						
heart			<12>	<12>	<12>	<39>
	leukemic cell infiltration		1	0	0	0

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

Organ	Findings	Group Name / No. of Animals on Study	Control 12	10 ppm 12	30 ppm 12	90 ppm 39
{Digestive system}						
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		1	1	1	0
{Urinary system}						
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 system}						
pituitary			<12>	<12>	<12>	<39>
	leukemic cell infiltration		0	0	1	0
adrenal			<12>	<12>	<12>	<39>
	leukemic cell infiltration		0	1	1	0
{Reproductive system}						
prostate			<12>	<12>	<12>	<39>
	leukemic cell infiltration		1	1	0	0
{Nervous system}						
brain			<12>	<12>	<12>	<39>
	leukemic cell infiltration		2	2	2	2

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

Organ	Findings	Group Name	Control	10 ppm	30 ppm	90 ppm
		No. of Animals on Study	12	12	12	39
{Nervous system}						
brain			<12>	<12>	<12>	<39>
	metastasis:nasal tumor		0	0	0	2
spinal cord			<12>	<12>	<12>	<39>
	leukemic cell infiltration		2	0	0	0
{Special sense organs/appendage}						
Harder gl			<12>	<12>	<12>	<39>
	metastasis:nasal tumor		0	0	0	1

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

APPENDIX P 3

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

MALE : SACRIFICED ANIMALS

Organ	Findings	Group Name / No. of Animals on Study	Control	10 ppm	30 ppm	90 ppm
			38	38	38	11
{Respiratory system}						
lung			<38>	<38>	<38>	<11>
	leukemic cell infiltration		1	1	1	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
{Hematopoietic system}						
bone marrow			<38>	<38>	<38>	<11>
	metastasis:liver tumor		0	0	1	0
lymph node			<38>	<38>	<38>	<11>
	leukemic cell infiltration		1	2	1	0
{Digestive system}						
liver			<38>	<38>	<38>	<11>
	leukemic cell infiltration		1	1	3	1
	metastasis:bone tumor		0	1	0	0
{Endocrine system}						
pituitary			<38>	<38>	<38>	<11>
	leukemic cell infiltration		0	1	0	0

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

APPENDIX P 4

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

FEMALE : ALL ANIMALS

Organ	Findings	Group Name / No. of Animals on Study	Control	10 ppm	30 ppm	90 ppm
			50	50	50	50
{Respiratory system}						
larynx			<50>	<50>	<50>	<50>
	metastasis:vertebra tumor		1	0	0	0
lung			<50>	<50>	<50>	<50>
	leukemic cell infiltration		3	4	4	5
	metastasis:uterus tumor		0	1	0	0
	metastasis:mammary gland tumor		0	1	0	0
	metastasis:vertebra tumor		1	0	0	0
{Hematopoietic system}						
bone marrow			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	0	1	3
lymph node			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	2	0	5
	metastasis:vertebra tumor		1	0	0	0
	metastasis:skin/appendage tumor		1	0	0	0
	metastasis:large intestine tumor		0	0	1	0
thymus			<50>	<50>	<50>	<50>
	metastasis:vertebra tumor		1	0	0	0
spleen			<50>	<50>	<50>	<50>
	metastasis:peritoneum tumor		1	0	0	0
{Circulatory system}						
heart			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	0	1	1

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

Organ	Findings	Group Name / No. of Animals on Study	Control	10 ppm	30 ppm	90 ppm
			50	50	50	50
{Digestive system}						
liver			<50>	<50>	<50>	<50>
	leukemic cell infiltration		4	6	4	6
	metastasis:uterus tumor		0	1	0	0
	metastasis:large intestine tumor		0	0	1	0
pancreas			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	0	0	1
	metastasis:uterus tumor		0	1	0	0
{Urinary system}						
kidney			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	0	1	0
{Endocrine system}						
pituitary			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	1	0	3
thyroid			<50>	<50>	<50>	<50>
	metastasis:vertebra tumor		1	0	0	0
adrenal			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	1	0	2
{Reproductive system}						
ovary			<50>	<50>	<50>	<50>
	metastasis:uterus tumor		0	1	0	0

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

Organ	Findings	Group Name / No. of Animals on Study	Control 50	10 ppm 50	30 ppm 50	90 ppm 50
{Reproductive system}						
ovary			<50>	<50>	<50>	<50>
	metastasis:large intestine tumor		0	0	1	0
{Nervous system}						
brain			<50>	<50>	<50>	<50>
	leukemic cell infiltration		0	0	1	0
	metastasis:pituitary tumor		0	1	1	0
	metastasis:nasal tumor		0	0	0	1
	metastasis:vertebra tumor		1	0	0	0
spinal cord			<50>	<50>	<50>	<50>
	metastasis:vertebra tumor		1	0	0	0
{Special sense organs/appendage}						
eye			<50>	<50>	<50>	<50>
	metastasis:skin/appendage tumor		1	0	0	0
Harder gl			<50>	<50>	<50>	<50>
	metastasis:nasal tumor		0	0	0	1
{Body cavities}						
peritoneum			<50>	<50>	<50>	<50>
	metastasis:uterus tumor		1	0	0	0
retroperit			<50>	<50>	<50>	<50>
	metastasis:uterus tumor		0	1	0	0

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

Organ	Findings	Group Name / No. of Animals on Study	Control	10 ppm	30 ppm	90 ppm
			50	50	50	50
{Body cavities}						
retroperit			<50>	<50>	<50>	<50>
	metastasis:large intestine tumor		0	0	1	0

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

APPENDIX P 5

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

FEMALE : DEAD AND MORIBUND ANIMALS

Organ	Findings	Group Name / No. of Animals on Study	Control	10 ppm	30 ppm	90 ppm
			10	5	9	35
{Respiratory system}						
larynx			<10>	< 5>	< 9>	<35>
	metastasis:vertebra tumor		1	0	0	0
lung			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		2	1	1	4
	metastasis:uterus tumor		0	1	0	0
	metastasis:mammary gland tumor		0	1	0	0
	metastasis:vertebra tumor		1	0	0	0
{Hematopoietic system}						
bone marrow			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		0	0	1	3
lymph node			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		0	1	0	3
	metastasis:vertebra tumor		1	0	0	0
	metastasis:skin/appendage tumor		1	0	0	0
	metastasis:large intestine tumor		0	0	1	0
thymus			<10>	< 5>	< 9>	<35>
	metastasis:vertebra tumor		1	0	0	0
{Circulatory system}						
heart			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		0	0	0	1

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

Organ	Findings	Group Name / No. of Animals on Study	Control 10	10 ppm 5	30 ppm 9	90 ppm 35
{Digestive system}						
liver			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		1	1	1	5
	metastasis:uterus tumor		0	1	0	0
	metastasis:large intestine tumor		0	0	1	0
pancreas			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		0	0	0	1
	metastasis:uterus tumor		0	1	0	0
{Urinary system}						
kidney			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		0	0	1	0
{Endocrine system}						
pituitary			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		0	0	0	3
thyroid			<10>	< 5>	< 9>	<35>
	metastasis:vertebra tumor		1	0	0	0
adrenal			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		0	0	0	2
{Reproductive system}						
ovary			<10>	< 5>	< 9>	<35>
	metastasis:uterus tumor		0	1	0	0

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

Organ	Findings	Group Name / No. of Animals on Study	Control 10	10 ppm 5	30 ppm 9	90 ppm 35
{Reproductive system}						
ovary			<10>	< 5>	< 9>	<35>
	metastasis:large intestine tumor		0	0	1	0
{Nervous system}						
brain			<10>	< 5>	< 9>	<35>
	leukemic cell infiltration		0	0	1	0
	metastasis:pituitary tumor		0	0	1	0
	metastasis:nasal tumor		0	0	0	1
	metastasis:vertebra tumor		1	0	0	0
spinal cord			<10>	< 5>	< 9>	<35>
	metastasis:vertebra tumor		1	0	0	0
{Special sense organs/appendage}						
eye			<10>	< 5>	< 9>	<35>
	metastasis:skin/appendage tumor		1	0	0	0
Harder gl			<10>	< 5>	< 9>	<35>
	metastasis:nasal tumor		0	0	0	1
{Body cavities}						
retroperit			<10>	< 5>	< 9>	<35>
	metastasis:uterus tumor		0	1	0	0
	metastasis:large intestine tumor		0	0	1	0

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

APPENDIX P 6

HISTOPATHOLOGICAL FINDINGS :

METASTASIS OF TUMOR :

FEMALE : SACRIFICED ANIMALS

Organ	Findings	Group Name / No. of Animals on Study	Control	10 ppm	30 ppm	90 ppm
			40	45	41	15
{Respiratory system}						
lung			<40>	<45>	<41>	<15>
	leukemic cell infiltration		1	3	3	1
{Hematopoietic system}						
lymph node			<40>	<45>	<41>	<15>
	leukemic cell infiltration		0	1	0	2
spleen			<40>	<45>	<41>	<15>
	metastasis:peritoneum tumor		1	0	0	0
{Circulatory system}						
heart			<40>	<45>	<41>	<15>
	leukemic cell infiltration		0	0	1	0
{Digestive system}						
liver			<40>	<45>	<41>	<15>
	leukemic cell infiltration		3	5	3	1
{Endocrine system}						
pituitary			<40>	<45>	<41>	<15>
	leukemic cell infiltration		0	1	0	0
adrenal			<40>	<45>	<41>	<15>
	leukemic cell infiltration		0	1	0	0
{Nervous system}						
brain			<40>	<45>	<41>	<15>
	metastasis:pituitary tumor		0	1	0	0

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

Organ	Findings	Group Name	Control	10 ppm	30 ppm	90 ppm
		No. of Animals on Study	40	45	41	15
{Body cavities}						
peritoneum			<40>	<45>	<41>	<15>
	metastasis:uterus tumor		1	0	0	0

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

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×MCV/10[1)]	%	1
Mean corpuscular volume(MCV)	Light scattering method[1)]	fL	1
Mean corpuscular hemoglobin(MCH)	Calculated as Hgb/RBC×10[1)]	pg	1
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as Hgb/Hct×100[1)]	g/dL	1
Platelet	Light scattering method[1)]	$\times 10^3/\mu L$	0
White blood cell(WBC)	Light scattering method[1)]	$\times 10^3/\mu L$	2
Differential WBC	Pattern recognition method[2)] (Wright staining)	%	0
Biochemistry			
Total protein(TP)	Biuret method[3)]	g/dL	1
Albumin (Alb)	BCG method[3)]	g/dL	1
A/G ratio	Calculated as Alb/(TP−Alb)[3)]	−	1
T-bilirubin	Alkaline azobilirubin method[3)]	mg/dL	2
Glucose	GlcK·G-6-PDH method[3)]	mg/dL	0
T-cholesterol	CE·COD·POD method[3)]	mg/dL	0
Triglyceride	LPL·GK·GPO·POD method[3)]	mg/dL	0
Phospholipid	PLD·ChOD·POD method[3)]	mg/dL	0
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·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.)