MR 7399

DOVER Chemical Corporation
A Subsidiary of ICC Industries Inc.

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June 22 , 1998

CERTIFIED/RETURN RECEIPT

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Attn: TSCA Section 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Washington DC 20460-0001

Contains No CBI

Dear Sir/Madam:

The enclosed toxicity study is being submitted to the United States Environmental Protection Agency pursuant to TSCA Section 8(e).

The substance tested was a blend of three (3) chemical substances as identified below:

Chemical Substance	Weight Percent	CAS#
Bis (2,4-dicumylphenyl) pentaerythritol diphosphite	48	154862-43-8
Bis (2,4-dicumylphenyl) pentaerythritol diphosphate	48	None
2,4-Dicumyl phenol	4	2772-45-4

The enclosed study is a 90-day Oral Toxicity Study in dogs. The dose levels were 0, 2,500, 5,000, and 10,000 ppm. The no-observed-effect level (NOEL) was 5000 ppm which is equal to 181 mg/kg/day. The no-toxic-effect-level (NOTEL) was 10,000 ppm which is equal to 375 mg/kg/day.

This study was performed in Europe and we received this report on June 17, 1998.

Please feel free to contact me should you have any questions about this study.

Regards,

David L. Rankin/DL

David L. Rankin
V.P. Environmental Affairs

8EHQ-98-14213

DLR/djl

Enclosure

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RCC PROJECT 662185

13-WEEK ORAL TOXICITY (FEEDING) STUDY WITH

DOVERPHOS S-9228 B

IN THE DOG

REPORT

Authors: Dr. Th. Pfister, S.J. Corney, L. Braun, K. Biedermann, Dr. K. Heider

Sponsor: Dover Chemical Corporation
3676 Davis Road N.W.
P.O. Box 40
Dover, Ohio 44622 / USA

Study Completion Date: 12 June 1998

RCC

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1. GENERAL INFORMATION

1.1 GENERAL

Title	13-week oral toxicity (feeding) study with Doverphos S-9228 B in the dog
Sponsor	Dover Chemical Corporation 3676 Davis Road N.W. P.O. Box 40 Dover, Ohio 44622 / USA
Study Monitor	Dr. Roland A. Leimgruber RCC Registration and Consulting Company Ltd. CH-4452 Itingen / Switzerland
Testing Facilities	RCC Research and Consulting Company Ltd. and RCC Umweltchemie AG CH-4452 Itingen / Switzerland
	RCC Research and Consulting Company Ltd. c/o BRL Biological Research Laboratories Ltd. CH-4414 Füllinsdorf / Switzerland
	EPS Experimental Pathology Services AG CH-4132 Muttenz / Switzerland
RCC Project Number	662185
Test Article	Doverphos S-9228 B
Test System	Beagle dog

1.2 PROJECT STAFF

Study Director	Dr. Th. Pfister
Deputy Study Director	S.J. Corney
Technical Coordinator	L. Braun
Clinical Laboratory Investigations	H. Luetkemeier
Ophthalmology/Neurology	Th. Frei, Th. Pfister
Analytical Chemistry	K. Biedermann
Necropsy/Histotechnique/	Dr. K. Weber
Histopathology (Report)	Dr. K. Heider (EPS AG)

1.3 SCHEDULE

Acclimatization	14-JUL-1997 to 18-AUG-1997
Pretest	05-AUG-1997 to 18-AUG-1997
Administration	19-AUG-1997 to 17/18-NOV-1997
Termination (necropsy)	18/19-NOV-1997

1.4 ARCHIVING

The Research & Consulting Company Ltd., CH-4452 Itingen/Switzerland will archive the following data for at least 10 years:

Protocol, report, amendments to protocol and report (where applicable), all specimens, raw data and reference sample of the test article. At the end of this period, the archived material will not be destroyed without the prior consent of the Sponsor.

1.5 GUIDELINES

The study procedures described in this report conform with the following guidelines:

"Subchronic Toxicity Tests with Rodents and Non-rodents", Toxicological Principles for the Safety Assessment of Direct Food Additives and Color Additives Used in Food (Redbook II, Draft), Chapter IV C 4, US Food and Drug Administration, Center for Food Safety and Applied Nutrition, 1993.

1.6 PROJECT STAFF SIGNATURES

Study Director: Dr. Th. Pfister

date: 12-JUN-1998

Deputy Study Director: S.J. Corney

date: 12-Jun-98

Clinical Laboratory Investigations: for H. Luetkemeier

date: 10-JUN-1998

Necropsy/Histotechnique: Dr. K. Weber

date: 10-Jun-1998

Management: T.R. Allen

date: 10 June 1998

The signatures of Dr. K. Heider (Histopathology) and K. Biedermann (Analytical Chemistry) are presented in the relevant Appendices.

GOOD LABORATORY PRACTICE

1.7 STATEMENT OF COMPLIANCE

PROJECT NUMBER:	662185
TEST ARTICLE:	DOVERPHOS S-9228 B
STUDY DIRECTOR:	Dr. Th. Pfister
TITLE:	13-week oral toxicity (feeding) study with Doverphos S-9228 B in the dog

This study was conducted in compliance with the Good Laboratory Practice Regulations listed below:

Good Laboratory Practice (GLP) in Switzerland, Procedures and Principles, March 1986.

There were no circumstances that may have affected the quality or integrity of the data.

Study Director: Dr. Th. Pfister

date: 12-JUN-1998

RCC PROJECT 662185
DOVERPHOS S-9228 B

RCC PROJECT 662185
DOVERPHOS S-9228 B

1.8 QUALITY ASSURANCE STATEMENT

R C C RESEARCH & CONSULTING COMPANY LTD.,
CH-4452 ITINGEN / SWITZERLAND

PROJECT NUMBER:	662185
TEST ARTICLE:	DOVERPHOS S-9228 B
STUDY DIRECTOR:	Dr. Th. Pfister
TITLE:	13-week oral toxicity (feeding) study with Doverphos S-9228 B in the dog

The conduct of this study at RCC was subjected to periodic inspections and this report was audited by the RCC Quality Assurance Unit.

The dates are given below:

Dates of QAU inspections/audits		Dates of reports to the study director and to management
08-AUG-1997	:	08-AUG-1997
13-AUG-1997	:	13-AUG-1997
15-AUG-1997	:	15-AUG-1997
19-AUG-1997	:	19-AUG-1997
11-SEP-1997	:	11-SEP-1997
08-OCT-1997	:	08-OCT-1997
11-NOV-1997	:	11-NOV-1997
18-NOV-1997	:	18-NOV-1997
06/12-15/18-MAY-1998	:	18-MAY-1998

Manager, Quality Assurance Unit Dr. G. Menne

2. SUMMARY

In this toxicity study, Doverphos S-9228 B was administered orally, by feed admixture, to pure-bred beagle dogs for a period of 13 weeks.

The study comprised four groups each containing four male and four female dogs. The following dietary concentrations were administered and average test article intakes achieved:

	Concentration	Average Test Article Intake
Group 1:	0 ppm	
Group 2:	2500 ppm	89 mg/kg body weight/day
Group 3:	5000 ppm	181 mg/kg body weight/day
Group 4:	10000 ppm	375 mg/kg body weight/day

The results of the study are summarized as follows:

2.1 MORTALITY / VIABILITY

All dogs survived the scheduled treatment period.

2.2 CLINICAL SIGNS

There were no clinical signs that could be attributed to the administration of Doverphos S-9228 B.

2.3 FOOD CONSUMPTION

Food intake was unaffected by the administration of Doverphos S-9228 B.

2.4 BODY WEIGHT

There were no changes in body weight that could be related to the administration of Doverphos S-9228 B.

2.5 OPHTHALMOSCOPY

There were no ophthalmoscopic findings that could be attributed to the administration of Doverphos S-9228 B.

2.6 NEUROTOXICITY SCREENING

Neurological parameters were unaffected by the administration of Doverphos S-9228 B.

2.7 IMMUNOTOXICITY SCREENING

There was no evidence of any immune reaction following administration of Doverphos S-9228 B.

2.8 CLINICAL LABORATORY INVESTIGATIONS

Slightly increased total lipids, cholesterol and phospholipid levels were evident in the dogs at 10000 ppm in weeks 4, 8 and 13.

There were no other changes in the hematology, clinical biochemistry or urinalysis parameters that could be attributed to the administration Doverphos S-9228 B.

2.9 ORGAN WEIGHTS

Organ weights were unaffected by the administration of Doverphos S-9228 B.

2.10 MACROSCOPIC AND MICROSCOPIC FINDINGS

All morphologic findings recorded were considered to be spontaneous in nature and within the normal range of background alterations which may be recorded in beagle dogs at these ages. Toxic manifestations resulting from treatment with the test article were not in evidence.

3. CONCLUSION

The daily administration of Doverphos S-9228 B by dietary admixture at concentrations of 2500, 5000 or 10000 ppm, at dose levels equivalent to 89, 181 or 375 mg/kg body weight/day to beagle dogs for 13 weeks did not result in any evidence of toxicity.

Test article-related findings were restricted to slightly increased total lipid, cholesterol and phospholipid levels in the dogs of the high dose group. These changes of functional nature are not considered to be of toxicological significance.

On the basis of the results in this study, the no-observed-effect-level (NOEL) is 181 mg/kg/day whereas the no-toxic-effect-level (NOTEL) is 375 mg/kg/day Doverphos S-9228 B.

4. OBJECTIVE

The purpose of this study was to assess the cumulative toxicity of Doverphos S-9228 B when administered to beagle dogs by oral ingestion (feeding) for a period of at least 13 weeks.

This study should provide a rational basis for the assessment of hazard to man. The results of this study should indicate potential target organs of toxicity and provide the basis for dose selection for a chronic toxicity study.

5. MATERIALS AND METHODS

5.1 TEST SYSTEM

Animals	Pure-bred beagle dogs, dewormed and vaccinated against distemper, leptospirosis, parainfluenza, contagious hepatitis, rabies and parvovirus.
Rationale	Recognized by international guidelines as a recommended non-rodent test system.
Breeder	BRL Biological Research Laboratories Ltd. CH-4414 Füllinsdorf / Switzerland
Total number of animals	17 males and 17 females, of which 16 males and 16 females were selected for the study.
Age (at treatment start)	6½ - 7 months
Body weight range (at treatment start)	7.6 - 10 kg (males), 6.3 – 8.8 kg (females)
Identification	Provisional Identification: Individual kennel number (1-34) and ear tattoo (performed by the breeder). Permanent Identification: Individual kennel number (1-32) and ear tattoo (performed by the breeder).
Acclimatization	36 days under test conditions. A veterinary examination was performed on all animals to assure a satisfactory health status.

5.2 ALLOCATION

Shortly after arrival the dogs were temporarily allocated to groups by a computer generated random algorithm; the spare animals were allocated to Group 5 and assigned numbers 33-34.

During acclimatization male dog tattoo 5491, allocated as No. 13, was replaced with dog tattoo 5497, allocated as No. 33 due to the death of dog tattoo 5491. An additional male dog, tattoo 5535, was delivered during acclimatization as a spare. Thereafter, pre-treatment investigations were carried out on all dogs. Shortly before the start of treatment, the data obtained were reviewed and no allocation was considered necessary. Only data from dogs assigned to the study are included in this report.

	Group 1	Group 2	Group 3	Group 4
Dose Level	0 ppm	2500 ppm	5000 ppm	10000 ppm
Males	1 - 4	5 - 8	9 – 12	13 – 16
Females	17 - 20	21 - 24	25 – 28	29 – 32

5.3 HUSBANDRY

Room number	1U03
Conditions	Standard Laboratory Conditions. Air-conditioned with target ranges for room temperature 20 ±3°C, relative humidity 40-70% and approximately 20 air changes per hour. Room temperature and humidity were monitored continuously. Kennel floor temperature was maintained at approximately 21°C. There was a 12 hour fluorescent light/12 hour dark cycle with at least 8 hours music during the light period.
Accommodation	Dogs were housed in groups of two, within each treatment group and sex, in a kennel with minimum of 2.0 square meters floor space. The animals were individually housed during the feeding periods. The kennels were cleaned once daily.
Diet	350 g pelleted standard Kliba 335 dog maintenance diet (KLIBA Mühlen AG, CH-4303 Kaiseraugst / Switzerland) presented approximately at approximately 10^{00} daily. Any remaining diet was withdrawn at approximately 13^{00}.
	Results of analyses for contaminants are included in this report (see Appendix II, pp. 172-176).
Water	Tap water was supplied *ad libitum* by an automatic watering system. Results of representative bacteriological, chemical and contaminants analyses are included in this report (see Appendix I, pp. 168-171).

No contaminants expected to interfere with the study are known to be present in the feed or water.

5.4 TEST ARTICLE

Identification: Doverphos S-9228 B

Description: White solid

Formulation: Mixture of:
48% Bis (2,4-dicumylphenyl) pentaerythritol diphosphite
= Doverphos S-9228
48% Bis (2,4-dicumylphenyl) pentaerythritol diphosphate
= Doverphos S-9228 - diphosphate
4% 2,4-Bis (1-methyl-1-phenylethyl) phenol
= 2,4-dicumylphenol

Batch numbers / Purity

	Batch number	Purity
Doverphos S-9228	41R031495	99%
Doverphos S-9228 - diphosphate	53R041597	96.6%
2,4-dicumylphenol	AJR-4-3	>99.9%

Stability/expiry date: 31-DEC-1997

Instructions for test article storage: In the original container, at room temperature (approximately 20°C), away from direct sunlight.

Safety precautions: Routine hygienic precautions were employed to assure personnel health and safety.

Feed admixture preparation: Doverphos S-9228 feed was prepared as follows: Diphosphite and diphosphate were mixed with microgranulated feed. 2,4-dicumylphenol was dissolved in dichlormethane which was then added to the mix and the pellets prepared. Water (approximately 1:10 volume/weight ratio) was added to aid pelleting. The pellets were dried with warm air for approximately 48 hours before storage.

Analysis of feed: The acceptability of formulation and the stability of test article in feed for two weeks was confirmed during a 4-week dose-range finding study (RCC Project 659597).

Intercurrent samples were retained at monthly intervals for the determination of homogeneity and content and once for confirmation of stability for four weeks. Analyses were performed in the RCC Umweltchemie AG, according to a method supplied by the Sponsor. (See Appendix V)

Frequency of preparation	Every two to three weeks.
Storage of feed	At room temperature in disposable paper bags.

5.5 TREATMENT

Method	Oral, by feed admixture.
Rationale for method	The oral route is an anticipated route of human exposure to the test article.
Frequency of treatment	Daily, during the feeding period (09^{46} to 13^{12}).
Dose levels	Group 1: 0 ppm Group 2: 2500 ppm Group 3: 5000 ppm Group 4: 10000 ppm
Rationale for dose levels	The dose levels were selected based on results of a 4-week dose-range finding study in dogs (RCC Project 659597).
Duration of pretest period	14 days.
Duration of treatment period	13 weeks (males) or 13 weeks and 1 day (females).

5.6 OBSERVATIONS

5.6.1 VIABILITY/MORTALITY

Observations for viability were recorded from commencement of the pretest period at least twice daily.

5.6.2 CLINICAL SIGNS

Each animal was examined at least twice daily for any change in behaviour, reaction to treatment or ill-health. A description of any abnormality was recorded from commencement of the pretest period.

5.6.3 FOOD CONSUMPTION

Food consumption was recorded daily from commencement of the pretest period. The daily ration was weighed before and after feeding. The individual food consumption over each week and the group mean of these values are reported.

5.6.4 BODY WEIGHTS

The body weight of each animal was recorded at least once weekly from commencement of the pretest period and before necropsy.

5.6.5 OPHTHALMOSCOPIC EXAMINATIONS

Each animal was examined for abnormalities of the eyes at least 20 minutes after the instillation of 0.5% tropicamide solution (Mydriaticum Dispersa, CIBA Vision AG, Niederwangen, Switzerland) using a binocular indirect ophthalmoscope (all pupil model, Keeler Instruments, Inc., USA) and the results were recorded. Unless otherwise indicated in the table, the contralateral eye was without abnormalities. The observation area included the cornea, conjunctiva, sclera, iris, lens and fundus. Photographs were taken at the discretion of the ophthalmologist and are retained in the raw data.

Pretest	13-AUG-1997
13 weeks	11-NOV-1997

5.6.6 NEUROTOXICITY SCREENING

The following neurological tests were performed to detect the existence, nature and site of toxic injury to the central and/or peripheral nervous system. Neurological examinations, included examination of gait (locomotion, gait activity), postural reactions (landing/support response, muscle force, standing on a straight line, placing thoracic limbs, hopping response), spinal reflexes (patellar reflex, flexor/pain reflex) and cranial nerves (pupil size, light response).

Pretest	13-AUG-1997 (all animals)
13 weeks	11-NOV-1997 (control and high dose animals)

5.6.7 IMMUNOTOXICITY SCREENING

Primary indicators of possible immune toxicity were derived from hematology (WBC counts and differential), clinical chemistry (total serum protein and A/G ratio), organ weights of spleen and thymus, histopathology of lymphoid tissues.

5.7 CLINICAL LABORATORY INVESTIGATIONS

Blood and urine samples were collected from all animals. The animals were fasted overnight but allowed access to water *ad libitum*. The samples were collected early in the working day to reduce biological variation caused by circadian rhythms. Blood samples were drawn from the jugular vein into evacuated blood collection tubes. Urine was collected into a specimen vial using a catheter.

Blood and urine sampling:

Pretest I	06-AUG-1997
Pretest II	14-AUG-1997
4 weeks	11-SEP-1997
8 weeks	08-OCT-1997
13 weeks	13-NOV-1997

The assays of blood and urine parameters were performed at BRL Biological Research Laboratories Ltd under internal laboratory quality control conditions to assure reliable test results.

In the summary and individual tables the names of some parameters have been abbreviated. Clinical laboratory data are expressed, with a few exceptions, in general accordance with the international System of Units (SI).

Key to abbreviations of Units of Measure:

L	: liter	T	: tera (10^{12})	kU	: kilo units
mol	: mole	G	: giga (10^{9})		
sec	: second	m	: milli (10^{-3})		
g	: gram	µ	: micro (10^{-6})		
kg	: kilogram	n	: nano (10^{-9})		
kat	: katal (mol/sec)	f	: femto (10^{-15})		

Remark code identification: INH = in oestrus

General remarks:
Historical reference values for untreated beagle dogs, see Appendix III, pp. 177-195.

5.7.1 HEMATOLOGY

Anticoagulants used during blood collection were EDTA-K3 (hematology) and sodium citrate, 3.8% (coagulation; 1 part anticoagulant to 9 parts blood).

Commercial reference controls for monitoring the performance of the method were:

Hematology - Eightcheck-3WP (normal range); Eightcheck-L-3WP (low abnormal range); Ret-check (reticulocyte control)
(TOA Medical Electronics Co., Ltd. Kobe/Japan

Coagulation - IL Control Plasma (normal range); IL Control Plasma (abnormal range)
(Instrumentation Laboratory, SpA, Milano/Italy)

Hematology Parameter	Abbreviation	Unit	Instrumentation
Erythrocyte count	RBC	T/L	1
Hemoglobin	HB	mmol/L	1
Hematocrit	HCT	L/L	1
Mean corpuscular volume	MCV	fL	1
Mean corpuscular hemoglobin	MCH	fmol	1
Mean corpuscular hemoglobin concentration	MCHC	mmol/L	1
Platelet count	PLATELETS	G/L	1

Hematology Parameter	Abbreviation	Unit	Instrumentation
Total leukocyte count	WBC	G/L	1
Reticulocyte count	RETIC.	%(rel.) T/L(abs.)	2
Reticulocyte fluorescence ratios	HFR = high, MFR = middle, LFR = low	%	2
Nucleated erythrocytes (normoblasts)	NEN	NEN/100WBC	3
Differential leukocyte count	Diff. WBC Count[4]	1(rel.) G/L(abs.)	3
Red blood cell morphology		normal/abnormal	3

Key:

1 Sysmex (TOA) E-4000 Multi-Parameter Automated Hematology Analyzer
2 Sysmex (TOA) R-1000 Automated Reticulocyte Analyzer
3 Leitz Laborlux 12 microscope
4 Cell Classification:

BAND.	= Band Neutrophil	LYMPH.	= Lymphocyte
SEG.	= Segmented Neutrophil	MONO.	= Monocyte
EO.	= Eosinophil	PLAS.	= Plasma Cell
BASO.	= Basophil	OTHER	= Blast Cell (undifferentiated)

Coagulation Parameter	Abbreviation	Unit	Instrumentation
Thromboplastin time (=prothrombin time)	PT	sec	5
Activated partial thromboplastin time	APTT	sec	5

Key:

5 Instrumentation Laboratory (IL) ACL 300 Coagulation System

5.7.2 CLINICAL BIOCHEMISTRY

The anticoagulant used during blood collection was lithium heparin (143 U.S.P. Units).

Commercial reference controls for monitoring the performance of the method were:

Clinical Biochemistry - Qualitrol HS-N (normal range) and Qualitrol HS-P (high abnormal range) / (E. Merck, Darmstadt/Germany)

Lyotrol N (normal range - for the assay control of total lipids and phospholipids) and Lyotrol P (abnormal range - for the assay control of phospholipids) (bio Mérieux SA, Marcy l'Etoile/France)

Protein Electrophoresis - Seronorm™ Protein (Nycomed Pharma AS, Oslo/Norway)

Clinical Biochemistry Parameter	Abbreviation	Unit	Instrumentation
Glucose		mmol/L	1
Urea		mmol/L	1
Creatinine		µmol/L	1
Bilirubin, total	BILI. T	µmol/L	1
Cholesterol, total	CHOLEST. T	mmol/L	1
Triglycerides	TRIGL.	mmol/L	1
Aspartate aminotransferase	ASAT/GOT	µkat/L (37°C)	1
Alanine aminotransferase	ALAT/GPT	µkat/L (37°C)	1
Lactate dehydrogenase	LDH	µkat/L (37°C)	1
Glutamate dehydrogenase	GLDH	nkat/L (37°C)	1
Creatine kinase	CK	µkat/L (37°C)	1
Alkaline phosphatase	ALP	µkat/L (37°C)	1
Gamma-glutamyl transferase	G-GT	nkat/L (37°C)	1
Phospholipids	PHOS. LIPID	mmol/L	1
Calcium		mmol/L	1
Phosphorus		mmol/L	1
Magnesium		mmol/L	1
Sodium		mmol/L	1
Potassium		mmol/L	1
Chloride		mmol/L	1
Protein, total	PROTEIN T.	g/L	1
Iron		µmol/L	1
Lipids, total	LIPIDS T.	g/L	2
Protein electrophoresis	PROT. ELECTROPH.[4]	1 (rel.) g/L (abs.)	3

Clinical Biochemistry Parameter	Abbreviation	Unit	Instrumentation
Plasma cholinesterase	CHE	kU/L (37°C)	1

Key:

1 Eris Selective Multi-Test Analyzer 6170 (Eppendorf/Olympus)
2 Epos Selective Analyzer 5060 (Eppendorf/Olympus)
3 Beckman Paragon Electrophoretic System, Beckman Appraise computerised densitometer
4 Electrophoretic fractions:

ALBUMIN	= Albumin	B2-GLOB.	= Beta 2-globulin
A1-GLOB.	= Alpha 1-globulin	SB-GLOB.	= Sum of beta globulins
A2-GLOB.	= Alpha 2-globulin	G-GLOB.	= Gamma globulin
B1-GLOB.	= Beta 1-globulin	A/G RATIO	= Albumin to Globulin ratio

5.7.3 URINALYSIS

Commercial reference controls for monitoring the performance of the method were:

Lyphochek Quantitative Urine Control - Normal I and Abnormal II - (for the assay control of Osmolality) and Liquichek™ Routine Urine Chemistry Control – Levels 1 and 2 – (for the assay control of pH, Protein, Glucose, Ketone, Bilirubin, Blood, Nitrite and Urobilinogen) (Bio-Rad, ECS Division, Anaheim, California/USA)

Urinalysis Parameter	Abbreviation	Unit/Score	Instrumentation
Specific gravity	SPEC. GRAV.	1	1
Osmolality		mmol/kg	2
Color		-	3
Appearance		-	3
pH		-	4
Protein		0 = negative 1 = 0.25 g/L 2 = 0.75 g/L 2 = 1.50 g/L 3 = ≥5.00 g/L	4
Glucose		0 = normal 1 = 3 mmol/L 1 = 6 mmol/L 2 = 17 mmol/L 3 = ≥56 mmol/L	4

Urinalysis Parameter	Abbreviation	Unit/Score	Instrumentation
Ketone		0 = negative 0 = 0.5 mmol/L 1 = 1.5 mmol/L 2 = 5.0 mmol/L 3 = ≥15 mmol/L	4
Bilirubin		0 = negative 1 = 17 µmol/L 2 = 50 µmol/L 3 = ≥100 µmol/L[7]	4
Blood		0 = negative 1 = 15RBCs/µL 1 = 25RBCs/µL 2 = 50RBCs/µL 2 = 150RBCs/µL 3 = ≥250RBCs/µL	4
Nitrite		negative/positive	4
Urobilinogen	UROBILI.	0 = normal 1 = 17 µmol/L 2 = 68 µmol/L 3 = 135 µmol/L 3 = ≥ 203 µmol/L	4
Urine sediment	SED. MICRO.	normal = 0 abnormal amount = 1 (small), 2 (moderate), 3 (large) [6]	5

Key:

1 Atago Uricon Refractometer
2 Fiske 2400 Multi-Sample Osmometer
3 Visual observation
4 Boehringer Miditron M Semi-Automated Urine Chemistry Analyzer
5 Leitz Laborlux 12 light microscope
6 Indicated amount of urinary constituents: RBC = Red blood cells; WBC = White blood cells; SQUAM. = Squamous epithelial cells; ROUND = Round epithelial cells; URIC ACID = Uric acid crystals
7 Positive results confirmed with Ictotest Reagent Tablets (Ames)

5.8 PATHOLOGY

5.8.1 NECROPSY

After 13 weeks treatment 18/19-NOV-1997

All animals were necropsied and descriptions of all macroscopic abnormalities were recorded. Necropsies were performed by experienced prosectors supervised by a veterinary pathologist. All animals surviving to the end of the observation period were anesthetized by intravenous injection of sodium pentobarbital (Narcoren, Rhône Merieux) and killed by exsanguination.

Samples of the following tissues and organs were collected from all animals at necropsy and fixed, whole or in part, in neutral phosphate-buffered 4% formaldehyde solution (10% formalin). The eyes with optic nerve were fixed in Heidenhain's Susa solution. Bone marrow smears from one sternum from all animals were taken for possible further investigation.

Adrenal glands, Aorta, Bone – sternum and femur including articular surface, Bone marrow - sternum, Brain - including sections of medulla/pons, cerebral and cerebellar cortex, Epididymides, Esophagus, Eyes with optic nerve, Gallbladder, Heart, Kidneys, Large intestine - cecum, colon, rectum, Liver, Lungs with mainstem bronchi, infused with formalin, Larynx, Lymph nodes - retropharyngeal, mesenteric, Mammary gland area, Ovaries and fallopian tubes, Pancreas, Pituitary gland, Prostate gland, Salivary glands - mandibular, parotid, sublingual, Sciatic nerve, Skeletal muscle, Skin, Small intestine - duodenum, jejunum, ileum, Spinal cord - cervical, midthoracic and lumbar segments, Spleen, Stomach, Testes, Thymus, Thyroid gland including parathyroid gland, Tongue, Trachea, Urinary bladder, Uterus with vagina, All gross lesions.

5.8.2 ORGAN WEIGHTS

The following organs were weighed before fixation. Paired organs were weighed separately.

Adrenal glands (l, r), Brain (including brainstem), Heart, Kidneys (l, r), Liver, Pituitary gland, Prostate gland, Spleen, Testes with epididymides (l, r), Thymus, Thyroid gland with parathyroid (l, r).

5.8.3 HISTOTECHNIQUE

All organ and tissue samples, as defined under Histopathology (following), were processed, embedded and cut at a nominal thickness of 4 micrometers and stained with hematoxylin and eosin. Histotechnique was performed in RCC Itingen and histopathology was performed in EPS AG.

5.8.4 HISTOPATHOLOGY

Slides of all tissues collected at necropsy from all animals were examined by a veterinary pathologist. A description of all abnormalities is included in the report.

An attempt was made to correlate gross observations with microscopic findings.

5.9 DATA COMPILATION

Digital VAX computers were used to sort, treat and present suitable data for inclusion in the report. All electronically recorded data are conserved on a magnetic medium.

Individual values were rounded before printing. All derived values which appear in the tables represent the rounded results of calculations which used the exact raw data value.

The weekly mean of the daily food consumption values was calculated for each animal and was used to calculate an unweighted group mean.

5.10 STATISTICAL ANALYSIS

The following statistical methods were used to analyse the body weight, clinical laboratory data and organ weights.

If the variables can be assumed to follow a normal distribution, the Dunnett-test (many to one t-test) based on a pooled variance estimate was applied for the comparison of the treated groups and the control groups for each sex.

The Steel-test (many-one rank test) was applied instead of the Dunnett-test when the data can not be assumed to follow a normal distribution.

References:

- C.W. Dunnett:
  A Multiple Comparison Procedure for Comparing Several Treatments with a Control, J. Amer. Stat. Assoc. 50, 1096-1121 (1955).

- R.G. Miller:
  Simultaneous Statistical Inference, Springer Verlag, New York (1981).

6. RESULTS

6.1 OBSERVATIONS

6.1.1 VIABILITY / MORTALITY

All animals survived the scheduled treatment period.

6.1.2 CLINICAL SIGNS

(see pp. 66-82)

There were no clinical signs that could be attributed to the administration of Doverphos S-9228 B.

The incidence of the signs observed, which were those commonly observed in dogs housed at these laboratories, showed no evidence of a dose-relationship.

6.1.3 FOOD CONSUMPTION

(see pp. 28-29, 33-36, 83-84)

Food intake was unaffected by the administration of Doverphos S-9228 B.

6.1.4 BODY WEIGHT

(see pp. 30-31, 37-40, 85-87)

Body weight was unaffected by the administration of Doverphos S-9228 B.

6.1.5 TEST ARTICLE INTAKE

(see pp. 41-42, 88-89)

The ratios of the mean achieved test article intakes (81, 184 and 381 mg/kg body weight/day for the males, and 96, 177 and 368 mg/kg body weight/day for the females) were similar to those of the dietary concentrations of 2500, 5000 and 10000 ppm administered.

6.1.6 OPHTHALMOSCOPY

(see pp. 90-93)

There was no indication that the administration of Doverphos S-9228 B had any adverse effects upon the eyes.

6.1.7 NEUROTOXICITY SCREENING

(see pp. 94-99)

There were no neurological changes that could be attributed to the administration of Doverphos S-9228 B.

6.1.8 IMMUNOTOXICITY SCREENING

There was no evidence of immune toxicity following administration of Doverphos S-9228 B.

6.2 CLINICAL LABORATORY INVESTIGATIONS

6.2.1 HEMATOLOGY

(see pp. 43-48, 100-119)

Hematology parameters were unaffected by the administration of Doverphos S-9228 B.

The occasional statistically significant ($p<0.05$ or 0.01) intergroup differences that occurred, notably the marginal decrease in group mean thromboplastin time recorded in the females at 10000 ppm in Weeks 8 and 13, are considered to be fortuitous. The changes were not consistently present for both sexes and the individual values were generally within expected limits (see historical reference values for untreated beagle dogs, Appendix III).

6.2.2 CLINICAL BIOCHEMISTRY

(see pp. 49-56, 120-143)

Assessment of the clinical biochemistry data revealed the following changes in comparison with the controls:

- Slightly increased total lipids, cholesterol and phospholipid levels in both sexes at 10000 ppm in Weeks 4, 8 and 13. The differences from the controls for cholesterol and total lipids attained statistical significance in the females in Weeks 4 and 8, respectively.

There were no other changes that could be associated with treatment with Doverphos S-9228 B. Although statistically significant intergroup differences were apparent, these did not show any dose-related or time-related pattern and were not consistently present for both sexes. Therefore, the differences in these parameters are considered to represent the expected spontaneous variations that occur in dogs of this age and strain.

6.2.3 URINALYSIS

(see pp. 57-58, 144-155)

Urinalysis parameters were unaffected by the administration of Doverphos S-9228 B.

6.3 PATHOLOGY

6.3.1 ORGAN WEIGHTS

(see pp. 59-64, 156-167)

Organ weights were unaffected by the administration of Doverphos S-9228 B.

6.3.2 MACROSCOPIC FINDINGS

(see Appendix IV, pp. 196-263)

No test article-related macroscopic findings were recorded at necropsy.

6.3.3 MICROSCOPIC FINDINGS

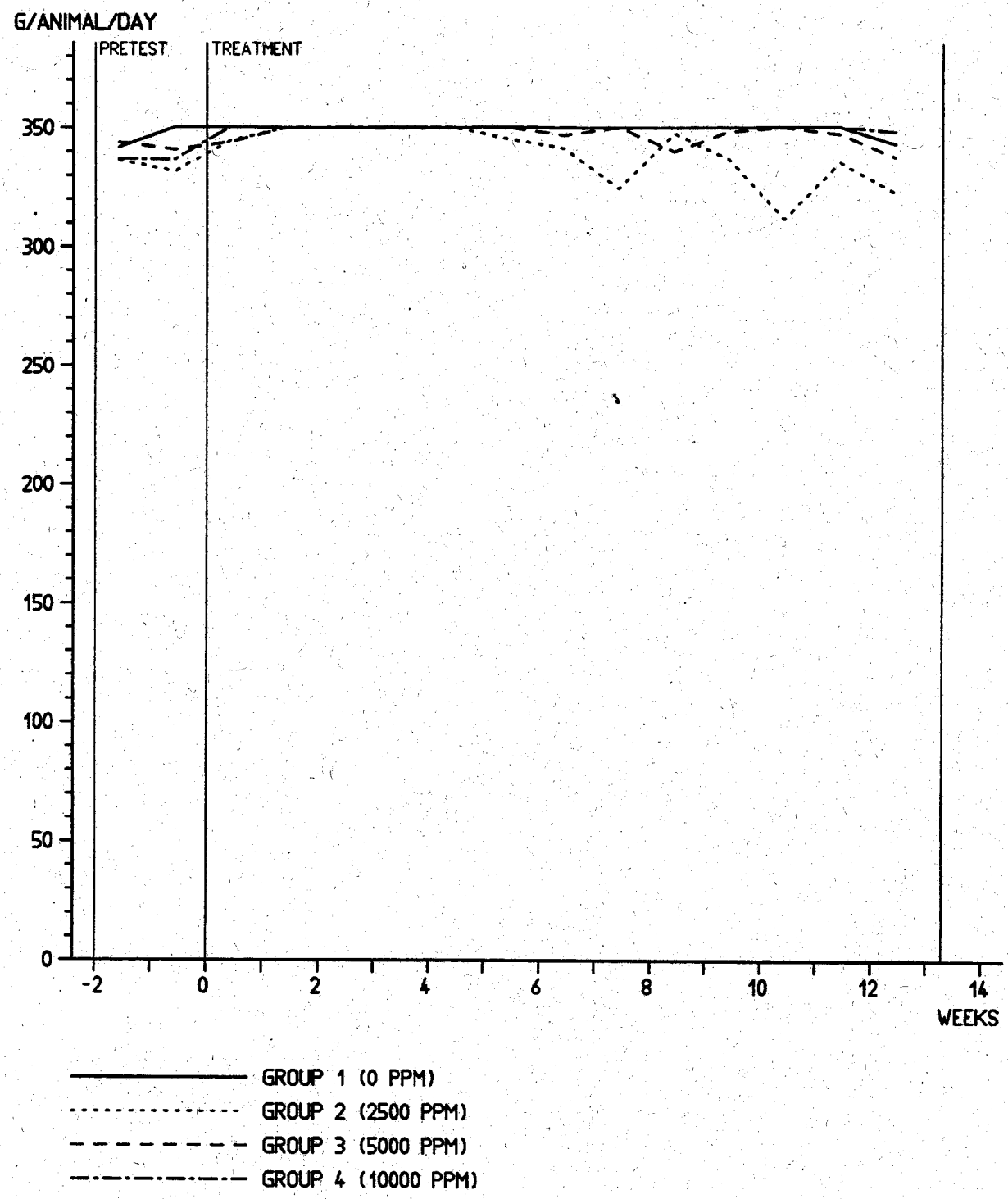
(see Appendix IV, pp. 196-263)

No test article-related microscopic findings were recorded.

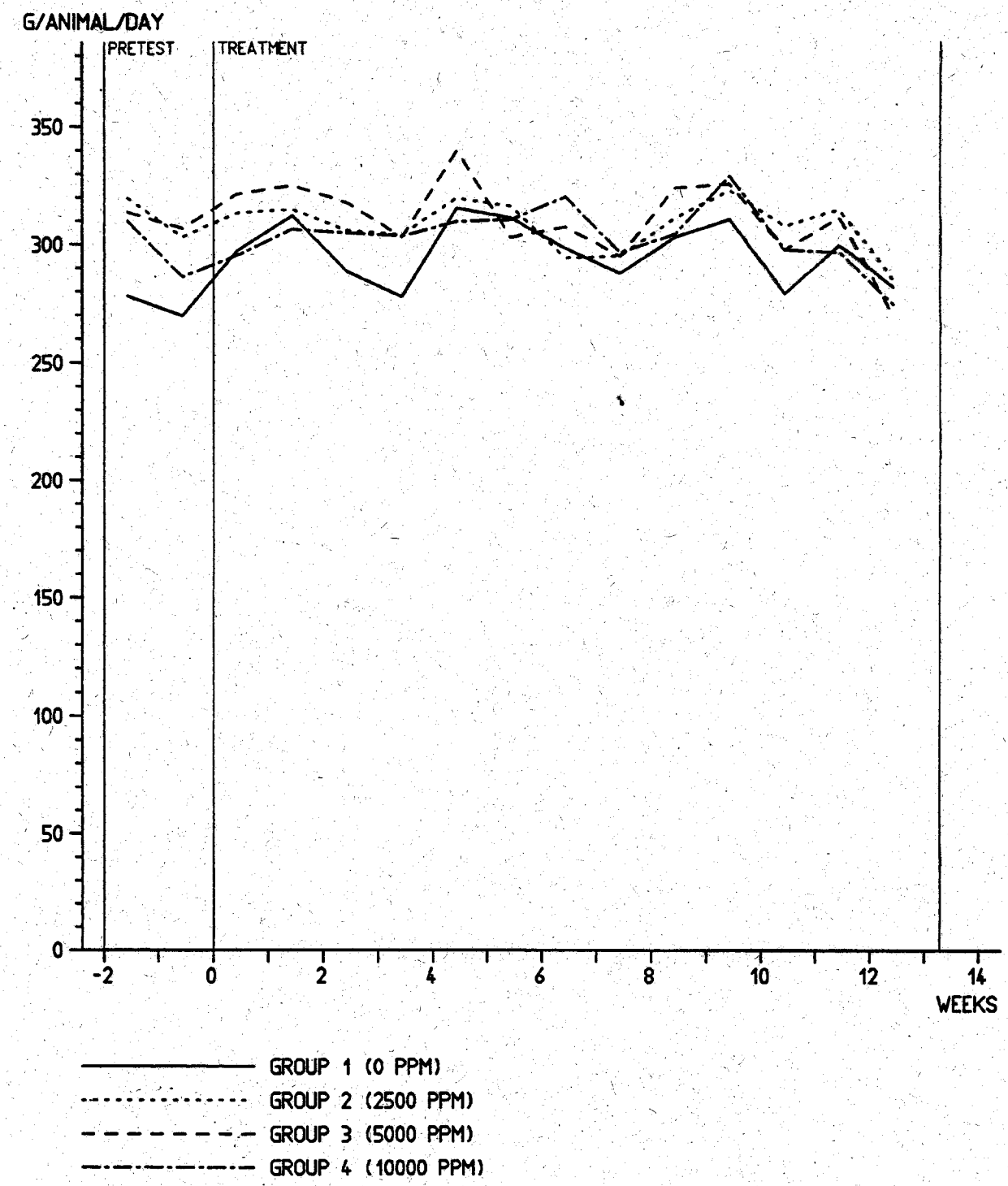
The findings recorded were those which occur spontaneously in control dogs of this age and strain. The morphologic appearance, incidence and severity of these findings were similar in treated and control dogs.

7. FIGURES

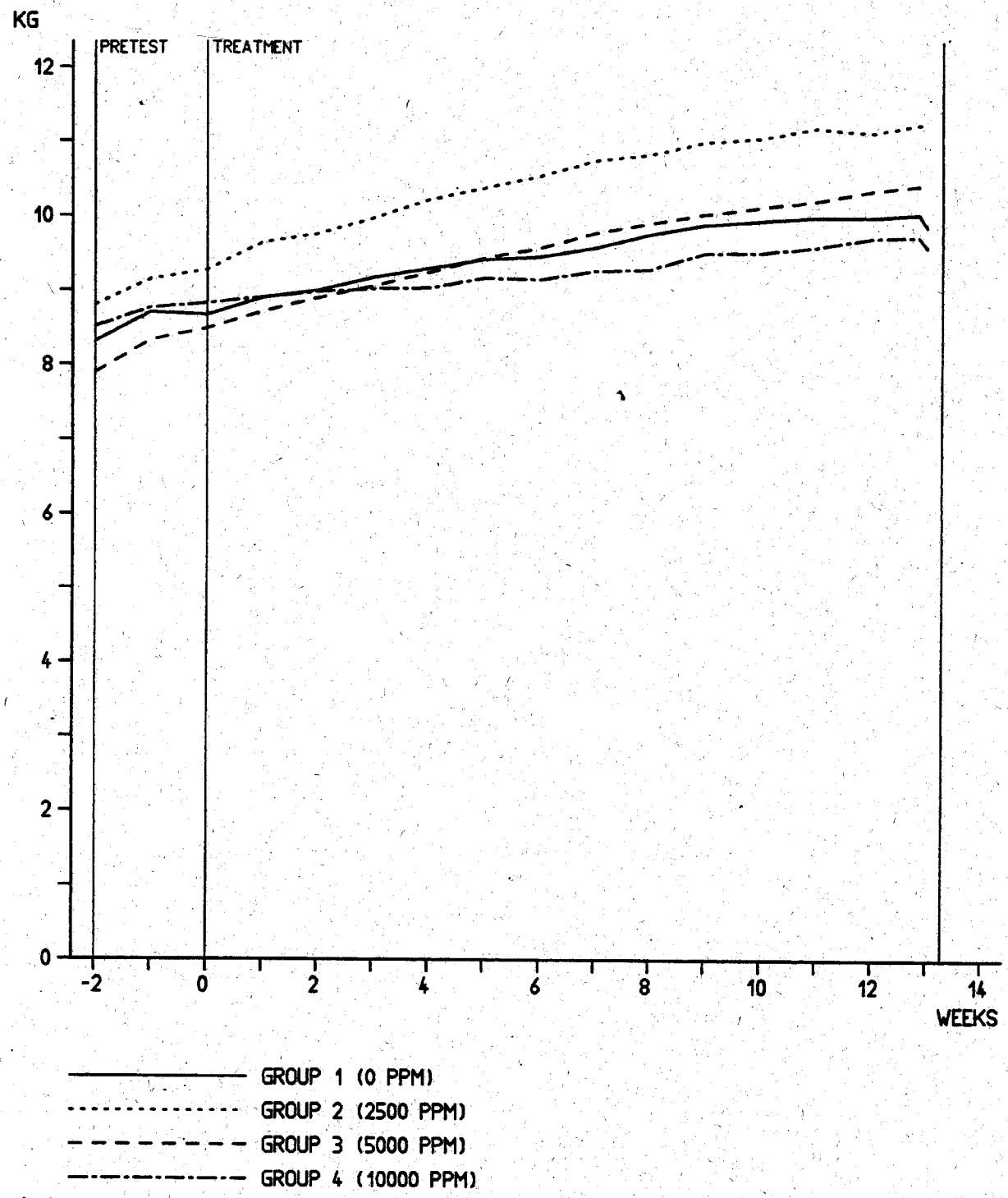
FOOD CONSUMPTION
MALES



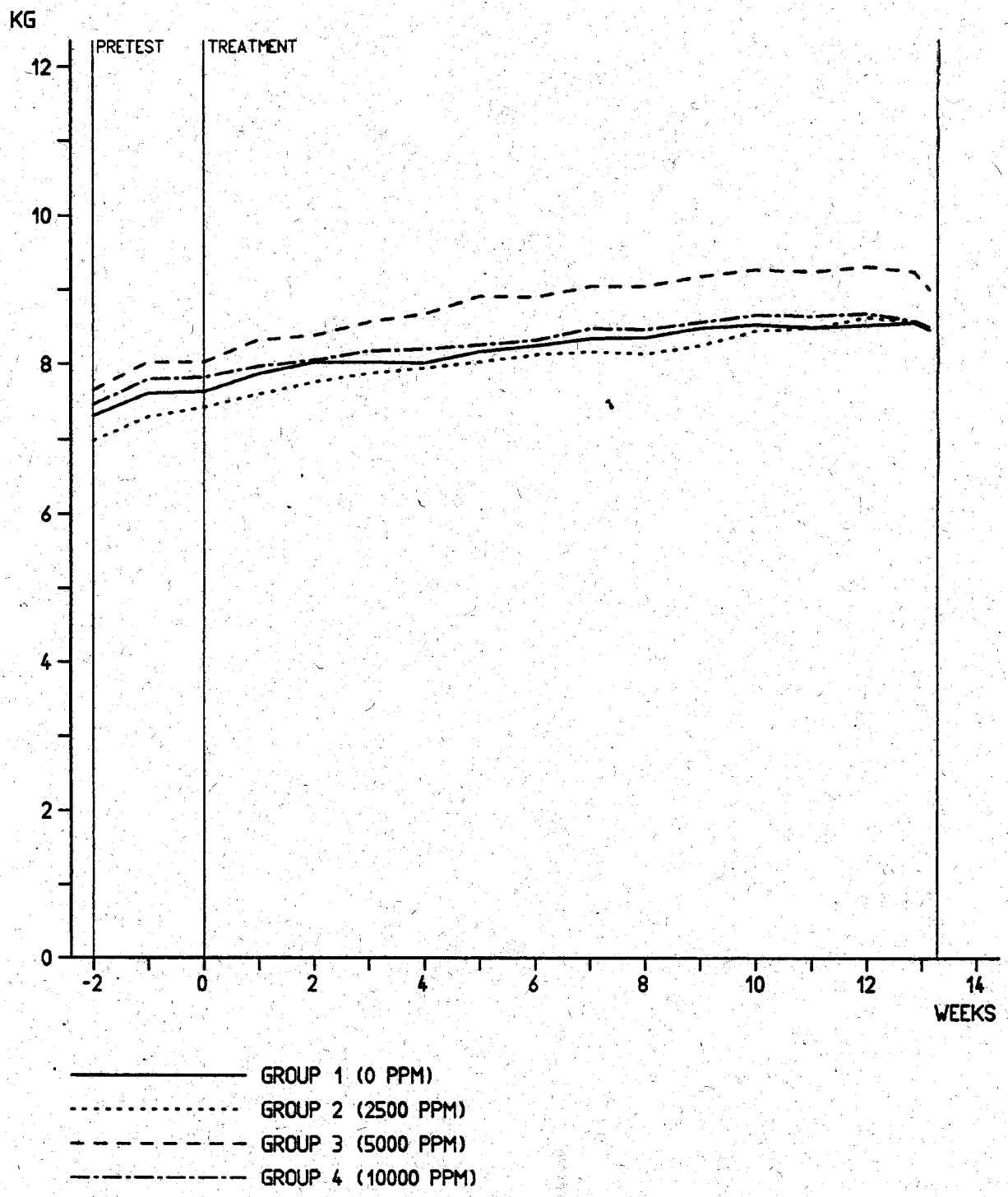
FOOD CONSUMPTION
FEMALES



BODY WEIGHTS
MALES



BODY WEIGHTS
FEMALES



8. SUMMARY TABLES

FOOD CONSUMPTION (G/ANIMAL/DAY) SUMMARY
MALES

PRETEST		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAYS 1-7	MEAN	342	336	344	337
WEEK 1	ST.DEV.	8.7	19.7	12.9	14.4
	N	4	4	4	4
DAYS 8-14	MEAN	350	332	341	337
WEEK 2	ST.DEV.	0.2	29.1	11.2	26.4
	N	4	4	4	4
MEAN OF MEANS OVER PRETEST		346	334	342	337

FOOD CONSUMPTION (G/ANIMAL/DAY) SUMMARY
MALES

TREATMENT		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAYS 1-7	MEAN	350	345	344	350
WEEK 1	ST.DEV.	0.1	11.8	9.8	0.1
	N	4	4	4	4
DAYS 8-14	MEAN	350	350	350	350
WEEK 2	ST.DEV.	0.1	0.3	0.1	0.1
	N	4	4	4	4
DAYS 15-21	MEAN	350	350	350	350
WEEK 3	ST.DEV.	0.2	0.1	0.1	0.0
	N	4	4	4	4
DAYS 22-28	MEAN	350	350	350	350
WEEK 4	ST.DEV.	0.1	0.2	1.3	0.2
	N	4	4	4	4
DAYS 29-35	MEAN	350	350	350	350
WEEK 5	ST.DEV.	0.2	0.1	0.1	0.3
	N	4	4	4	4
DAYS 36-42	MEAN	350	345	350	350
WEEK 6	ST.DEV.	0.4	9.6	0.1	0.1
	N	4	4	4	4
DAYS 43-49	MEAN	350	341	347	350
WEEK 7	ST.DEV.	0.1	12.9	6.4	0.2
	N	4	4	4	4
DAYS 50-56	MEAN	350	324	350	350
WEEK 8	ST.DEV.	0.3	51.2	0.3	0.1
	N	4	4	4	4
DAYS 57-63	MEAN	350	347	340	350
WEEK 9	ST.DEV.	0.2	5.3	19.7	0.2
	N	4	4	4	4
DAYS 64-70	MEAN	350	337	348	350
WEEK 10	ST.DEV.	0.0	26.6	3.4	0.1
	N	4	4	4	4
DAYS 71-77	MEAN	350	312	350	350
WEEK 11	ST.DEV.	0.1	57.9	0.1	0.2
	N	4	4	4	4
DAYS 78-84	MEAN	350	335	347	350
WEEK 12	ST.DEV.	0.1	17.1	6.1	0.2
	N	4	4	4	4
DAYS 85-91	MEAN	343	323	338	348
WEEK 13	ST.DEV.	13.7	54.7	24.9	3.7
	N	4	4	4	4
MEAN OF MEANS OVER TREATMENT		350	339	347	350

FOOD CONSUMPTION (G/ANIMAL/DAY) SUMMARY
FEMALES

PRETEST		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAYS 1-7	MEAN	278	320	314	310
WEEK 1	ST.DEV.	45.2	34.3	39.8	26.7
	N	4	4	4	4
DAYS 8-14	MEAN	270	303	307	286
WEEK 2	ST.DEV.	25.5	41.2	40.5	25.3
	N	4	4	4	4
MEAN OF MEANS OVER PRETEST		274	311	310	298

FOOD CONSUMPTION (G/ANIMAL/DAY) SUMMARY
FEMALES

TREATMENT		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAYS 1-7	MEAN	297	313	321	295
WEEK 1	ST.DEV.	23.0	40.7	40.9	22.9
	N	4	4	4	4
DAYS 8-14	MEAN	312	315	325	306
WEEK 2	ST.DEV.	23.9	53.3	42.6	31.6
	N	4	4	4	4
DAYS 15-21	MEAN	288	306	318	305
WEEK 3	ST.DEV.	28.2	57.2	43.4	29.5
	N	4	4	4	4
DAYS 22-28	MEAN	277	304	303	303
WEEK 4	ST.DEV.	38.3	60.0	42.6	35.6
	N	4	4	4	4
DAYS 29-35	MEAN	315	320	340	310
WEEK 5	ST.DEV.	33.3	51.2	14.7	44.1
	N	4	4	4	4
DAYS 36-42	MEAN	311	316	303	310
WEEK 6	ST.DEV.	43.4	48.4	47.2	40.4
	N	4	4	4	4
DAYS 43-49	MEAN	298	294	307	320
WEEK 7	ST.DEV.	41.1	69.0	31.4	34.6
	N	4	4	4	4
DAYS 50-56	MEAN	287	295	295	296
WEEK 8	ST.DEV.	28.4	56.3	43.5	56.4
	N	4	4	4	4
DAYS 57-63	MEAN	303	311	324	304
WEEK 9	ST.DEV.	27.4	39.4	31.0	43.2
	N	4	4	4	4
DAYS 64-70	MEAN	310	323	325	329
WEEK 10	ST.DEV.	35.2	46.4	29.7	31.8
	N	4	4	4	4
DAYS 71-77	MEAN	279	308	297	297
WEEK 11	ST.DEV.	14.3	64.7	44.8	50.2
	N	4	4	4	4
DAYS 78-84	MEAN	299	314	311	296
WEEK 12	ST.DEV.	7.2	36.7	27.3	33.9
	N	4	4	4	4
DAYS 85-91	MEAN	281	284	269	274
WEEK 13	ST.DEV.	35.7	46.2	59.4	54.0
	N	4	4	4	4
MEAN OF MEANS OVER TREATMENT		297	308	311	304

BODY WEIGHTS (KG) SUMMARY
MALES

PERIOD			GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAY	1	MEAN	8.3	8.8	7.9	8.5
WEEK	1	ST.DEV.	0.5	0.8	1.1	0.5
		N	4	4	4	4
DAY	8	MEAN	8.7	9.1	8.3	8.8
WEEK	2	ST.DEV.	0.6	0.7	1.0	0.5
		N	4	4	4	4

* / ** : Dunnett-Test based on pooled variance significant at 5% (*) or 1% (**) level

BODY WEIGHTS (KG) SUMMARY
MALES

TREATMENT		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAY 1	MEAN	8.7	9.3	8.5	8.8
WEEK 1	ST.DEV.	0.7	0.6	1.0	0.5
	N	4	4	4	4
DAY 8	MEAN	8.9	9.6	8.7	8.9
WEEK 2	ST.DEV.	0.7	0.7	1.1	0.5
	N	4	4	4	4
DAY 15	MEAN	9.0	9.7	8.9	9.0
WEEK 3	ST.DEV.	0.9	0.6	1.1	0.4
	N	4	4	4	4
DAY 22	MEAN	9.2	10.0	9.0	9.0
WEEK 4	ST.DEV.	0.9	0.6	1.1	0.6
	N	4	4	4	4
DAY 29	MEAN	9.3	10.2	9.2	9.0
WEEK 5	ST.DEV.	1.1	0.6	1.0	0.5
	N	4	4	4	4
DAY 36	MEAN	9.4	10.4	9.4	9.2
WEEK 6	ST.DEV.	1.1	0.6	1.1	0.6
	N	4	4	4	4
DAY 43	MEAN	9.4	10.5	9.6	9.1
WEEK 7	ST.DEV.	1.2	0.6	1.1	0.6
	N	4	4	4	4
DAY 50	MEAN	9.6	10.7	9.8	9.3
WEEK 8	ST.DEV.	1.2	0.6	1.2	0.6
	N	4	4	4	4
DAY 57	MEAN	9.7	10.8	9.9	9.3
WEEK 9	ST.DEV.	1.3	0.5	1.1	0.7
	N	4	4	4	4
DAY 64	MEAN	9.9	11.0	10.0	9.5
WEEK 10	ST.DEV.	1.4	0.5	1.2	0.8
	N	4	4	4	4
DAY 71	MEAN	9.9	11.0	10.1	9.5
WEEK 11	ST.DEV.	1.3	0.6	1.1	0.9
	N	4	4	4	4
DAY 78	MEAN	10.0	11.2	10.2	9.6
WEEK 12	ST.DEV.	1.4	0.6	1.2	0.8
	N	4	4	4	4
DAY 85	MEAN	10.0	11.1	10.3	9.7
WEEK 13	ST.DEV.	1.4	0.7	1.2	0.9
	N	4	4	4	4
DAY 91	MEAN	10.0	11.2	10.4	9.7
WEEK 13	ST.DEV.	1.4	0.7	1.3	1.0
	N	4	4	4	4
DAY 92	MEAN	9.8	11.2	10.3	9.6
WEEK 14	ST.DEV.	1.4	0.8	1.3	1.0
	N	4	4	4	4

* / ** : Dunnett-Test based on pooled variance significant at 5% (*) or 1% (**) level

BODY WEIGHTS (KG) SUMMARY
FEMALES

PRETEST			GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAY	1	MEAN	7.3	7.0	7.7	7.5
WEEK	1	ST.DEV.	1.1	0.5	0.4	1.0
		N	4	4	4	4
DAY	8	MEAN	7.6	7.3	8.0	7.8
WEEK	2	ST.DEV.	1.3	0.5	0.5	1.1
		N	4	4	4	4

* / ** : Dunnett-Test based on pooled variance significant at 5% (*) or 1% (**) level

BODY WEIGHTS (KG) SUMMARY
FEMALES

TREATMENT		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAY 1	MEAN	7.6	7.4	8.0	7.8
WEEK 1	ST.DEV.	1.2	0.6	0.5	1.0
	N	4	4	4	4
DAY 8	MEAN	7.9	7.6	8.3	8.0
WEEK 2	ST.DEV.	1.2	0.6	0.5	1.0
	N	4	4	4	4
DAY 15	MEAN	8.0	7.8	8.4	8.0
WEEK 3	ST.DEV.	1.2	0.6	0.7	1.0
	N	4	4	4	4
DAY 22	MEAN	8.0	7.9	8.6	8.2
WEEK 4	ST.DEV.	1.1	0.7	0.8	0.9
	N	4	4	4	4
DAY 29	MEAN	8.0	7.9	8.7	8.2
WEEK 5	ST.DEV.	1.1	0.8	0.7	1.0
	N	4	4	4	4
DAY 36	MEAN	8.2	8.0	8.9	8.2
WEEK 6	ST.DEV.	1.1	0.8	0.8	0.9
	N	4	4	4	4
DAY 43	MEAN	8.2	8.1	8.9	8.3
WEEK 7	ST.DEV.	1.2	0.7	1.0	0.9
	N	4	4	4	4
DAY 50	MEAN	8.3	8.1	9.0	8.5
WEEK 8	ST.DEV.	1.2	0.9	1.0	0.9
	N	4	4	4	4
DAY 57	MEAN	8.3	8.1	9.0	8.4
WEEK 9	ST.DEV.	1.1	0.8	1.0	0.9
	N	4	4	4	4
DAY 64	MEAN	8.5	8.2	9.2	8.5
WEEK 10	ST.DEV.	1.1	0.9	1.0	0.9
	N	4	4	4	4
DAY 71	MEAN	8.5	8.4	9.3	8.6
WEEK 11	ST.DEV.	1.1	0.9	1.0	0.9
	N	4	4	4	4
DAY 78	MEAN	8.5	8.5	9.2	8.6
WEEK 12	ST.DEV.	1.0	0.9	1.0	0.8
	N	4	4	4	4
DAY 85	MEAN	8.5	8.6	9.3	8.7
WEEK 13	ST.DEV.	1.0	1.0	1.0	0.9
	N	4	4	4	4
DAY 91	MEAN	8.5	8.5	9.2	8.6
WEEK 13	ST.DEV.	0.9	0.9	0.9	0.8
	N	4	4	4	4
DAY 92	MEAN	---	---	---	---
WEEK 14	ST.DEV.				
	N				
DAY 93	MEAN	8.4	8.5	9.0	8.5
WEEK 14	ST.DEV.	1.1	0.9	0.9	0.9
	N	4	4	4	4

* / ** : Dunnett-Test based on pooled variance significant at 5% (*) or 1% (**) level

TEST ARTICLE INTAKE SUMMARY
(MG SUBSTANCE/KG BODY WEIGHT/DAY)
MALES

TREATMENT		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAYS 1-7	MEAN	0	92	202	397
WEEK 1	ST.DEV.	0.0	8.9	22.1	21.9
	N	4	4	4	4
DAYS 8-14	MEAN	0	91	202	393
WEEK 2	ST.DEV.	0.0	6.1	24.7	21.7
	N	4	4	4	4
DAYS 15-21	MEAN	0	89	198	390
WEEK 3	ST.DEV.	0.0	5.5	24.0	21.5
	N	4	4	4	4
DAYS 22-28	MEAN	0	87	194	390
WEEK 4	ST.DEV.	0.0	5.4	23.2	24.4
	N	4	4	4	4
DAYS 29-35	MEAN	0	85	190	387
WEEK 5	ST.DEV.	0.0	5.4	21.9	23.8
	N	4	4	4	4
DAYS 36-42	MEAN	0	83	186	384
WEEK 6	ST.DEV.	0.0	6.8	21.8	25.8
	N	4	4	4	4
DAYS 43-49	MEAN	0	81	182	382
WEEK 7	ST.DEV.	0.0	5.3	23.6	26.9
	N	4	4	4	4
DAYS 50-56	MEAN	0	76	180	379
WEEK 8	ST.DEV.	0.0	14.1	21.9	28.3
	N	4	4	4	4
DAYS 57-63	MEAN	0	80	173	376
WEEK 9	ST.DEV.	0.0	4.5	27.1	31.4
	N	4	4	4	4
DAYS 64-70	MEAN	0	77	175	371
WEEK 10	ST.DEV.	0.0	8.3	21.3	35.5
	N	4	4	4	4
DAYS 71-77	MEAN	0	70	174	370
WEEK 11	ST.DEV.	0.0	13.9	20.3	35.5
	N	4	4	4	4
DAYS 78-84	MEAN	0	75	171	366
WEEK 12	ST.DEV.	0.0	5.1	22.3	34.8
	N	4	4	4	4
DAYS 85-91	MEAN	0	72	165	362
WEEK 13	ST.DEV.	0.0	13.1	28.0	39.6
	N	4	4	4	4
MEAN OF MEANS OVER TREATMENT		0	81	184	381

TEST ARTICLE INTAKE SUMMARY
(MG SUBSTANCE/KG BODY WEIGHT/DAY)
FEMALES

TREATMENT		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
DAYS 1-7 WEEK 1	MEAN	0	105	197	379
	ST.DEV.	0.0	16.0	15.6	54.3
	N	4	4	4	4
DAYS 8-14 WEEK 2	MEAN	0	103	194	386
	ST.DEV.	0.0	19.8	18.1	53.1
	N	4	4	4	4
DAYS 15-21 WEEK 3	MEAN	0	98	188	380
	ST.DEV.	0.0	20.2	19.7	54.8
	N	4	4	4	4
DAYS 22-28 WEEK 4	MEAN	0	97	177	374
	ST.DEV.	0.0	20.8	22.8	55.0
	N	4	4	4	4
DAYS 29-35 WEEK 5	MEAN	0	101	195	382
	ST.DEV.	0.0	17.1	10.6	74.6
	N	4	4	4	4
DAYS 36-42 WEEK 6	MEAN	0	98	170	379
	ST.DEV.	0.0	16.3	19.0	63.2
	N	4	4	4	4
DAYS 43-49 WEEK 7	MEAN	0	91	173	386
	ST.DEV.	0.0	22.2	22.6	63.8
	N	4	4	4	4
DAYS 50-56 WEEK 8	MEAN	0	91	165	354
	ST.DEV.	0.0	19.5	27.4	80.5
	N	4	4	4	4
DAYS 57-63 WEEK 9	MEAN	0	96	180	362
	ST.DEV.	0.0	12.9	25.0	71.1
	N	4	4	4	4
DAYS 64-70 WEEK 10	MEAN	0	98	179	388
	ST.DEV.	0.0	16.1	25.4	66.9
	N	4	4	4	4
DAYS 71-77 WEEK 11	MEAN	0	91	162	349
	ST.DEV.	0.0	20.6	28.5	80.9
	N	4	4	4	4
DAYS 78-84 WEEK 12	MEAN	0	93	170	346
	ST.DEV.	0.0	14.0	23.8	57.5
	N	4	4	4	4
DAYS 85-91 WEEK 13	MEAN	0	84	147	321
	ST.DEV.	0.0	20.2	38.8	73.5
	N	4	4	4	4
MEAN OF MEANS OVER TREATMENT		0	96	177	368

HEMATOLOGY SUMMARY
MALES

	RBC T/L	HB mmol/L	HCT L/L	MCV fL	MCH fmol	MCHC mmol/L	PLATELETS G/L
PRETEST I							
1 0 PPM	6.47	9.1	0.44	67.4	1.40	20.8	375
2 2500 PPM	6.32	8.8	0.43	67.8	1.40	20.7	310
3 5000 PPM	6.24	8.9	0.43	68.9	1.43	20.8	367
4 10000 PPM	6.52	9.3	0.44	68.4	1.42	20.9	397
PRETEST II							
1 0 PPM	6.26	8.7	0.42	66.4	1.39	21.0	370
2 2500 PPM	6.12	8.4	0.41	66.8	1.38	20.6	306
3 5000 PPM	6.15	8.6	0.41	67.5	1.41	20.8	379
4 10000 PPM	6.31	9.0	0.42	67.1	1.44	21.4	338
4 WEEKS							
1 0 PPM	6.70	9.4	0.45	66.9	1.41	21.1	409
2 2500 PPM	6.35	8.9	0.42	66.4	1.40	21.1	286
3 5000 PPM	6.49	9.2	0.44	67.4	1.42	21.2	383
4 10000 PPM	6.69	9.6	0.45	67.2	1.44	21.5	465
8 WEEKS							
1 0 PPM	6.56	9.2	0.44	67.2	1.40	20.9	384
2 2500 PPM	6.61	9.0	0.44	66.5	1.37	20.6	285
3 5000 PPM	6.64	9.2	0.45	67.8	1.39	20.5	370
4 10000 PPM	6.65	9.4	0.44	67.0	1.41	21.1	379
13 WEEKS							
1 0 PPM	6.98	9.6	0.47	67.8	1.38	20.3	390
2 2500 PPM	7.38	10.0	0.50	67.3	1.35	20.1	294
3 5000 PPM	7.43	10.3	0.51	68.5	1.39	20.3	366
4 10000 PPM	7.18	10.0	0.49	68.4	1.39	20.3	382

	RETICULOCYTE COUNT						
	RETIC. %	RETIC. T/L	HFR %	MFR %	LFR %	NEN /100 WBC	WBC G/L
PRETEST I							
1 0 PPM	1.06	0.0669	2.8	15.9	81.4	0.0	9.8
2 2500 PPM	0.96	0.0594	1.8	11.7	86.5	0.0	10.4
3 5000 PPM	1.05	0.0644	4.1	15.9	80.0	0.0	10.3
4 10000 PPM	1.64	0.1042 *	4.8	23.1	72.2	0.0	11.2
PRETEST II							
1 0 PPM	1.07	0.0664	3.1	14.5	82.4	0.0	9.1
2 2500 PPM	0.81	0.0483	2.5	9.2	88.3	0.0	11.5
3 5000 PPM	1.05	0.0634	4.4	13.2	82.5	0.0	9.0
4 10000 PPM	1.86	0.1165 *	6.6	23.1	70.3	0.0	12.1
4 WEEKS							
1 0 PPM	1.11	0.0755	5.0	15.9	79.1	0.0	9.0
2 2500 PPM	0.73	0.0466	2.6	9.2	88.3	0.0	8.7
3 5000 PPM	1.13	0.0739	4.7	16.4	78.9	0.0	9.1
4 10000 PPM	1.49	0.0997	6.1	22.2	71.8	0.0	11.1
8 WEEKS							
1 0 PPM	0.93	0.0609	3.5	16.1	80.4	0.0	8.7
2 2500 PPM	0.77	0.0508	3.0	11.0	86.3	0.0	8.4
3 5000 PPM	1.04	0.0675	4.6	18.1	77.3	0.0	9.0
4 10000 PPM	1.22	0.0805	4.5	17.6	78.0	0.0	8.0
13 WEEKS							
1 0 PPM	0.81	0.0559	2.9	12.8	84.4	0.0	8.5
2 2500 PPM	0.71	0.0507	1.2	11.0	87.8	0.0	8.4
3 5000 PPM	1.01	0.0731	4.2	14.6	81.3	0.0	9.2
4 10000 PPM	1.07	0.0744	5.0	18.0	77.1	0.0	9.7

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

HEMATOLOGY SUMMARY
MALES

	DIFF.WBC COUNT (REL.)						
	BAND 1	SEG. 1	EO. 1	BASO. 1	LYMPH. 1	MONO. 1	PLAS. 1
PRETEST I							
1 0 PPM	0.02	0.60	0.02	0.00	0.36	0.01	0.00
2 2500 PPM	0.01	0.64	0.03	0.00	0.31	0.02	0.00
3 5000 PPM	0.01	0.64	0.02	0.00	0.33	0.01	0.00
4 10000 PPM	0.01	0.65	0.02	0.00	0.31	0.01	0.00
PRETEST II							
1 0 PPM	0.01	0.60	0.02	0.00	0.34	0.04	0.00
2 2500 PPM	0.01	0.67	0.04	0.00	0.26	0.03	0.00
3 5000 PPM	0.00	0.65	0.03	0.00	0.31	0.02	0.00
4 10000 PPM	0.01	0.68	0.04	0.00	0.26	0.02	0.00
4 WEEKS							
1 0 PPM	0.01	0.58	0.03	0.00	0.36	0.03	0.00
2 2500 PPM	0.01	0.64	0.04	0.00	0.29	0.02	0.00
3 5000 PPM	0.00	0.67	0.02	0.00	0.28	0.03	0.00
4 10000 PPM	0.01	0.73	0.02	0.00	0.23	0.02	0.00
8 WEEKS							
1 0 PPM	0.01	0.57	0.02	0.00	0.39	0.02	0.00
2 2500 PPM	0.02	0.64	0.02	0.00	0.31	0.02	0.00
3 5000 PPM	0.01	0.68	0.02	0.00	0.28	0.02	0.00
4 10000 PPM	0.01	0.63	0.02	0.00	0.33	0.02	0.00
13 WEEKS							
1 0 PPM	0.01	0.57	0.02	0.00	0.37	0.03	0.00
2 2500 PPM	0.00	0.63	0.03	0.00	0.32	0.02	0.00
3 5000 PPM	0.01	0.64	0.03	0.00	0.30	0.03	0.00
4 10000 PPM	0.01	0.67	0.02	0.00	0.26	0.04	0.00

	DIFF.WBC COUNT (REL.)	DIFF.WBC COUNT (ABS.)				
	OTHER 1	BAND G/L	SEG. G/L	EO. G/L	BASO. G/L	LYMPH. G/L
PRETEST I						
1 0 PPM	0.00	0.1	5.9	0.2	0.0	3.5
2 2500 PPM	0.00	0.1	6.8	0.3	0.0	3.1
3 5000 PPM	0.00	0.0	6.4	0.2	0.0	3.5
4 10000 PPM	0.00	0.2	7.2	0.2	0.0	3.5
PRETEST II						
1 0 PPM	0.00	0.1	5.5	0.2	0.0	3.1
2 2500 PPM	0.00	0.1	8.0	0.4	0.0	2.6
3 5000 PPM	0.00	0.0	5.8	0.2	0.0	2.8
4 10000 PPM	0.00	0.1	8.1	0.5	0.0	3.2
4 WEEKS						
1 0 PPM	0.00	0.1	5.3	0.2	0.0	3.2
2 2500 PPM	0.00	0.1	5.6	0.3	0.0	2.5
3 5000 PPM	0.00	0.0	6.0	0.1	0.0	2.6
4 10000 PPM	0.00	0.1	8.1 *	0.2	0.0	2.4
8 WEEKS						
1 0 PPM	0.00	0.1	4.8	0.2	0.0	3.5
2 2500 PPM	0.00	0.2	5.5	0.1	0.0	2.5
3 5000 PPM	0.00	0.1	6.1	0.2	0.0	2.5
4 10000 PPM	0.00	0.1	4.9	0.1	0.0	2.7

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

HEMATOLOGY SUMMARY
MALES

	DIFF.WBC COUNT (REL.)	DIFF.WBC COUNT (ABS.)				
	OTHER 1	BAND G/L	SEG. G/L	EO. G/L	BASO. G/L	LYMPH. G/L
13 WEEKS						
1 0 PPM	0.00	0.1	4.8	0.2	0.0	3.1
2 2500 PPM	0.00	0.0	5.3	0.3	0.0	2.6
3 5000 PPM	0.00	0.1	5.9	0.3	0.0	2.7
4 10000 PPM	0.00	0.1	6.5	0.2	0.0	2.5

	DIFF.WBC COUNT (ABS.)			COAGULATION	
	MONO. G/L	PLAS. G/L	OTHER G/L	PT sec	APTT sec
PRETEST I					
1 0 PPM	0.1	0.0	0.0	7.2	9.8
2 2500 PPM	0.1	0.0	0.0	6.2	10.1
3 5000 PPM	0.1	0.0	0.0	6.8	9.8
4 10000 PPM	0.1	0.0	0.0	6.4	9.9
PRETEST II					
1 0 PPM	0.3	0.0	0.0	7.1	9.8
2 2500 PPM	0.3	0.0	0.0	6.3	10.1
3 5000 PPM	0.2	0.0	0.0	6.9	9.8
4 10000 PPM	0.2	0.0	0.0	6.3	10.0
4 WEEKS					
1 0 PPM	0.3	0.0	0.0	7.1	9.6
2 2500 PPM	0.2	0.0	0.0	6.2	9.8
3 5000 PPM	0.3	0.0	0.0	6.7	9.6
4 10000 PPM	0.2	0.0	0.0	6.1	9.9
8 WEEKS					
1 0 PPM	0.1	0.0	0.0	7.1	9.9
2 2500 PPM	0.1	0.0	0.0	6.2	10.0
3 5000 PPM	0.1	0.0	0.0	6.8	9.9
4 10000 PPM	0.1	0.0	0.0	6.1	9.8
13 WEEKS					
1 0 PPM	0.2	0.0	0.0	7.0	9.7
2 2500 PPM	0.2	0.0	0.0	6.2	10.0
3 5000 PPM	0.3	0.0	0.0	7.0	9.6
4 10000 PPM	0.4	0.0	0.0	6.2	9.5

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

HEMATOLOGY SUMMARY
FEMALES

	RBC T/L	HB mmol/L	HCT L/L	MCV fL	MCH fmol	MCHC mmol/L	PLATELETS G/L
PRETEST I							
1 0 PPM	7.14	10.2	0.49	68.5	1.43	20.9	294
2 2500 PPM	7.09	10.0	0.48	68.1	1.41	20.7	303
3 5000 PPM	6.96	10.0	0.48	68.5	1.44	21.0	291
4 10000 PPM	7.14	10.4	0.50	69.8	1.46	20.9	348
PRETEST II							
1 0 PPM	6.98	9.8	0.47	67.7	1.40	20.7	320
2 2500 PPM	7.28	10.2	0.49	67.0	1.41	21.0	290
3 5000 PPM	6.73	9.6	0.45	67.5	1.42	21.1	290
4 10000 PPM	6.74	9.7	0.46	68.3	1.45	21.2	334
4 WEEKS							
1 0 PPM	7.51	10.8	0.51	67.2	1.43	21.3	303
2 2500 PPM	7.23	10.4	0.48	66.8	1.44	21.5	323
3 5000 PPM	7.08	10.2	0.48	67.6	1.45	21.4	341
4 10000 PPM	7.36	10.6	0.50	68.0	1.44	21.2	367
8 WEEKS							
1 0 PPM	7.53	10.7	0.51	67.7	1.42	21.1	315
2 2500 PPM	7.32	10.4	0.49	67.0	1.42	21.3	300
3 5000 PPM	7.23	10.2	0.49	67.8	1.41	20.9	336
4 10000 PPM	7.13	10.3	0.49	68.6	1.44	21.0	359
13 WEEKS							
1 0 PPM	7.74	10.9	0.53	68.6	1.41	20.5	327
2 2500 PPM	7.80	10.9	0.53	68.0	1.40	20.6	341
3 5000 PPM	7.44	10.4	0.51	69.0	1.40	20.3	345
4 10000 PPM	7.33	10.4	0.51	69.5	1.43	20.5	357

	RETICULOCYTE COUNT						
	RETIC. %	RETIC. T/L	HFR %	MFR %	LFR %	NEN /100 WBC	WBC G/L
PRETEST I							
1 0 PPM	1.05	0.0739	2.2	17.2	80.6	0.0	8.8
2 2500 PPM	0.87	0.0605	1.7	11.0	87.3	0.0	10.4
3 5000 PPM	0.89	0.0607	0.9	11.9	87.3	0.0	9.3
4 10000 PPM	1.02	0.0707	4.0	18.1	77.9	0.0	10.2
PRETEST II							
1 0 PPM	1.25	0.0841	3.6	16.5	79.9	0.5	9.3
2 2500 PPM	1.06	0.0749	3.4	14.0	82.6	0.3	9.4
3 5000 PPM	0.95	0.0629	3.6	14.1	82.3	0.0	8.5
4 10000 PPM	1.10	0.0721	5.7	18.6	75.8	0.0	8.8
4 WEEKS							
1 0 PPM	1.12	0.0839	6.0	20.4	73.6	0.3	8.4
2 2500 PPM	0.75	0.0539	4.0	12.5	83.6	0.0	10.1
3 5000 PPM	1.12	0.0790	4.1	16.6	79.4	0.0	8.6
4 10000 PPM	1.26	0.0902	7.4	19.6	73.0	0.0	10.2
8 WEEKS							
1 0 PPM	1.31	0.0978	5.4	20.4	74.3	0.0	7.7
2 2500 PPM	0.80	0.0589	2.7	9.1	88.3	0.0	8.9
3 5000 PPM	1.00	0.0711	2.9	14.8	82.3	0.3	9.7
4 10000 PPM	1.21	0.0835	5.7	22.8	71.5	0.0	8.4
13 WEEKS							
1 0 PPM	0.88	0.0667	2.8	13.4	83.8	0.0	7.3
2 2500 PPM	0.85	0.0640	2.1	12.1	85.8	0.0	11.0
3 5000 PPM	0.81	0.0586	2.7	11.4	86.0	0.3	8.9
4 10000 PPM	0.70	0.0500	3.6	12.0	84.5	0.0	8.2

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

HEMATOLOGY SUMMARY
FEMALES

	DIFF.WBC COUNT (REL.)						
	BAND 1	SEG. 1	EO. 1	BASO. 1	LYMPH. 1	MONO. 1	PLAS. 1
PRETEST I							
1 0 PPM	0.00	0.60	0.03	0.00	0.36	0.01	0.00
2 2500 PPM	0.01	0.71	0.03	0.00	0.26	0.01	0.00
3 5000 PPM	0.02	0.63	0.05	0.00	0.30	0.01	0.00
4 10000 PPM	0.00	0.67	0.03	0.00	0.29	0.01	0.00
PRETEST II							
1 0 PPM	0.00	0.70	0.03	0.00	0.25	0.03	0.00
2 2500 PPM	0.01	0.62	0.04	0.00	0.33	0.02	0.00
3 5000 PPM	0.00	0.55	0.04	0.00	0.40	0.01	0.00
4 10000 PPM	0.01	0.67	0.02	0.00	0.27	0.03	0.00
4 WEEKS							
1 0 PPM	0.01	0.64	0.02	0.00	0.32	0.02	0.00
2 2500 PPM	0.01	0.64	0.03	0.00	0.31	0.02	0.00
3 5000 PPM	0.01	0.55	0.02	0.00	0.41	0.03	0.00
4 10000 PPM	0.01	0.69	0.01	0.00	0.28	0.03	0.00
8 WEEKS							
1 0 PPM	0.01	0.62	0.02	0.00	0.33	0.02	0.00
2 2500 PPM	0.01	0.60	0.04	0.00	0.35	0.00	0.00
3 5000 PPM	0.01	0.54	0.02	0.00	0.41	0.03	0.00
4 10000 PPM	0.00	0.63	0.03	0.00	0.32	0.03	0.00
13 WEEKS							
1 0 PPM	0.01	0.62	0.04	0.00	0.31	0.03	0.00
2 2500 PPM	0.01	0.63	0.04	0.00	0.30	0.03	0.00
3 5000 PPM	0.00	0.60	0.03	0.00	0.33	0.05	0.00
4 10000 PPM	0.00	0.58	0.02	0.00	0.35	0.06	0.00

	DIFF.WBC COUNT (REL.)	DIFF.WBC COUNT (ABS.)				
	OTHER 1	BAND G/L	SEG. G/L	EO. G/L	BASO. G/L	LYMPH. G/L
PRETEST I						
1 0 PPM	0.00	0.0	5.3	0.2	0.0	3.2
2 2500 PPM	0.00	0.0	7.4	0.3	0.0	2.6
3 5000 PPM	0.00	0.1	6.0	0.4	0.0	2.7
4 10000 PPM	0.00	0.0	7.0	0.2	0.0	2.9
PRETEST II						
1 0 PPM	0.00	0.0	6.6	0.3	0.0	2.2
2 2500 PPM	0.00	0.0	5.7	0.4	0.0	3.1
3 5000 PPM	0.00	0.0	4.7	0.3	0.0	3.4
4 10000 PPM	0.00	0.0	5.9	0.2	0.0	2.4
4 WEEKS						
1 0 PPM	0.00	0.0	5.3	0.2	0.0	2.7
2 2500 PPM	0.00	0.0	6.4	0.3	0.0	3.1
3 5000 PPM	0.00	0.0	4.7	0.2	0.0	3.5
4 10000 PPM	0.00	0.1	7.0	0.1	0.0	2.8
8 WEEKS						
1 0 PPM	0.00	0.1	4.7	0.2	0.0	2.5
2 2500 PPM	0.00	0.1	5.3	0.4	0.0	3.1
3 5000 PPM	0.00	0.1	5.1	0.2	0.0	4.0
4 10000 PPM	0.00	0.0	5.3	0.2	0.0	2.7

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

HEMATOLOGY SUMMARY
FEMALES

	DIFF.WBC COUNT (REL.)	DIFF.WBC COUNT (ABS.)				
	OTHER 1	BAND G/L	SEG. G/L	EO. G/L	BASO. G/L	LYMPH. G/L
13 WEEKS						
1 0 PPM	0.00	0.0	4.4	0.2	0.0	2.4
2 2500 PPM	0.00	0.1	7.1	0.4	0.0	3.1
3 5000 PPM	0.00	0.0	5.2	0.3	0.0	2.9
4 10000 PPM	0.00	0.0	4.8	0.2	0.0	2.8

	DIFF.WBC COUNT (ABS.)			COAGULATION	
	MONO. G/L	PLAS. G/L	OTHER G/L	PT sec	APTT sec
PRETEST I					
1 0 PPM	0.1	0.0	0.0	6.4	9.9
2 2500 PPM	0.1	0.0	0.0	6.4	10.5
3 5000 PPM	0.1	0.0	0.0	6.2	9.9
4 10000 PPM	0.1	0.0	0.0	6.3	10.3
PRETEST II					
1 0 PPM	0.3	0.0	0.0	6.3	9.9
2 2500 PPM	0.2	0.0	0.0	6.4	10.4
3 5000 PPM	0.1	0.0	0.0	6.2	10.1
4 10000 PPM	0.3	0.0	0.0	6.2	10.4
4 WEEKS					
1 0 PPM	0.2	0.0	0.0	6.3	9.8
2 2500 PPM	0.2	0.0	0.0	6.3	10.1
3 5000 PPM	0.2	0.0	0.0	6.3	10.0
4 10000 PPM	0.3	0.0	0.0	6.1	10.0
8 WEEKS					
1 0 PPM	0.2	0.0	0.0	6.3	9.9
2 2500 PPM	0.0	0.0	0.0	6.2	10.5
3 5000 PPM	0.3	0.0	0.0	6.2	10.1
4 10000 PPM	0.2	0.0	0.0	6.1 *	10.1
13 WEEKS					
1 0 PPM	0.2	0.0	0.0	6.3	9.9
2 2500 PPM	0.3	0.0	0.0	6.2	10.3
3 5000 PPM	0.4	0.0	0.0	6.2	9.9
4 10000 PPM	0.4	0.0	0.0	6.1 **	10.0

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

CLINICAL BIOCHEMISTRY SUMMARY
MALES

	GLUCOSE mmol/L	UREA mmol/L	CREATININE µmol/L	BILI. T. µmol/L	LIPIDS T. g/L	CHOLEST.T. mmol/L	TRIGL. mmol/L
PRETEST I							
1 0 PPM	5.91	5.00	56.4	5.47	2.99	3.90	0.31
2 2500 PPM	5.75	4.41	56.2	4.74	2.92	3.60	0.30
3 5000 PPM	6.09	4.77	55.7	4.66	3.10	3.68	0.42
4 10000 PPM	5.72	4.81	57.6	4.58	2.83	4.18	0.33
PRETEST II							
1 0 PPM	6.02	5.66	54.1	4.53	2.78	3.99	0.31
2 2500 PPM	6.19	4.80	60.3	3.90	2.48	3.83	0.33
3 5000 PPM	6.28	4.58	52.5	4.12	2.64	3.95	0.31
4 10000 PPM	6.18	5.38	61.6	3.83	2.66	4.15	0.32
4 WEEKS							
1 0 PPM	6.16	6.05	56.8	5.82	2.49	4.24	0.33
2 2500 PPM	6.17	6.15	61.2	4.32	2.78	4.38	0.39
3 5000 PPM	6.00	5.12	60.1	4.19	2.94	4.36	0.39
4 10000 PPM	6.11	6.33	60.4	4.00	3.19	5.29	0.47
8 WEEKS							
1 0 PPM	6.55	5.95	59.8	5.13	2.72	4.16	0.38
2 2500 PPM	6.50	5.11	66.0	3.73 *	2.79	4.32	0.38
3 5000 PPM	6.20	6.04	61.1	4.12	2.88	4.11	0.44
4 10000 PPM	6.11	5.69	59.9	3.61 *	3.79	5.23	0.50
13 WEEKS							
1 0 PPM	5.80	7.34	63.2	4.85	3.14	5.07	0.36
2 2500 PPM	6.10	5.31	67.3	3.98	2.92	4.65	0.34
3 5000 PPM	5.89	6.33	65.4	4.50	2.90	4.31	0.41
4 10000 PPM	5.88	7.09	63.6	3.79	4.61	5.75	0.51

	PHOS.LIPID mmol/L	ASAT(GOT) µkat/L	ALAT(GPT) µkat/L	LDH µkat/L	GLDH nkat/L	CK µkat/L	ALP µkat/L
PRETEST I							
1 0 PPM	3.93	0.50	0.65	1.44	72.4	3.79	5.05
2 2500 PPM	4.00	0.48	0.49	1.41	78.8	3.60	3.53
3 5000 PPM	3.71	0.57	0.49	1.62	83.5	4.82	4.88
4 10000 PPM	4.20	0.47	0.54	1.52	81.0	4.48	5.39
PRETEST II							
1 0 PPM	4.06	0.48	0.68	0.86	54.7	3.20	4.34
2 2500 PPM	3.89	0.53	0.58	1.19	44.9	3.28	3.64
3 5000 PPM	3.88	0.57	0.48	1.26	55.1	3.79	4.23
4 10000 PPM	4.17	0.48	0.55	1.16	61.4	3.69	5.75
4 WEEKS							
1 0 PPM	4.07	0.52	0.61	1.94	48.6	4.09	4.59
2 2500 PPM	4.22	0.53	0.51	1.40	37.9	3.89	3.55
3 5000 PPM	4.49	0.54	0.47	1.65	30.3	4.13	4.29
4 10000 PPM	4.87	0.47	0.50	1.67	46.8	3.02	5.61
8 WEEKS							
1 0 PPM	3.93	0.53	0.59	1.27	41.3	4.05	4.50
2 2500 PPM	4.10	0.55	0.55	1.23	32.6	3.72	3.15
3 5000 PPM	3.96	0.63	0.52	1.34	46.6	4.41	4.32
4 10000 PPM	4.75	0.45	0.48	0.85 *	32.0	2.48	5.57
13 WEEKS							
1 0 PPM	4.93	0.60	0.62	1.65	41.8	4.47	4.78
2 2500 PPM	4.62	0.58	0.62	1.32	38.0	3.36	2.93
3 5000 PPM	4.36	0.67	0.59	1.65	43.4	4.68	4.23
4 10000 PPM	5.46	0.47	0.60	1.16	39.4	2.45	5.79

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

CLINICAL BIOCHEMISTRY SUMMARY
MALES

	G-GT nkat/L	CHE kU/L	IRON µmol/L	CALCIUM mmol/L	PHOSPHORUS mmol/L	MAGNESIUM mmol/L	SODIUM mmol/L
PRETEST I							
1 0 PPM	41.62	4.70	41.08	2.68	2.14	0.79	141.7
2 2500 PPM	36.66	5.48	23.71 *	2.75	2.31	0.77	141.3
3 5000 PPM	41.56	4.86	30.11	2.72	2.13	0.75	142.0
4 10000 PPM	33.88	5.14	35.46	2.73	2.08	0.80	140.3
PRETEST II							
1 0 PPM	45.62	4.79	32.91	2.68	2.16	0.69	143.5
2 2500 PPM	43.76	5.32	23.34	2.76	2.24	0.68	143.7
3 5000 PPM	50.21	4.76	31.65	2.80	2.22	0.72	144.6
4 10000 PPM	43.17	4.97	30.04	2.74	2.17	0.72	143.5
4 WEEKS							
1 0 PPM	43.81	5.06	39.89	2.70	1.91	0.77	145.5
2 2500 PPM	44.87	5.67	30.39	2.80	2.20	0.78	145.1
3 5000 PPM	49.24	5.19	35.71	2.85 *	1.85	0.78	146.3
4 10000 PPM	38.20	5.30	36.33	2.75	1.91	0.79	145.0
8 WEEKS							
1 0 PPM	34.84	4.53	43.80	2.66	1.73	0.77	144.6
2 2500 PPM	34.31	5.46	30.91 *	2.74	1.86	0.71	145.5
3 5000 PPM	38.37	5.05	38.88	2.73	1.73	0.75	146.3
4 10000 PPM	33.40	4.79	40.93	2.71	1.72	0.79	143.3
13 WEEKS							
1 0 PPM	42.85	4.94	40.42	2.64	1.74	0.79	144.9
2 2500 PPM	39.32	5.75	29.14	2.76	1.90	0.81	144.6
3 5000 PPM	45.70	5.24	37.23	2.68	1.58	0.78	143.1
4 10000 PPM	45.49	5.08	31.39	2.64	1.65	0.81	140.7

				PROT.ELECTROPH. (REL.)			
	POTASSIUM mmol/L	CHLORIDE mmol/L	PROTEIN T. g/L	ALBUMIN 1	A1-GLOB. 1	A2-GLOB. 1	B1-GLOB. 1
PRETEST I							
1 0 PPM	4.28	116.5	57.3	0.440	0.145	0.103	0.105
2 2500 PPM	4.31	114.2	57.8	0.420	0.146	0.112	0.108
3 5000 PPM	4.09	116.9	57.0	0.422	0.139	0.107	0.120
4 10000 PPM	4.16	114.8	60.2	0.437	0.168	0.070	0.118
PRETEST II							
1 0 PPM	4.19	117.4	53.8	0.423	0.148	0.109	0.111
2 2500 PPM	4.08	116.7	56.6	0.424	0.148	0.111	0.112
3 5000 PPM	4.00	116.8	57.9	0.411	0.147	0.107	0.130
4 10000 PPM	4.18	116.8	58.9	0.409	0.149	0.093	0.136
4 WEEKS							
1 0 PPM	4.41	119.9	56.2	0.413	0.163	0.087	0.129
2 2500 PPM	4.26	118.3	55.8	0.377	0.184	0.087	0.135
3 5000 PPM	4.46	118.5	61.1	0.369	0.170	0.094	0.152
4 10000 PPM	4.40	117.2	60.0	0.355	0.186	0.079	0.146
8 WEEKS							
1 0 PPM	4.09	121.5	56.6	0.432	0.145	0.105	0.115
2 2500 PPM	4.08	121.7	55.1	0.419	0.163	0.100	0.112
3 5000 PPM	3.91	121.3	57.5	0.421	0.157	0.092	0.134
4 10000 PPM	4.22	118.2	58.7	0.376	0.183	0.081	0.132
13 WEEKS							
1 0 PPM	4.25	116.4	59.5	0.418	0.154	0.102	0.111
2 2500 PPM	3.87	117.6	61.1	0.401	0.156	0.109	0.115
3 5000 PPM	3.89	117.9	58.6	0.433	0.151	0.086	0.128
4 10000 PPM	4.08	120.7 *	59.6	0.387	0.178	0.087	0.125

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

CLINICAL BIOCHEMISTRY SUMMARY
MALES

	PROT.ELECTROPH.(REL.)				PROT.ELECTROPH.(ABS.)		
	B2-GLOB. 1	SB-GLOB. 1	G-GLOB. 1	A/G RATIO	ALBUMIN g/L	A1-GLOB. g/L	A2-GLOB. g/L
PRETEST I							
1 0 PPM	0.150	0.254	0.058	0.78	25.2	8.3	5.9
2 2500 PPM	0.161	0.268	0.054	0.72	24.2	8.4	6.5
3 5000 PPM	0.154	0.274	0.060	0.73	24.1	7.9	6.1
4 10000 PPM	0.149	0.267	0.058	0.78	26.3	10.1 *	4.2 *
PRETEST II							
1 0 PPM	0.152	0.263	0.058	0.73	22.7	8.0	5.8
2 2500 PPM	0.150	0.262	0.055	0.74	24.0	8.4	6.3
3 5000 PPM	0.145	0.275	0.061	0.70	23.8	8.5	6.2
4 10000 PPM	0.147	0.283	0.066	0.69	24.1	8.8	5.5
4 WEEKS							
1 0 PPM	0.149	0.278	0.061	0.71	23.2	9.1	4.9
2 2500 PPM	0.158	0.293	0.060	0.60	21.0	10.3	4.9
3 5000 PPM	0.146	0.299	0.069	0.59	22.6	10.3	5.8
4 10000 PPM	0.162	0.308	0.074	0.55	21.2	11.2	4.7
8 WEEKS							
1 0 PPM	0.143	0.258	0.061	0.77	24.5	8.2	5.9
2 2500 PPM	0.149	0.261	0.058	0.72	23.1	9.0	5.5
3 5000 PPM	0.130	0.264	0.067	0.73	24.2	8.9	5.3
4 10000 PPM	0.159	0.291	0.070	0.61	22.0	10.7 **	4.7
13 WEEKS							
1 0 PPM	0.155	0.265	0.062	0.72	24.9	9.1	6.1
2 2500 PPM	0.160	0.274	0.061	0.67	24.4	9.5	6.7
3 5000 PPM	0.132	0.260	0.070	0.76	25.4	8.8	5.0
4 10000 PPM	0.152	0.276	0.072	0.63	23.0	10.6	5.2

	PROT.ELECTROPH.(ABS.)			
	B1-GLOB. g/L	B2-GLOB. g/L	SB-GLOB. g/L	G-GLOB. g/L
PRETEST I				
1 0 PPM	6.0	8.6	14.6	3.3
2 2500 PPM	6.2	9.3	15.5	3.1
3 5000 PPM	6.8	8.7	15.6	3.4
4 10000 PPM	7.1	9.0	16.1	3.5
PRETEST II				
1 0 PPM	6.0	8.2	14.1	3.1
2 2500 PPM	6.3	8.5	14.8	3.1
3 5000 PPM	7.5	8.3	15.9	3.5
4 10000 PPM	8.0 *	8.7	16.7 *	3.9 **
4 WEEKS				
1 0 PPM	7.2	8.3	15.6	3.4
2 2500 PPM	7.5	8.8	16.3	3.4
3 5000 PPM	9.3	8.9	18.2 *	4.2 *
4 10000 PPM	8.8	9.8	18.5 *	4.4 **
8 WEEKS				
1 0 PPM	6.5	8.1	14.6	3.4
2 2500 PPM	6.2	8.2	14.4	3.2
3 5000 PPM	7.7	7.4	15.2	3.8
4 10000 PPM	7.7	9.4	17.1 *	4.1

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

CLINICAL BIOCHEMISTRY SUMMARY
MALES

	PROT.ELECTROPH.(ABS.)			
	B1-GLOB. g/L	B2-GLOB. g/L	SB-GLOB. g/L	G-GLOB. g/L
13 WEEKS				
1 0 PPM	6.6	9.2	15.8	3.7
2 2500 PPM	7.0	9.7	16.7	3.7
3 5000 PPM	7.5	7.7	15.2	4.1
4 10000 PPM	7.5	9.0	16.5	4.3

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

CLINICAL BIOCHEMISTRY SUMMARY
FEMALES

	GLUCOSE mmol/L	UREA mmol/L	CREATININE µmol/L	BILI. T. µmol/L	LIPIDS T. g/L	CHOLEST.T. mmol/L	TRIGL. mmol/L
PRETEST I							
1 0 PPM	5.34	4.97	61.6	5.95	3.21	3.90	0.42
2 2500 PPM	5.75	4.63	60.9	5.38	3.19	3.59	0.47
3 5000 PPM	5.15	4.00	55.1	5.03	2.89	3.56	0.35
4 10000 PPM	5.49	5.00	62.6	5.35	3.30	4.01	0.48
PRETEST II							
1 0 PPM	5.63	4.97	59.9	5.02	2.70	3.79	0.37
2 2500 PPM	5.92	5.44	64.0	5.13	2.81	3.70	0.40
3 5000 PPM	5.85	4.34	56.8	4.47	2.43	3.55	0.28
4 10000 PPM	5.64	5.51	61.7	4.14	2.77	4.30	0.36
4 WEEKS							
1 0 PPM	5.52	6.87	66.3	6.11	2.59	3.81	0.42
2 2500 PPM	5.96	6.49	64.7	5.24	3.19	3.93	0.56
3 5000 PPM	5.89	4.69	57.0	4.82 *	2.41	4.24	0.33
4 10000 PPM	5.62	5.83	57.0	3.90 **	3.44	5.41 *	0.52
8 WEEKS							
1 0 PPM	6.32	6.32	69.9	5.04	2.63	4.04	0.36
2 2500 PPM	6.08	6.43	69.1	4.68	3.05	4.14	0.55 *
3 5000 PPM	5.78	4.90	60.1	4.35	2.67	3.90	0.37
4 10000 PPM	5.59 *	6.32	62.4	4.11	4.16 *	5.32	0.57 *
13 WEEKS							
1 0 PPM	5.87	7.71	72.2	5.01	3.00	4.55	0.39
2 2500 PPM	5.60	6.32	68.4	4.90	3.64	4.98	0.54
3 5000 PPM	5.52	5.12	60.1	4.66	3.56	5.02	0.40
4 10000 PPM	5.15	6.51	60.9	4.62	4.46	5.83	0.46

	PHOS.LIPID mmol/L	ASAT(GOT) µkat/L	ALAT(GPT) µkat/L	LDH µkat/L	GLDH nkat/L	CK µkat/L	ALP µkat/L
PRETEST I							
1 0 PPM	4.04	0.59	0.55	1.75	75.4	4.40	4.89
2 2500 PPM	3.73	0.57	0.48	1.88	56.0	3.89	4.62
3 5000 PPM	3.85	0.48	0.42	1.54	41.6	3.26	4.36
4 10000 PPM	4.16	0.45	0.46	1.54	112.5	3.06	4.92
PRETEST II							
1 0 PPM	3.85	0.55	0.47	1.26	45.9	3.45	5.02
2 2500 PPM	3.58	0.57	0.46	1.49	33.9	3.31	5.24
3 5000 PPM	3.57	0.49	0.40	1.23	22.4	3.11	3.61
4 10000 PPM	4.32	0.48	0.51	1.00	41.4	3.01	4.54
4 WEEKS							
1 0 PPM	4.02	0.59	0.55	2.08	40.7	4.82	4.29
2 2500 PPM	3.81	0.57	0.50	1.67	29.9	3.66	4.83
3 5000 PPM	4.18	0.52	0.44	1.62	40.1	2.92 *	3.81
4 10000 PPM	4.92	0.46	0.58	1.63	39.1	2.23 **	5.34
8 WEEKS							
1 0 PPM	3.92	0.59	0.57	1.36	41.5	3.91	4.34
2 2500 PPM	4.03	0.56	0.48	1.46	17.7	3.13	4.25
3 5000 PPM	4.05	0.56	0.43	1.29	25.8	2.84	3.68
4 10000 PPM	4.90	0.50	0.51	0.96	22.6	2.97	5.67
13 WEEKS							
1 0 PPM	4.50	0.61	0.62	1.57	36.4	3.58	4.16
2 2500 PPM	4.84	0.66	0.60	1.72	32.5	2.95	4.57
3 5000 PPM	4.91	0.51	0.49	1.20	32.9	2.16	3.92
4 10000 PPM	5.40	0.49	0.57	1.56	32.2	1.99	6.71

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

CLINICAL BIOCHEMISTRY SUMMARY
FEMALES

	G-GT nkat/L	CHE kU/L	IRON µmol/L	CALCIUM mmol/L	PHOSPHORUS mmol/L	MAGNESIUM mmol/L	SODIUM mmol/L
PRETEST I							
1 0 PPM	43.47	5.31	40.23	2.72	1.75	0.79	142.9
2 2500 PPM	41.57	5.48	36.19	2.68	1.74	0.78	142.4
3 5000 PPM	36.83	4.96	37.00	2.79	1.91	0.76	143.9
4 10000 PPM	40.39	4.66	41.37	2.83	2.03	0.79	143.3
PRETEST II							
1 0 PPM	43.70	5.49	30.15	2.80	1.87	0.74	145.0
2 2500 PPM	40.73	5.28	36.38	2.76	1.90	0.72	144.5
3 5000 PPM	40.31	5.05	42.08	2.80	2.14	0.69	145.3
4 10000 PPM	48.43	4.83	39.81	2.86	2.11	0.73	144.5
4 WEEKS							
1 0 PPM	39.41	5.92	42.04	2.82	1.50	0.87	148.0
2 2500 PPM	50.15	5.51	40.69	2.72	1.61	0.79	145.9
3 5000 PPM	50.08	4.85	42.19	2.81	1.75	0.78	147.7
4 10000 PPM	50.50	4.65	27.47	2.82	1.93 *	0.82	145.7
8 WEEKS							
1 0 PPM	36.71	5.52	48.11	2.80	1.37	0.77	145.2
2 2500 PPM	39.13	5.47	48.75	2.69	1.45	0.74	145.3
3 5000 PPM	36.56	5.19	47.92	2.75	1.58	0.74	147.2
4 10000 PPM	44.16	4.74	50.90	2.80	1.69	0.81	145.5
13 WEEKS							
1 0 PPM	47.47	5.58	43.03	2.76	1.51	0.85	142.6
2 2500 PPM	52.77	5.91	40.09	2.71	1.40	0.83	145.4
3 5000 PPM	46.07	5.61	45.36	2.70	1.66	0.83	146.0
4 10000 PPM	44.59	4.86	37.16	2.84	1.56	0.88	142.7

				PROT.ELECTROPH.(REL.)			
	POTASSIUM mmol/L	CHLORIDE mmol/L	PROTEIN T. g/L	ALBUMIN 1	A1-GLOB. 1	A2-GLOB. 1	B1-GLOB. 1
PRETEST I							
1 0 PPM	3.99	114.9	57.9	0.476	0.149	0.082	0.111
2 2500 PPM	3.95	116.3	59.3	0.464	0.147	0.087	0.103
3 5000 PPM	4.10	116.2	57.8	0.472	0.144	0.092	0.112
4 10000 PPM	4.05	114.5	60.3	0.456	0.155	0.086	0.105
PRETEST II							
1 0 PPM	3.72	116.9	57.4	0.436	0.156	0.092	0.119
2 2500 PPM	3.73	116.7	60.0	0.446	0.142	0.093	0.118
3 5000 PPM	3.91	117.2	58.1	0.426	0.156	0.105	0.122
4 10000 PPM	3.92	116.1	60.5	0.433	0.152	0.095	0.119
4 WEEKS							
1 0 PPM	3.98	118.2	61.0	0.409	0.177	0.067	0.139
2 2500 PPM	3.93	117.8	59.7	0.421	0.150	0.093	0.128
3 5000 PPM	3.96	119.3	59.5	0.396	0.165	0.106	0.135
4 10000 PPM	4.14	115.8	62.3	0.375	0.169	0.101	0.131
8 WEEKS							
1 0 PPM	3.83	119.1	60.3	0.421	0.190	0.065	0.121
2 2500 PPM	3.76	120.8	60.2	0.429	0.159	0.089	0.121
3 5000 PPM	3.76	120.7	59.5	0.414	0.168	0.100	0.119
4 10000 PPM	4.00	118.6	60.2	0.410	0.185	0.080	0.123
13 WEEKS							
1 0 PPM	3.70	118.3	61.9	0.426	0.170	0.077	0.116
2 2500 PPM	3.54	118.5	62.6	0.395	0.156	0.105	0.116
3 5000 PPM	3.74	118.9	60.7	0.409	0.168	0.098	0.111
4 10000 PPM	3.81	117.0	64.5	0.386	0.180	0.088	0.122

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

CLINICAL BIOCHEMISTRY SUMMARY
FEMALES

	PROT.ELECTROPH.(REL.)				PROT.ELECTROPH.(ABS.)		
	B2-GLOB. 1	SB-GLOB. 1	G-GLOB. 1	A/G RATIO	ALBUMIN g/L	A1-GLOB. g/L	A2-GLOB. g/L
PRETEST I							
1 0 PPM	0.131	0.242	0.052	0.91	27.6	8.5	4.8
2 2500 PPM	0.146	0.248	0.055	0.87	27.4	8.7	5.2
3 5000 PPM	0.131	0.243	0.049	0.90	27.3	8.3	5.3
4 10000 PPM	0.146	0.251	0.053	0.84	27.5	9.3	5.2
PRETEST II							
1 0 PPM	0.144	0.263	0.055	0.77	25.0	8.9	5.3
2 2500 PPM	0.145	0.263	0.056	0.81	26.7	8.6	5.6
3 5000 PPM	0.137	0.259	0.054	0.75	24.7	9.1	6.2
4 10000 PPM	0.148	0.266	0.054	0.77	26.2	9.1	5.7
4 WEEKS							
1 0 PPM	0.144	0.283	0.064	0.69	24.9	10.8	4.1
2 2500 PPM	0.150	0.278	0.058	0.73	25.1	9.0	5.6
3 5000 PPM	0.140	0.274	0.059	0.65	23.5	9.8	6.3
4 10000 PPM	0.162	0.292	0.063	0.60	23.4	10.5	6.3
8 WEEKS							
1 0 PPM	0.140	0.260	0.064	0.73	25.4	11.4	4.0
2 2500 PPM	0.144	0.265	0.058	0.75	25.8	9.6	5.3
3 5000 PPM	0.140	0.258	0.059	0.71	24.6	10.0	6.0
4 10000 PPM	0.143	0.266	0.059	0.70	24.7	11.1	4.8
13 WEEKS							
1 0 PPM	0.145	0.261	0.067	0.74	26.4	10.5	4.8
2 2500 PPM	0.160	0.276	0.068	0.66	24.7	9.8	6.6
3 5000 PPM	0.151	0.262	0.064	0.69	24.8	10.2	6.0
4 10000 PPM	0.154	0.275	0.072	0.63	24.9	11.6	5.7

	PROT.ELECTROPH.(ABS.)			
	B1-GLOB. g/L	B2-GLOB. g/L	SB-GLOB. g/L	G-GLOB. g/L
PRETEST I				
1 0 PPM	6.4	7.6	14.0	3.0
2 2500 PPM	6.1	8.6	14.7	3.2
3 5000 PPM	6.5	7.5	14.0	2.8
4 10000 PPM	6.4	8.8	15.2	3.2
PRETEST II				
1 0 PPM	6.8	8.3	15.0	3.1
2 2500 PPM	7.1	8.7	15.8	3.4
3 5000 PPM	7.1	8.0	15.0	3.2
4 10000 PPM	7.2	8.9	16.1	3.3
4 WEEKS				
1 0 PPM	8.5	8.8	17.3	3.9
2 2500 PPM	7.6	9.0	16.6	3.5
3 5000 PPM	8.1	8.3	16.3	3.5
4 10000 PPM	8.2	10.1	18.2	3.9
8 WEEKS				
1 0 PPM	7.3	8.4	15.7	3.9
2 2500 PPM	7.3	8.7	16.0	3.5
3 5000 PPM	7.1	8.3	15.4	3.5
4 10000 PPM	7.3	8.6	16.0	3.6

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

CLINICAL BIOCHEMISTRY SUMMARY
FEMALES

	PROT.ELECTROPH.(ABS.)			
	B1-GLOB. g/L	B2-GLOB. g/L	SB-GLOB. g/L	G-GLOB. g/L
13 WEEKS				
1 0 PPM	7.2	9.0	16.1	4.2
2 2500 PPM	7.3	10.1	17.3	4.3
3 5000 PPM	6.7	9.2	15.9	3.9
4 10000 PPM	7.8	9.9	17.7	4.6

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

URINALYSIS SUMMARY
MALES

	SPEC.GRAV. 1	OSMOLALITY mmol/kg	pH	PROTEIN score 0/3	GLUCOSE score 0/3	KETONE score 0/3	BILIRUBIN score 0/3
PRETEST I							
1 0 PPM	1.019	575	5.9	1	0	0	0
2 2500 PPM	1.026	832	7.0	1	0	0	0
3 5000 PPM	1.020	656	6.6	1	0	0	0
4 10000 PPM	1.027	909	5.8	1	0	0	0
PRETEST II							
1 0 PPM	1.027	871	6.5	1	0	0	0
2 2500 PPM	1.025	791	6.5	1	0	0	0
3 5000 PPM	1.030	984	6.8	1	0	0	1
4 10000 PPM	1.025	797	6.0	1	0	0	0
4 WEEKS							
1 0 PPM	1.021	597	5.9	0	0	0	0
2 2500 PPM	1.034 *	1071	6.3	1	0	0	0
3 5000 PPM	1.029	925	6.3	1	0	0	0
4 10000 PPM	1.025	689	6.0	1	0	0	0
8 WEEKS							
1 0 PPM	1.026	776	6.6	1	0	0	1
2 2500 PPM	1.023	741	6.6	1	0	0	0
3 5000 PPM	1.029	943	6.9	1	0	0	0
4 10000 PPM	1.022	753	7.0	1	0	0	0
13 WEEKS							
1 0 PPM	1.037	1346	7.4	1	0	0	0
2 2500 PPM	1.035	1196	6.6	1	0	0	0
3 5000 PPM	1.033	1177	7.1	1	0	0	0
4 10000 PPM	1.037	1304	5.9	2	0	0	0

			BLOOD CELLS		EPITHELIAL CELLS		CRYSTALS
	BLOOD score 0/3	UROBILI. score 0/3	RBC score 0/3	WBC score 0/3	SQUAM. score 0/3	ROUND score 0/3	URIC ACID score 0/3
PRETEST I							
1 0 PPM	0	0	0	0	0	0	0
2 2500 PPM	1	0	0	0	0	0	0
3 5000 PPM	1	0	0	0	0	0	0
4 10000 PPM	1	0	0	0	0	0	0
PRETEST II							
1 0 PPM	1	0	0	0	0	0	0
2 2500 PPM	1	0	0	0	0	0	0
3 5000 PPM	1	1	0	0	0	0	0
4 10000 PPM	1	1	0	0	0	0	0
4 WEEKS							
1 0 PPM	1	0	0	0	0	0	0
2 2500 PPM	1	0	0	0	0	0	0
3 5000 PPM	1	0	0	0	0	0	0
4 10000 PPM	2	0	0	1	0	0	0
8 WEEKS							
1 0 PPM	2	0	0	0	0	0	0
2 2500 PPM	1	0	0	0	0	0	0
3 5000 PPM	2	0	0	0	0	0	0
4 10000 PPM	1	0	0	0	0	0	0
13 WEEKS							
1 0 PPM	1	0	0	0	0	0	0
2 2500 PPM	2	1	0	0	0	0	0
3 5000 PPM	2	0	0	0	0	0	0
4 10000 PPM	2	0	0	0	0	0	0

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

URINALYSIS SUMMARY
FEMALES

	SPEC.GRAV. 1	OSMOLALITY mmol/kg	pH	PROTEIN score 0/3	GLUCOSE score 0/3	KETONE score 0/3	BILIRUBIN score 0/3
PRETEST I							
1 0 PPM	1.020	656	6.3	1	0	0	0
2 2500 PPM	1.026	825	6.1	1	0	0	1
3 5000 PPM	1.020	649	5.9	1	0	0	0
4 10000 PPM	1.014	466	5.6	1	0	0	0
PRETEST II							
1 0 PPM	1.026	905	5.9	1	0	0	0
2 2500 PPM	1.027	887	6.3	1	0	0	0
3 5000 PPM	1.027	863	6.4	1	0	0	0
4 10000 PPM	1.024	865	6.1	1	0	0	0
4 WEEKS							
1 0 PPM	1.036	1195	6.8	1	0	0	0
2 2500 PPM	1.031	1017	8.4	0	0	0	0
3 5000 PPM	1.025	777	6.6	1	0	0	0
4 10000 PPM	1.023	762	6.8	0	0	0	0
8 WEEKS							
1 0 PPM	1.034	1228	6.3	1	0	0	0
2 2500 PPM	1.030	1034	7.4	1	0	0	0
3 5000 PPM	1.031	1050	6.9	1	0	0	0
4 10000 PPM	1.029	961	6.0	1	0	0	0
13 WEEKS							
1 0 PPM	1.041	1465	7.8	2	0	0	0
2 2500 PPM	1.035	1231	7.4	1	0	0	0
3 5000 PPM	1.029	1063	6.6	1	0	0	0
4 10000 PPM	1.032	1156	7.1	2	0	0	0

			BLOOD CELLS		EPITHELIAL CELLS		CRYSTALS
	BLOOD score 0/3	UROBILI. score 0/3	RBC score 0/3	WBC score 0/3	SQUAM. score 0/3	ROUND score 0/3	URIC ACID score 0/3
PRETEST I							
1 0 PPM	1	0	0	0	0	0	0
2 2500 PPM	0	0	0	0	0	0	0
3 5000 PPM	0	0	0	0	0	0	0
4 10000 PPM	0	0	0	0	0	0	0
PRETEST II							
1 0 PPM	0	0	0	0	0	0	0
2 2500 PPM	0	0	0	0	0	0	0
3 5000 PPM	0	1	0	0	0	0	0
4 10000 PPM	0	0	0	0	0	0	0
4 WEEKS							
1 0 PPM	0	0	0	0	0	0	0
2 2500 PPM	0	0	0	0	0	0	0
3 5000 PPM	0	0	0	0	0	0	0
4 10000 PPM	0	0	0	0	0	0	0
8 WEEKS							
1 0 PPM	0	0	0	0	0	0	0
2 2500 PPM	0	0	0	0	0	0	0
3 5000 PPM	1	0	0	0	0	0	0
4 10000 PPM	1	0	0	0	0	0	0
13 WEEKS							
1 0 PPM	3	0	0	0	0	0	0
2 2500 PPM	2	0	0	0	0	0	0
3 5000 PPM	2	0	0	0	0	0	0
4 10000 PPM	2	0	0	1	0	0	0

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level. +: Steel-test sig. at 5% level.

ORGAN WEIGHTS (GRAM) SUMMARY
AFTER 13 WEEKS TREATMENT
MALES

		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
BODY W.	MEAN	9844	11225	10309	9571
	ST.DEV.	1405	826	1286	951
	N	4	4	4	4
BRAIN	MEAN	82.9	80.8	77.9	78.8
	ST.DEV.	6.1	3.1	7.1	4.0
	N	4	4	4	4
PITUITARY	MEAN	0.050	0.051	0.059	0.035
	ST.DEV.	0.020	0.011	0.013	0.019
	N	4	4	4	4
HEART	MEAN	84.0	86.8	82.7	85.8
	ST.DEV.	12.4	5.9	6.4	6.3
	N	4	4	4	4
LIVER	MEAN	342.3	326.9	318.6	373.7
	ST.DEV.	45.2	28.1	21.9	23.4
	N	4	4	4	4
THYROID(L)	MEAN	0.380	0.433	0.301	0.272
	ST.DEV.	0.052	0.128	0.063	0.051
	N	4	4	4	4
THYROID(R)	MEAN	0.389	0.386	0.300	0.268
	ST.DEV.	0.097	0.079	0.011	0.083
	N	4	4	4	4
THYMUS	MEAN	5.71	8.11	7.31	5.59
	ST.DEV.	3.03	1.72	1.46	1.86
	N	4	4	4	4
KIDNEY(L)	MEAN	22.03	22.40	22.25	23.84
	ST.DEV.	0.74	1.87	5.09	4.30
	N	4	4	4	4
KIDNEY(R)	MEAN	22.42	22.18	21.86	22.22
	ST.DEV.	0.90	2.36	4.16	4.56
	N	4	4	4	4
ADRENAL(R)	MEAN	0.725	0.669	0.651	0.690
	ST.DEV.	0.228	0.185	0.120	0.214
	N	4	4	4	4
ADRENAL(L)	MEAN	0.637	0.607	0.619	0.633
	ST.DEV.	0.219	0.200	0.116	0.154
	N	4	4	4	4
SPLEEN	MEAN	25.01	28.56	30.32	35.73
	ST.DEV.	9.08	1.63	8.36	25.81
	N	4	4	4	4
TESTIS(R)	MEAN	8.86	10.03	9.44	9.58
	ST.DEV.	4.08	1.07	1.89	1.23
	N	4	4	4	4
TESTIS(L)	MEAN	8.63	10.28	9.63	9.58
	ST.DEV.	4.23	1.76	2.23	1.47
	N	4	4	4	4
PROSTATE	MEAN	4.59	5.71	4.42	4.34
	ST.DEV.	3.03	3.35	1.09	1.77
	N	4	4	4	4

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level.

ORGAN/BODY WEIGHT RATIOS SUMMARY
AFTER 13 WEEKS TREATMENT
MALES

		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
BODY W. (GRAM)	MEAN	9844	11225	10309	9571
	ST.DEV.	1405	826	1286	951
	N	4	4	4	4
BRAIN (%)	MEAN	0.9	0.7	0.8	0.8
	ST.DEV.	0.1	0.1	0.1	0.1
	N	4	4	4	4
PITUITARY (%)	MEAN	0.0005	0.0005	0.0006	0.0004
	ST.DEV.	0.0002	0.0001	0.0001	0.0002
	N	4	4	4	4
HEART (%)	MEAN	0.9	0.8	0.8	0.9
	ST.DEV.	0.1	0.1	0.1	0.1
	N	4	4	4	4
LIVER (%)	MEAN	3.5	2.9	3.1	3.9
	ST.DEV.	0.4	0.3	0.2	0.5
	N	4	4	4	4
THYROID(L) (%)	MEAN	0.0039	0.0039	0.0029	0.0029
	ST.DEV.	0.0008	0.0013	0.0004	0.0005
	N	4	4	4	4
THYROID(R) (%)	MEAN	0.0041	0.0035	0.0029	0.0028
	ST.DEV.	0.0016	0.0009	0.0003	0.0009
	N	4	4	4	4
THYMUS (%)	MEAN	0.06	0.07	0.07	0.06
	ST.DEV.	0.03	0.01	0.01	0.02
	N	4	4	4	4
KIDNEY(L) (%)	MEAN	0.23	0.20	0.21	0.25
	ST.DEV.	0.03	0.02	0.03	0.03
	N	4	4	4	4
KIDNEY(R) (%)	MEAN	0.23	0.20	0.21	0.23
	ST.DEV.	0.04	0.02	0.02	0.04
	N	4	4	4	4
ADRENAL(R) (%)	MEAN	0.0075	0.0061	0.0063	0.0072
	ST.DEV.	0.0025	0.0021	0.0010	0.0019
	N	4	4	4	4
ADRENAL(L) (%)	MEAN	0.0066	0.0055	0.0060	0.0066
	ST.DEV.	0.0024	0.0021	0.0011	0.0013
	N	4	4	4	4
SPLEEN (%)	MEAN	0.25	0.26	0.30	0.37
	ST.DEV.	0.06	0.03	0.11	0.26
	N	4	4	4	4
TESTIS(R) (%)	MEAN	0.09	0.09	0.09	0.10
	ST.DEV.	0.03	0.01	0.01	0.01
	N	4	4	4	4
TESTIS(L) (%)	MEAN	0.08	0.09	0.09	0.10
	ST.DEV.	0.04	0.02	0.01	0.01
	N	4	4	4	4
PROSTATE (%)	MEAN	0.04	0.05	0.04	0.04
	ST.DEV.	0.03	0.03	0.01	0.02
	N	4	4	4	4

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level.

ORGAN/BRAIN WEIGHT RATIOS SUMMARY
AFTER 13 WEEKS TREATMENT
MALES

		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
BRAIN (GRAM)	MEAN	82.9	80.8	77.9	78.8
	ST.DEV.	6.1	3.1	7.1	4.0
	N	4	4	4	4
PITUITARY (%)	MEAN	0.0608	0.0635	0.0749	0.0445
	ST.DEV.	0.0231	0.0144	0.0092	0.0248
	N	4	4	4	4
HEART (%)	MEAN	101.0	107.7	106.5	109.1
	ST.DEV.	8.5	10.5	8.7	10.4
	N	4	4	4	4
LIVER (%)	MEAN	412.4	404.3	410.3	476.0
	ST.DEV.	35.6	25.9	27.7	52.0
	N	4	4	4	4
THYROID(L) (%)	MEAN	0.4575	0.5349	0.3889	0.3440
	ST.DEV.	0.0472	0.1563	0.0869	0.0511
	N	4	4	4	4
THYROID(R) (%)	MEAN	0.4703	0.4757	0.3871	0.3382
	ST.DEV.	0.1242	0.0853	0.0347	0.0946
	N	4	4	4	4
THYMUS (%)	MEAN	6.87	10.05	9.48	7.02
	ST.DEV.	3.74	2.15	2.15	1.95
	N	4	4	4	4
KIDNEY(L) (%)	MEAN	26.65	27.71	28.35	30.23
	ST.DEV.	1.48	1.77	4.26	5.24
	N	4	4	4	4
KIDNEY(R) (%)	MEAN	27.16	27.43	27.95	28.15
	ST.DEV.	2.19	2.42	3.44	5.43
	N	4	4	4	4
ADRENAL(R) (%)	MEAN	0.8695	0.8251	0.8376	0.8727
	ST.DEV.	0.2376	0.2036	0.1511	0.2543
	N	4	4	4	4
ADRENAL(L) (%)	MEAN	0.7637	0.7479	0.7948	0.8005
	ST.DEV.	0.2322	0.2238	0.1251	0.1706
	N	4	4	4	4
SPLEEN (%)	MEAN	29.71	35.43	39.62	46.06
	ST.DEV.	8.80	2.93	13.77	35.20
	N	4	4	4	4
TESTIS(R) (%)	MEAN	10.58	12.42	12.03	12.12
	ST.DEV.	4.62	1.40	1.35	1.00
	N	4	4	4	4
TESTIS(L) (%)	MEAN	10.32	12.72	12.26	12.12
	ST.DEV.	4.93	2.09	2.04	1.38
	N	4	4	4	4
PROSTATE (%)	MEAN	5.39	6.99	5.73	5.45
	ST.DEV.	3.32	3.85	1.61	2.05
	N	4	4	4	4

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level.

ORGAN WEIGHTS (GRAM) SUMMARY
AFTER 13 WEEKS TREATMENT
FEMALES

		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
BODY W.	MEAN	8439	8463	8984	8476
	ST.DEV.	1053	922	942	902
	N	4	4	4	4
BRAIN	MEAN	73.8	71.8	78.3	72.9
	ST.DEV.	4.2	5.3	4.1	2.7
	N	4	4	4	4
PITUITARY	MEAN	0.055	0.054	0.056	0.063
	ST.DEV.	0.010	0.010	0.007	0.012
	N	4	4	4	4
HEART	MEAN	68.7	72.3	76.6	74.5
	ST.DEV.	9.6	2.2	7.1	11.5
	N	4	4	4	4
LIVER	MEAN	259.9	259.9	273.3	288.2
	ST.DEV.	13.0	18.4	10.7	17.4
	N	4	4	4	4
THYROID(L)	MEAN	0.286	0.366	0.356	0.299
	ST.DEV.	0.044	0.065	0.072	0.063
	N	4	4	4	4
THYROID(R)	MEAN	0.329	0.374	0.344	0.303
	ST.DEV.	0.080	0.098	0.081	0.022
	N	4	4	4	4
THYMUS	MEAN	5.84	4.98	7.57	7.08
	ST.DEV.	2.64	2.23	2.40	3.37
	N	4	4	4	4
KIDNEY(L)	MEAN	18.64	19.59	22.21	19.27
	ST.DEV.	4.67	0.36	3.04	2.40
	N	4	4	4	4
KIDNEY(R)	MEAN	18.69	19.07	21.52	18.70
	ST.DEV.	4.21	0.91	3.44	1.91
	N	4	4	4	4
ADRENAL(R)	MEAN	0.615	0.605	0.612	0.556
	ST.DEV.	0.167	0.118	0.030	0.086
	N	4	4	4	4
ADRENAL(L)	MEAN	0.614	0.619	0.690	0.544
	ST.DEV.	0.140	0.116	0.068	0.075
	N	4	4	4	4
SPLEEN	MEAN	30.89	26.55	44.10	27.67
	ST.DEV.	6.51	5.51	31.49	11.00
	N	4	4	4	4

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level.

ORGAN/BODY WEIGHT RATIOS SUMMARY
AFTER 13 WEEKS TREATMENT
FEMALES

		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
BODY W.	MEAN	8439	8463	8984	8476
(GRAM)	ST.DEV.	1053	922	942	902
	N	4	4	4	4
BRAIN	MEAN	0.9	0.9	0.9	0.9
(%)	ST.DEV.	0.1	0.1	0.1	0.1
	N	4	4	4	4
PITUITARY	MEAN	0.0006	0.0006	0.0006	0.0007
(%)	ST.DEV.	0.0001	0.0001	0.0001	0.0001
	N	4	4	4	4
HEART	MEAN	0.8	0.9	0.9	0.9
(%)	ST.DEV.	0.1	0.1	0.1	0.1
	N	4	4	4	4
LIVER	MEAN	3.1	3.1	3.1	3.4
(%)	ST.DEV.	0.4	0.3	0.2	0.2
	N	4	4	4	4
THYROID(L)	MEAN	0.0034	0.0043	0.0040	0.0036
(%)	ST.DEV.	0.0006	0.0007	0.0008	0.0009
	N	4	4	4	4
THYROID(R)	MEAN	0.0040	0.0044	0.0038	0.0036
(%)	ST.DEV.	0.0015	0.0011	0.0009	0.0003
	N	4	4	4	4
THYMUS	MEAN	0.07	0.06	0.08	0.08
(%)	ST.DEV.	0.04	0.02	0.02	0.03
	N	4	4	4	4
KIDNEY(L)	MEAN	0.22	0.23	0.25	0.23
(%)	ST.DEV.	0.04	0.02	0.01	0.05
	N	4	4	4	4
KIDNEY(R)	MEAN	0.22	0.23	0.24	0.22
(%)	ST.DEV.	0.03	0.01	0.02	0.04
	N	4	4	4	4
ADRENAL(R)	MEAN	0.0072	0.0072	0.0069	0.0065
(%)	ST.DEV.	0.0012	0.0013	0.0009	0.0006
	N	4	4	4	4
ADRENAL(L)	MEAN	0.0072	0.0073	0.0078	0.0064
(%)	ST.DEV.	0.0011	0.0011	0.0015	0.0008
	N	4	4	4	4
SPLEEN	MEAN	0.37	0.31	0.48	0.32
(%)	ST.DEV.	0.06	0.06	0.29	0.10
	N	4	4	4	4

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level.

ORGAN/BRAIN WEIGHT RATIOS SUMMARY
AFTER 13 WEEKS TREATMENT
FEMALES

		GROUP 1 0 PPM	GROUP 2 2500 PPM	GROUP 3 5000 PPM	GROUP 4 10000 PPM
BRAIN (GRAM)	MEAN	73.8	71.8	78.3	72.9
	ST.DEV.	4.2	5.3	4.1	2.7
	N	4	4	4	4
PITUITARY (%)	MEAN	0.0735	0.0754	0.0712	0.0871
	ST.DEV.	0.0104	0.0111	0.0115	0.0185
	N	4	4	4	4
HEART (%)	MEAN	92.7	101.0	97.7	102.2
	ST.DEV.	8.9	4.3	6.7	15.3
	N	4	4	4	4
LIVER (%)	MEAN	352.5	362.4	349.3	395.6 *
	ST.DEV.	16.2	15.0	8.1	29.1
	N	4	4	4	4
THYROID(L) (%)	MEAN	0.3869	0.5075	0.4527	0.4106
	ST.DEV.	0.0501	0.0619	0.0791	0.0858
	N	4	4	4	4
THYROID(R) (%)	MEAN	0.4488	0.5151	0.4374	0.4160
	ST.DEV.	0.1241	0.0950	0.0930	0.0308
	N	4	4	4	4
THYMUS (%)	MEAN	8.08	6.94	9.58	9.84
	ST.DEV.	4.04	3.08	2.72	5.13
	N	4	4	4	4
KIDNEY(L) (%)	MEAN	25.05	27.37	28.28	26.38
	ST.DEV.	4.85	1.52	2.55	2.66
	N	4	4	4	4
KIDNEY(R) (%)	MEAN	25.15	26.62	27.40	25.62
	ST.DEV.	4.25	1.39	3.29	2.23
	N	4	4	4	4
ADRENAL(R) (%)	MEAN	0.8293	0.8418	0.7842	0.7627
	ST.DEV.	0.1964	0.1468	0.0672	0.1223
	N	4	4	4	4
ADRENAL(L) (%)	MEAN	0.8317	0.8612	0.8864	0.7482
	ST.DEV.	0.1819	0.1394	0.1299	0.1174
	N	4	4	4	4
SPLEEN (%)	MEAN	41.94	36.72	55.58	38.38
	ST.DEV.	9.10	5.05	37.54	16.91
	N	4	4	4	4

*/**: Dunnett-test based on pooled variance sig. at 5% or 1% level.

9. INDIVIDUAL TABLES

ing pretest and the scheduled treatment period are reported;
ncement of the necropsy period are retained in the raw data.

owing each sign is the maximum grading. These are defined as
signated and up to (2), where 1 = slight and 2 = marked. When
recorded on the same day the maximum grading recorded is

egularly during the study (from commencement of pretest) for
evidence that the time of onset of oestrous cyclical activity nor
vere affected by treatment. Therefore, the data are not reported
a.

CLINICAL SIGNS, DAILY
MALES
GROUP 1 (0 PPM)

SIGN (MAX.GRADE) (LOCATION)		PRETEST 1	PRETEST 2	TREATMENT 1	TREATMENT 2	3.....4.....5.....6.....
ANIMAL 1						
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	....1.....		1..11.1.....		.....11...1.1..1..1....1.....
ANIMAL 2						
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	..11.1.....1.1		.....1.1...11....11.11....1...1.1..11.....		
ANIMAL 3						
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.....		.....1.....		
ANIMAL 4						
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.....		.....1.....		.....1.1.....1...

G: Highest daily grades

CLINICAL SIGNS, DAILY
MALES
GROUP 1 (0 PPM)

```
SIGN (MAX.GRADE)                    TREATMENT
(LOCATION)                  WEEKS: 7......8......9......10.....11.....12.....13.....
-------------------------------------------------------------------------------------

ANIMAL 1
--------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: .......................1...1.1...1.........1....

ANIMAL 2
--------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: .....11.......111..............1..11.11.111.1.11

ANIMAL 3
--------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: .....1......................1..1.1.1...1.......

ANIMAL 4
--------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: 1..............1......11.1.11...11.11..1..1..11.
```

G: Highest daily grades

CLINICAL SIGNS, DAILY
MALES
GROUP 2 (2500 PPM)

SIGN (MAX.GRADE) (LOCATION)		PRETEST 1 2	TREATMENT 1 2 3 4 5 6
ANIMAL 5			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	....1.....	.....1.....
ANIMAL 6			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	1	...1.1.1.1.....11..1...1.....
ANIMAL 7			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	1...1...111.11	1..1....1.....11.1.....1.....
ANIMAL 8			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.....1...1..	.111...11.....11.11..1.....1..1.11.1..

G: Highest daily grades

CLINICAL SIGNS, DAILY
MALES
GROUP 2 (2500 PPM)

```
SIGN (MAX.GRADE)                    TREATMENT
(LOCATION)                  WEEKS: 7......8......9......10.....11.....12.....13.....
-------------------------------------------------------------------------------------
ANIMAL 5
--------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: ..............................................

ANIMAL 6
--------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: ...........1............1..11111........12.....1.

ANIMAL 7
--------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: 1...11.11....1.1...1....1..1..1...1.1..1.1..1.11.

ANIMAL 8
--------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: 1....111...1..11111.1111111111111111111111...1..1
```

G: Highest daily grades

CLINICAL SIGNS, DAILY
MALES
GROUP 3 (5000 PPM)

SIGN (MAX.GRADE) (LOCATION)	WEEKS:	PRETEST 1.....2.....	TREATMENT 1.....2.....3.....4.....5.....6.....
ANIMAL 9			
SECRETION / EXCRETION			
FECES CONTAINING MUCUS (1)	G:	.....	...1.....
LOOSE / WATERY FECES (2)	G:	11..11..11.1.1	...1.1.11..11..1...1..111.11.....1.....
ANIMAL 10			
SECRETION / EXCRETION			
LOOSE / WATERY FECES (2)	G:	.111.111...111	.1.11.1.1.1.1111..11111.111....111.111111.
ANIMAL 11			
SECRETION / EXCRETION			
LOOSE / WATERY FECES (2)	G:	.....	.....1.....1.....1...
ANIMAL 12			
SECRETION / EXCRETION			
LOOSE / WATERY FECES (2)	G:	.....	.....1.....1.....

G: Highest daily grades

CLINICAL SIGNS, DAILY
MALES
GROUP 3 (5000 PPM)

```
SIGN (MAX.GRADE)                    TREATMENT
(LOCATION)                  WEEKS: 7......8......9.....10.....11.....12.....13.....
-------------------------------------------------------------------------------------

ANIMAL 9
---------------------------------
SECRETION / EXCRETION
  FECES CONTAINING MUCUS (1)    G: ..............................................
  LOOSE / WATERY FECES (2)      G: 1.....1.................................1.1.1...

ANIMAL 10
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)      G: 1.1..11.........11....111...1....111111.1111.1..1

ANIMAL 11
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)      G: ..............................................

ANIMAL 12
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)      G: ........................................1....
```

G: Highest daily grades

CLINICAL SIGNS, DAILY
MALES
GROUP 4 (10000 PPM)

SIGN (MAX.GRADE) (LOCATION)	WEEKS:	PRETEST 1.....2.....	TREATMENT 1.....2.....3.....4.....5.....6.....
ANIMAL 13			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	1.....1.1..1..	.....1.....1..11.....1.....1.
ANIMAL 14			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	1..1.1.1.....1	11..11.111.11..11...1.11121111.11111111111
ANIMAL 15			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.....	.....1.....
ANIMAL 16			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.1.....	.....1.....1.11..

G: Highest daily grades

CLINICAL SIGNS, DAILY
MALES
GROUP 4 (10000 PPM)

```
SIGN (MAX.GRADE)                    TREATMENT
(LOCATION)                 WEEKS: 7......8......9......10.....11.....12.....13.....
---------------------------------------------------------------------------------

ANIMAL 13
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: ....111.1...11111..1.11....11......1..1121......1

ANIMAL 14
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: 1.11.111.11111....111..11111111.1111.1212.1111111

ANIMAL 15
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: 1.......................................1.........

ANIMAL 16
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: 11....1.........................1.............1
```

G: Highest daily grades

CLINICAL SIGNS, DAILY
FEMALES
GROUP 1 (0 PPM)

SIGN (MAX.GRADE)		PRETEST 1.....2	TREATMENT 1.....2.....3.....4.....5.....6.....
ANIMAL 17			
SECRETION / EXCRETION			
LOOSE / WATERY FECES (2)	G:	.1.....1...	.....1.....
ANIMAL 18			
NO CLINICAL SIGNS NOTED			
ANIMAL 19			
SECRETION / EXCRETION			
LOOSE / WATERY FECES (2)	G:	.....	.....
ANIMAL 20			
SECRETION / EXCRETION			
LOOSE / WATERY FECES (2)	G:	1	.1.....1.....

G: Highest daily grades

CLINICAL SIGNS, DAILY
FEMALES
GROUP 1 (0 PPM)

```
SIGN (MAX.GRADE)                    TREATMENT
(LOCATION)                  WEEKS: 7......8......9......10.....11.....12.....13.....
-------------------------------------------------------------------------------------
ANIMAL 17
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: 1.......................1..........1.............

ANIMAL 18
---------------------------------
NO CLINICAL SIGNS NOTED

ANIMAL 19
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: 1.......................................1.......

ANIMAL 20
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: ...................................1...1........
```

G: Highest daily grades

CLINICAL SIGNS, DAILY
FEMALES
GROUP 2 (2500 PPM)

SIGN (MAX.GRADE)		PRETEST 1	PRETEST 2	TREATMENT 1	TREATMENT 2	3	4	5	6
ANIMAL 21									
SECRETION / EXCRETION									
LOOSE / WATERY FECES (2)	G:								
ANIMAL 22									
SECRETION / EXCRETION									
LOOSE / WATERY FECES (2)	G:			1			1		
ANIMAL 23									
NO CLINICAL SIGNS NOTED									
ANIMAL 24									
NO CLINICAL SIGNS NOTED									

G: Highest daily grades

CLINICAL SIGNS, DAILY
FEMALES
GROUP 2 (2500 PPM)

```
SIGN (MAX.GRADE)                    TREATMENT
(LOCATION)                   WEEKS: 7......8......9......10.....11.....12.....13.....
-------------------------------------------------------------------------------------
ANIMAL 21
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)      G: ........................................1......1

ANIMAL 22
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)      G: .......................1.......1.11.11..1.1....11

ANIMAL 23
---------------------------------
NO CLINICAL SIGNS NOTED

ANIMAL 24
---------------------------------
NO CLINICAL SIGNS NOTED
```

G: Highest daily grades

CLINICAL SIGNS, DAILY
FEMALES
GROUP 3 (5000 PPM)

SIGN (MAX GRADE) (LOCATION)		PRETEST	TREATMENT
	WEEKS:	1.....2.....	1.....2.....3.....4.....5.....6.....
ANIMAL 25			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	....11.11.1...	....11.11..11.....11...1..1..1.1...1.....
ANIMAL 26			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.1..111...1..1	.111...11...1..11.1....1..1.....1.....1.1.
ANIMAL 27			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.....	....1.....1.1.....1.....
ANIMAL 28			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.....	...1.....1.....1.....

G: Highest daily grades

CLINICAL SIGNS, DAILY
FEMALES
GROUP 3 (5000 PPM)

```
SIGN (MAX.GRADE)                    TREATMENT
(LOCATION)                  WEEKS: 7.....8.....9.....10.....11.....12.....13.....
-------------------------------------------------------------------------------------

ANIMAL 25
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: ..1.......1............1......1...111111.1.11...

ANIMAL 26
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: ..1..1.....1.....1111.111111..11.111111.111.11.11

ANIMAL 27
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: .1................................1..........1.

ANIMAL 28
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: ...................................1...........1
```

G: Highest daily grades

CLINICAL SIGNS, DAILY
FEMALES
GROUP 4 (10000 PPM)

SIGN (MAX.GRADE) (LOCATION)		PRETEST	TREATMENT
	WEEKS:	1.....2.....	1.....2.....3.....4.....5.....6.....
ANIMAL 29			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.....	.....1.....11.....1.....
ANIMAL 30			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.....	.....1.....21.....
ANIMAL 31			
SECRETION / EXCRETION LOOSE / WATERY FECES (2)	G:	.....	.....
ANIMAL 32			
NO CLINICAL SIGNS NOTED			

G: Highest daily grades

CLINICAL SIGNS, DAILY
FEMALES
GROUP 4 (10000 PPM)

```
SIGN (MAX.GRADE)                    TREATMENT
(LOCATION)                   WEEKS: 7......8......9......10.....11.....12.....13.....
-------------------------------------------------------------------------------------
ANIMAL 29
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: ..1.............1..1.11...1.1..111..11.1..1.1.

ANIMAL 30
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: ..................................................

ANIMAL 31
---------------------------------
SECRETION / EXCRETION
  LOOSE / WATERY FECES (2)     G: .............1...............................

ANIMAL 32
---------------------------------
NO CLINICAL SIGNS NOTED
```

G: Highest daily grades

FOOD CONSUMPTION (G/ANIMAL/DAY)
MALES

	PRETEST		TREATMENT					
DAYS	1-7	8-14	1-7	8-14	15-21	22-28	29-35	36-42
WEEKS	1	2	1	2	3	4	5	6
ANIMAL								
GROUP 1 (0 PPM)								
1	330	350	350	350	350	350	350	350
2	341	350	350	350	350	350	350	351
3	350	351	350	350	350	350	350	350
4	346	350	350	350	350	350	350	350
GROUP 2 (2500 PPM)								
5	350	337	350	350	350	350	350	350
6	309	289	327	350	350	350	350	331
7	351	350	350	350	350	350	350	350
8	336	350	350	350	350	350	350	350
GROUP 3 (5000 PPM)								
9	350	336	330	350	350	350	350	350
10	325	327	346	350	350	348	350	350
11	350	350	350	350	350	350	350	350
12	350	350	350	350	350	350	350	350
GROUP 4 (10000 PPM)								
13	340	350	350	350	350	350	350	350
14	316	297	350	350	350	350	350	350
15	341	350	350	350	350	351	350	350
16	350	350	350	350	350	350	350	350

	TREATMENT						
DAYS	43-49	50-56	57-63	64-70	71-77	78-84	85-91
WEEKS	7	8	9	10	11	12	13
ANIMAL							
GROUP 1 (0 PPM)							
1	350	350	350	350	350	350	350
2	350	350	350	350	350	350	323
3	350	350	350	350	350	351	350
4	350	350	350	350	350	350	350
GROUP 2 (2500 PPM)							
5	323	350	350	350	319	318	350
6	343	248	340	297	228	324	241
7	350	350	350	350	350	350	350
8	350	350	350	350	350	350	350
GROUP 3 (5000 PPM)							
9	350	350	350	350	350	350	350
10	337	350	311	343	350	338	300
11	350	350	350	350	350	350	350
12	350	350	350	350	350	350	350
GROUP 4 (10000 PPM)							
13	350	350	350	350	351	350	350
14	350	350	350	350	350	350	343
15	350	350	350	350	350	350	350
16	350	350	350	350	350	350	350

FOOD CONSUMPTION (G/ANIMAL/DAY)
FEMALES

	PRETEST		TREATMENT					
DAYS	1-7	8-14	1-7	8-14	15-21	22-28	29-35	36-42
WEEKS	1	2	1	2	3	4	5	6
ANIMAL								
GROUP 1 (0 PPM)								
17	215	235	267	285	267	241	277	255
18	309	267	293	304	262	262	299	300
19	276	282	320	342	310	331	350	350
20	312	295	309	318	315	276	335	340
GROUP 2 (2500 PPM)								
21	269	245	253	237	222	217	244	247
22	341	326	342	350	350	350	350	350
23	332	303	329	347	318	316	334	316
24	337	338	329	327	333	333	350	350
GROUP 3 (5000 PPM)								
25	257	249	261	262	255	257	319	238
26	328	333	333	350	342	326	340	309
27	351	337	350	350	350	350	350	350
28	319	308	341	339	324	278	350	314
GROUP 4 (10000 PPM)								
29	290	256	290	286	288	281	316	307
30	284	303	307	331	332	329	329	328
31	338	274	265	273	272	266	246	256
32	327	311	318	336	327	338	347	350

	TREATMENT						
DAYS	43-49	50-56	57-63	64-70	71-77	78-84	85-91
WEEKS	7	8	9	10	11	12	13
ANIMAL							
GROUP 1 (0 PPM)							
17	246	268	287	295	281	304	253
18	287	259	272	270	258	293	249
19	341	316	327	350	283	307	318
20	318	307	324	326	292	293	307
GROUP 2 (2500 PPM)							
21	202	221	258	254	212	287	243
22	350	350	336	350	350	350	350
23	280	283	306	337	320	279	279
24	344	325	345	350	347	341	267
GROUP 3 (5000 PPM)							
25	288	263	306	311	272	299	277
26	279	310	350	350	316	306	226
27	350	350	350	350	350	351	350
28	311	257	289	291	250	288	224
GROUP 4 (10000 PPM)							
29	329	286	309	350	320	291	255
30	331	344	336	343	329	321	323
31	270	221	242	282	223	250	207
32	350	334	330	341	318	322	312

BODY WEIGHTS (KG)
MALES

	PRETEST		TREATMENT					
DAYS	1	8	1	8	15	22	29	36
WEEKS	1	2	1	2	3	4	5	6
ANIMAL								
GROUP 1 (0 PPM)								
1	7.7	8.0	8.1	8.2	8.3	8.4	8.6	8.7
2	8.4	9.1	9.1	9.5	9.8	9.9	10.1	10.4
3	8.4	8.4	8.1	8.3	8.2	8.3	8.1	8.2
4	8.8	9.4	9.4	9.6	9.7	10.1	10.3	10.3
GROUP 2 (2500 PPM)								
5	8.2	8.7	8.8	9.1	9.4	9.7	9.9	10.1
6	9.7	10.0	10.0	10.4	10.4	10.6	10.8	11.1
7	9.2	9.5	9.6	10.0	10.1	10.3	10.6	10.7
8	8.1	8.4	8.7	9.0	9.1	9.2	9.4	9.6
GROUP 3 (5000 PPM)								
9	6.8	7.3	7.6	7.7	8.0	8.1	8.6	8.7
10	9.2	9.6	9.6	9.8	10.1	10.2	10.3	10.5
11	8.4	8.8	9.1	9.4	9.6	9.7	9.9	10.3
12	7.2	7.6	7.7	7.9	7.9	8.1	8.1	8.3
GROUP 4 (10000 PPM)								
13	8.2	8.3	8.4	8.3	8.6	8.3	8.4	8.4
14	8.1	8.4	8.5	8.6	8.7	8.7	8.8	9.0
15	9.0	9.3	9.4	9.4	9.4	9.5	9.5	9.5
16	8.8	9.1	9.0	9.3	9.2	9.5	9.4	9.7

	TREATMENT								
DAYS	43	50	57	64	71	78	85	91	92
WEEKS	7	8	9	10	11	12	13	13	14
ANIMAL									
GROUP 1 (0 PPM)									
1	8.7	8.9	9.1	9.3	9.3	9.4	9.4	9.5	9.4
2	10.6	10.7	10.9	11.0	11.1	11.2	11.2	11.2	11.2
3	8.1	8.2	8.2	8.2	8.3	8.3	8.2	8.3	8.0
4	10.4	10.4	10.7	10.9	10.9	11.0	11.1	11.0	10.7
GROUP 2 (2500 PPM)									
5	10.3	10.4	10.6	10.8	10.8	10.9	10.8	10.9	10.9
6	11.1	11.2	11.1	11.4	11.2	11.1	11.1	11.2	11.3
7	11.0	11.2	11.3	11.4	11.7	12.1	12.1	12.3	12.3
8	9.7	10.1	10.2	10.4	10.4	10.6	10.5	10.6	10.4
GROUP 3 (5000 PPM)									
9	8.9	9.0	9.3	9.4	9.4	9.5	9.6	9.6	9.6
10	10.6	10.9	10.9	10.9	11.0	11.2	11.3	11.4	11.3
11	10.4	10.7	10.8	11.1	11.1	11.3	11.4	11.5	11.5
12	8.4	8.5	8.5	8.7	8.9	8.9	9.0	9.1	8.9
GROUP 4 (10000 PPM)									
13	8.3	8.4	8.3	8.4	8.2	8.5	8.4	8.3	8.2
14	9.0	9.1	9.2	9.4	9.6	9.6	9.7	9.8	9.7
15	9.5	9.7	9.7	9.9	10.0	10.0	10.1	10.2	10.0
16	9.7	9.8	9.9	10.3	10.2	10.3	10.5	10.6	10.3

BODY WEIGHTS (KG)
FEMALES

	PRETEST		TREATMENT					
DAYS	1	8	1	8	15	22	29	36
WEEKS	1	2	1	2	3	4	5	6
ANIMAL								
GROUP 1 (0 PPM)								
17	6.0	6.2	6.3	6.4	6.6	6.7	6.7	6.8
18	8.4	8.7	8.7	8.9	9.0	8.9	8.8	9.0
19	6.8	6.9	7.0	7.3	7.4	7.4	7.5	7.7
20	8.1	8.6	8.5	8.9	8.9	9.0	8.9	9.1
GROUP 2 (2500 PPM)								
21	6.8	7.1	7.2	7.5	7.5	7.6	7.6	7.6
22	6.4	6.7	6.8	6.9	7.1	7.2	7.2	7.3
23	7.2	7.5	7.5	7.7	7.9	8.0	7.9	8.1
24	7.5	7.9	8.2	8.3	8.5	8.8	9.0	9.1
GROUP 3 (5000 PPM)								
25	7.1	7.4	7.4	7.6	7.6	7.5	7.6	7.8
26	7.6	7.8	8.0	8.4	8.5	8.7	8.8	9.1
27	7.9	8.2	8.2	8.4	8.2	8.6	8.8	8.9
28	8.0	8.6	8.5	8.9	9.2	9.4	9.4	9.8
GROUP 4 (10000 PPM)								
29	6.4	6.7	6.7	6.9	6.9	7.1	7.0	7.2
30	6.9	7.1	7.3	7.4	7.6	7.7	7.8	7.8
31	8.0	8.5	8.5	8.5	8.6	8.9	8.9	8.9
32	8.5	8.9	8.8	9.0	9.0	9.0	9.0	9.1

	TREATMENT								
DAYS	43	50	57	64	71	78	85	91	92
WEEKS	7	8	9	10	11	12	13	13	14
ANIMAL									
GROUP 1 (0 PPM)									
17	6.8	6.9	6.9	7.1	7.1	7.3	7.4	7.5	---
18	9.2	9.2	9.3	9.4	9.2	9.2	9.5	9.3	---
19	7.7	8.0	7.9	8.1	8.3	8.0	8.0	8.0	---
20	9.2	9.3	9.2	9.3	9.5	9.4	9.2	9.4	---
GROUP 2 (2500 PPM)									
21	7.9	7.7	7.8	7.9	8.2	8.2	8.3	8.1	---
22	7.3	7.4	7.4	7.5	7.6	7.7	7.7	7.8	---
23	8.1	8.0	7.9	7.9	8.2	8.3	8.3	8.3	---
24	9.1	9.4	9.3	9.6	9.7	9.8	10.1	9.9	---
GROUP 3 (5000 PPM)									
25	7.6	7.7	7.7	7.8	7.9	7.8	7.9	8.0	---
26	9.2	9.2	9.3	9.4	9.6	9.6	9.5	9.3	---
27	8.9	9.0	9.1	9.2	9.3	9.3	9.4	9.4	---
28	9.9	10.1	10.0	10.2	10.3	10.2	10.3	10.3	---
GROUP 4 (10000 PPM)									
29	7.3	7.5	7.5	7.7	7.8	7.8	7.8	7.7	---
30	7.9	7.9	7.9	7.9	8.0	8.0	8.0	8.1	---
31	8.9	9.1	9.0	9.1	9.3	9.3	9.4	9.1	---
32	9.2	9.4	9.4	9.5	9.5	9.4	9.4	9.3	---

BODY WEIGHTS (KG)
FEMALES

	TREATMENT
DAYS	93
WEEKS	14
ANIMAL	
GROUP 1 (0 PPM)	
17	7.2
18	9.1
19	8.0
20	9.5
GROUP 2 (2500 PPM)	
21	8.1
22	7.6
23	8.4
24	9.8
GROUP 3 (5000 PPM)	
25	7.8
26	8.9
27	9.2
28	10.1
GROUP 4 (10000 PPM)	
29	7.6
30	7.8
31	9.2
32	9.3

TEST ARTICLE INTAKE
(MG SUBSTANCE/KG BODY WEIGHT/DAY)
MALES

	TREATMENT								
DAYS	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
WEEKS	1	2	3	4	5	6	7	8	9
ANIMAL									
GROUP 1 (0 PPM)									
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
GROUP 2 (2500 PPM)									
5	98	95	92	89	88	86	78	83	82
6	80	84	84	82	80	75	77	55	75
7	90	87	86	84	82	81	79	78	77
8	100	97	96	94	92	90	88	86	85
GROUP 3 (5000 PPM)									
9	216	224	218	211	203	200	196	192	187
10	178	176	173	170	169	166	158	161	143
11	190	185	181	178	174	170	166	163	160
12	226	222	219	216	213	210	207	206	203
GROUP 4 (10000 PPM)									
13	420	416	414	418	417	419	419	418	420
14	410	407	404	401	394	388	385	382	376
15	374	372	370	368	367	367	365	361	359
16	383	377	374	370	368	362	360	356	348

	TREATMENT			
DAYS	64-70	71-77	78-84	85-91
WEEKS	10	11	12	13
ANIMAL				
GROUP 1 (0 PPM)				
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
GROUP 2 (2500 PPM)				
5	81	73	73	81
6	65	51	73	54
7	76	74	72	72
8	84	84	83	83
GROUP 3 (5000 PPM)				
9	187	186	184	182
10	157	158	151	132
11	158	156	155	153
12	199	197	196	194
GROUP 4 (10000 PPM)				
13	421	421	416	420
14	369	366	363	352
15	352	351	349	344
16	342	342	337	331

TEST ARTICLE INTAKE
(MG SUBSTANCE/KG BODY WEIGHT/DAY)
FEMALES

	TREATMENT								
DAYS	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
WEEKS	1	2	3	4	5	6	7	8	9
ANIMAL									
GROUP 1 (0 PPM)									
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
GROUP 2 (2500 PPM)									
21	86	79	74	71	80	80	65	71	82
22	124	125	123	122	121	120	119	118	113
23	108	111	100	100	105	98	86	89	96
24	100	98	97	94	97	96	93	87	92
GROUP 3 (5000 PPM)									
25	175	172	168	170	207	154	188	170	198
26	204	208	199	186	190	168	151	167	186
27	211	210	209	202	198	197	196	193	192
28	197	187	175	149	183	160	156	127	143
GROUP 4 (10000 PPM)									
29	428	414	411	397	445	424	447	382	408
30	418	441	435	427	423	420	420	436	425
31	312	319	311	298	277	288	301	245	268
32	358	372	363	376	382	382	377	355	349

	TREATMENT			
DAYS	64-70	71-77	78-84	85-91
WEEKS	10	11	12	13
ANIMAL				
GROUP 1 (0 PPM)				
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
GROUP 2 (2500 PPM)				
21	79	65	87	74
22	116	115	114	113
23	105	97	84	84
24	91	89	86	67
GROUP 3 (5000 PPM)				
25	199	174	190	174
26	184	165	160	120
27	190	189	188	187
28	141	122	141	109
GROUP 4 (10000 PPM)				
29	453	410	372	328
30	431	411	402	401
31	308	240	268	223
32	358	336	342	333

OPHTHALMOSCOPIC EXAMINATIONS
MALES
PRETEST

GROUP 1 (0 PPM)

ANIMAL	OBSERVATION	LOCATION
1	NO ABNORMALITIES DETECTED	BOTH
2	VITREOUS FLOATERS	BOTH
3	NO ABNORMALITIES DETECTED	BOTH
4	NO ABNORMALITIES DETECTED	BOTH

GROUP 2 (2500 PPM)

ANIMAL	OBSERVATION	LOCATION
5	NO ABNORMALITIES DETECTED	BOTH
6	VITREOUS FLOATERS	BOTH
7	NO ABNORMALITIES DETECTED	BOTH
8	NO ABNORMALITIES DETECTED	BOTH

GROUP 3 (5000 PPM)

ANIMAL	OBSERVATION	LOCATION
9	NO ABNORMALITIES DETECTED	BOTH
10	NO ABNORMALITIES DETECTED	BOTH
11	NO ABNORMALITIES DETECTED	BOTH
12	LENTICULAR OPACITY, CENTRAL	BOTH

GROUP 4 (10000 PPM)

ANIMAL	OBSERVATION	LOCATION
13	NO ABNORMALITIES DETECTED	BOTH
14	NO ABNORMALITIES DETECTED	BOTH
15	NO ABNORMALITIES DETECTED	BOTH
16	VITREOUS FLOATERS	BOTH

OPHTHALMOSCOPIC EXAMINATIONS
MALES
13 WEEKS

GROUP 1 (0 PPM)

ANIMAL	OBSERVATION	LOCATION
1	NO ABNORMALITIES DETECTED	BOTH
2	CORNEAL OPACITY	RIGHT
3	REDNESS OF THE SCLERA	LEFT
	CORNEAL OPACITY	BOTH
	MUCOUS OCULAR DISCHARGE	LEFT
4	CORNEAL OPACITY	LEFT
	VITREOUS FLOATERS	RIGHT

GROUP 2 (2500 PPM)

ANIMAL	OBSERVATION	LOCATION
5	NO ABNORMALITIES DETECTED	BOTH
6	NO ABNORMALITIES DETECTED	BOTH
7	NO ABNORMALITIES DETECTED	BOTH
8	CORNEAL OPACITY	LEFT

GROUP 3 (5000 PPM)

ANIMAL	OBSERVATION	LOCATION
9	NO ABNORMALITIES DETECTED	BOTH
10	NO ABNORMALITIES DETECTED	BOTH
11	NO ABNORMALITIES DETECTED	BOTH
12	REDNESS OF THE SCLERA	RIGHT
	LENTICULAR OPACITY, CENTRAL	BOTH

GROUP 4 (10000 PPM)

ANIMAL	OBSERVATION	LOCATION
13	CORNEAL LESIONS	LEFT
14	DARK BROWN FOLLICLE ON TEMPORAL LIMBUS	RIGHT
	OF CORNEA	RIGHT
	CORNEAL OPACITY	RIGHT
	LENTICULAR OPACITY, POSTERIOR	LEFT
	DARK PLAQUE ON SCLERA	RIGHT
15	NO ABNORMALITIES DETECTED	BOTH
16	VITREOUS FLOATERS	BOTH

OPHTHALMOSCOPIC EXAMINATIONS
FEMALES
PRETEST

GROUP 1 (0 PPM)

ANIMAL	OBSERVATION	LOCATION
17	NO ABNORMALITIES DETECTED	BOTH
18	NO ABNORMALITIES DETECTED	BOTH
19	NO ABNORMALITIES DETECTED	BOTH
20	VITREOUS FLOATERS	BOTH

GROUP 2 (2500 PPM)

ANIMAL	OBSERVATION	LOCATION
21	NO ABNORMALITIES DETECTED	BOTH
22	NO ABNORMALITIES DETECTED	BOTH
23	NO ABNORMALITIES DETECTED	BOTH
24	REDNESS OF THE SCLERA	BOTH

GROUP 3 (5000 PPM)

ANIMAL	OBSERVATION	LOCATION
25	NO ABNORMALITIES DETECTED	BOTH
26	REDNESS OF THE SCLERA	RIGHT
27	PERSISTENT HYALOID VESSEL IN VITREOUS	LEFT
	TIGROID TAPETUM NIGRUM	BOTH
28	NO ABNORMALITIES DETECTED	BOTH

GROUP 4 (10000 PPM)

ANIMAL	OBSERVATION	LOCATION
29	NO ABNORMALITIES DETECTED	BOTH
30	NO ABNORMALITIES DETECTED	BOTH
31	NO ABNORMALITIES DETECTED	BOTH
32	NO ABNORMALITIES DETECTED	BOTH

OPHTHALMOSCOPIC EXAMINATIONS
FEMALES
13 WEEKS

GROUP 1 (C PPM)

ANIMAL	OBSERVATION	LOCATION
17	NO ABNORMALITIES DETECTED	BOTH
18	VITREOUS FLOATERS	LEFT
19	NO ABNORMALITIES DETECTED	BOTH
20	LENTICULAR OPACITY, POSTERIOR	LEFT

GROUP 2 (2500 PPM)

ANIMAL	OBSERVATION	LOCATION
21	LENTICULAR OPACITY, CENTRAL	LEFT
22	CORNEAL EDEMA	RIGHT
23	NO ABNORMALITIES DETECTED	BOTH
24	NO ABNORMALITIES DETECTED	BOTH

GROUP 3 (5000 PPM)

ANIMAL	OBSERVATION	LOCATION
25	VITREOUS FLOATERS	BOTH
26	NO ABNORMALITIES DETECTED	BOTH
27	REDNESS OF THE SCLERA	BOTH
	PERSISTENT HYALOID VESSEL IN VITREOUS	LEFT
	TIGROID TAPETUM NIGRUM	BOTH
28	NO ABNORMALITIES DETECTED	BOTH

GROUP 4 (10000 PPM)

ANIMAL	OBSERVATION	LOCATION
29	NO ABNORMALITIES DETECTED	BOTH
30	NO ABNORMALITIES DETECTED	BOTH
31	NO ABNORMALITIES DETECTED	BOTH
32	NO ABNORMALITIES DETECTED	BOTH

RCC PROJECT 662185
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NEUROLOGIC EXAMINATION
GROUP 1
MALES

Animal Number	1		2		3		4	
	PT	13W	PT	13W	PT	13W	PT	13W
Locomotion	0	0	0	0	0	0	0	0
Gait Activity	0	0	0	0	0	0	0	0
Landing or support response front	0	0	0	0	0	0	0	0
back	0	0	0	0	0	0	0	0
Muscle force	0	0	0	0	0	0	0	0
Standing on a straight line	0	1	0	0	0	0	0	1
Placing front legs visual	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
tactile	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Hopping response front	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
back	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Patellar reflex	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Flexor reflex / pain reflex	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
III Pupil size (mm)	8 / 8	10/10	7 / 7	8 / 8	7 / 7	7 / 7	7 / 7	8 / 8
III Light response	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Localisation; L (left) / R (right)	L / R	L / R	L / R	L / R	L / R	L / R	L / R	L / R

Legend:

PT = Pretest
13W = 13 weeks

Scores:

Landing or support response	0 = soft landing, 1 = breaking of fall reduced
Muscle force	0 = normal, 1 = pressure returned
Standing on a straight line	0 = normal, 1 = staggering
Placing front legs	0 = proper placing, 1 = not placed properly
Hopping response	0 = normal, 1 = clumsy

NEUROLOGIC EXAMINATION
GROUPS 2 and 3
MALES

Animal Number	5	6	7	8	9	10	11	12
	PT	PT	PT	PT	PT	PT	PT	PT
Locomotion	0	0	0	0	0	0	0	0
Gait Activity	0	0	0	0	0	0	0	0
Landing or support response front	0	0	0	0	0	1	0	0
back	0	0	0	0	0	1	0	0
Muscle force	0	0	0	0	0	0	0	0
Standing on a straight line	0	0	0	0	0	0	0	0
Placing front legs visual	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
tactile	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Hopping response front	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
back	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Patellar reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Flexor reflex / pain reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
III Pupil size (mm)	8/8	7/7	7/7	8/8	7/7	8/8	8/8	9/9
III Light response	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Localisation; L (left) / R (right)	L/R	L/R	L/R	L/R	L/R	L/R	L/R	L/R

Legend:

PT = Pretest

Scores:

Landing or support response	0 = soft landing, 1 = breaking of fall reduced
Muscle force	0 = normal, 1 = pressure returned
Standing on a straight line	0 = normal, 1 = staggering
Placing front legs	0 = proper placing, 1 = not placed properly
Hopping response	0 = normal, 1 = clumsy

NEUROLOGIC EXAMINATION
GROUP 4
MALES

Animal Number	13		14		15		16	
	PT	13W	PT	13W	PT	13W	PT	13W
Locomotion	0	0	0	0	0	0	0	0
Gait Activity	0	0	0	0	0	0	0	0
Landing or support response front	0	0	0	0	0	1	0	0
back	0	0	0	0	0	1	0	0
Muscle force	0	1	0	0	0	0	0	0
Standing on a straight line	0	0	0	0	0	0	0	0
Placing front legs visual	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
tactile	0/0	0/0	1/0	0/0	0/0	0/0	0/0	0/0
Hopping response front	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
back	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Patellar reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Flexor reflex / pain reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
III Pupil size (mm)	7/7	7/7	6/6	7/7	6/6	6/6	6/6	6/6
III Light response	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Localisation; L (left) / R (right)	L/R	L/R	L/R	L/R	L/R	L/R	L/R	L/R

Legend:

PT = Pretest
13W = 13 weeks

Scores:

Landing or support response	0 = soft landing, 1 = breaking of fall reduced
Muscle force	0 = normal, 1 = pressure returned
Standing on a straight line	0 = normal, 1 = staggering
Placing front legs	0 = proper placing, 1 = not placed properly
Hopping response	0 = normal, 1 = clumsy

NEUROLOGIC EXAMINATION
GROUP 1
FEMALES

Animal Number	17		18		19		20	
	PT	13W	PT	13W	PT	13W	PT	13W
Locomotion	0	0	0	0	0	0	0	0
Gait Activity	0	0	0	0	0	0	0	0
Landing or support response front	0	1	0	0	0	0	0	0
back	0	1	0	0	0	0	0	0
Muscle force	0	*	0	0	0	0	0	0
Standing on a straight line	0	*	0	0	0	0	0	0
Placing front legs visual	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
tactile	0/0	0/0	0/0	0/0	1/1	0/0	0/0	0/0
Hopping response front	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
back	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Patellar reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Flexor reflex / pain reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
III Pupil size (mm)	5/5	7/7	8/8	8/8	8/8	7/7	8/8	7/7
III Light response	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Localisation; L (left) / R (right)	L/R	L/R	L/R	L/R	L/R	L/R	L/R	L/R

Legend:

PT = Pretest
13W = 13 weeks

Scores:

Landing or support response	0 = soft landing, 1 = breaking of fall reduced
Muscle force	0 = normal, 1 = pressure returned
Standing on a straight line	0 = normal, 1 = staggering
Placing front legs	0 = proper placing, 1 = not placed properly
Hopping response	0 = normal, 1 = clumsy

* = not definable due to submissive position of animal

NEUROLOGIC EXAMINATION
GROUPS 2 and 3
FEMALES

Animal Number	21	22	23	24	25	26	27	28
	PT	PT	PT	PT	PT	PT	PT	PT
Locomotion	0	0	0	0	0	0	0	0
Gait Activity	0	0	0	0	0	0	0	0
Landing or support response front	0	0	0	0	0	0	0	0
back	0	0	0	0	0	0	0	0
Muscle force	0	0	0	0	0	0	0	0
Standing on a straight line	0	0	0	0	0	0	0	0
Placing front legs visual	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
tactile	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Hopping response front	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
back	1/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Patellar reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Flexor reflex / pain reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
III Pupil size (mm)	8/8	6/6	8/8	7/7	7/7	6/6	7/7	5/5
III Light response	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Localisation; L (left) / R (right)	L/R	L/R	L/R	L/R	L/R	L/R	L/R	L/R

Legend:

PT = Pretest

Scores:

Landing or support response	0 = soft landing, 1 = breaking of fall reduced
Muscle force	0 = normal, 1 = pressure returned
Standing on a straight line	0 = normal, 1 = staggering
Placing front legs	0 = proper placing, 1 = not placed properly
Hopping response	0 = normal, 1 = clumsy

NEUROLOGIC EXAMINATION
GROUP 4
FEMALES

Animal Number	29		30		31		32	
	PT	13W	PT	13W	PT	13W	PT	13W
Locomotion	0	0	0	0	0	0	0	0
Gait Activity	0	0	0	0	0	0	0	0
Landing or support response front	0	0	0	0	0	0	0	1
back	0	0	0	0	0	1	0	1
Muscle force	0	0	0	0	0	0	0	0
Standing on a straight line	0	1	0	0	0	1	0	0
Placing front legs visual	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
tactile	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Hopping response front	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
back	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Patellar reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Flexor reflex / pain reflex	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
III Pupil size (mm)	7/7	8/8	5/5	6/6	6/6	7/7	7/7	8/8
III Light response	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Localisation; L (left) / R (right)	L/R	L/R	L/R	L/R	L/R	L/R	L/R	L/R

Legend:

PT = Pretest
13W = 13 weeks

Scores:

Landing or support response	0 = soft landing, 1 = breaking of fall reduced
Muscle force	0 = normal, 1 = pressure returned
Standing on a straight line	0 = normal, 1 = staggering
Placing front legs	0 = proper placing, 1 = not placed properly
Hopping response	0 = normal, 1 = clumsy

HEMATOLOGY
MALES

ANIMAL NUMBER		REMARK	RBC T/L	HB mmol/L	HCT L/L	MCV fL	MCH fmol	MCHC mmol/L
GROUP 1 (0 PPM)								
1	PRETEST I	---	6.41	8.6	0.41	64.6	1.35	20.9
	PRETEST II	---	6.37	8.4	0.40	63.4	1.33	20.9
	4 WEEKS	---	6.97	9.4	0.45	64.1	1.35	21.1
	8 WEEKS	---	6.55	9.0	0.42	64.4	1.37	21.3
	13 WEEKS	---	6.69	9.0	0.44	65.9	1.35	20.4
2	PRETEST I	---	6.60	9.1	0.44	67.3	1.38	20.5
	PRETEST II	---	6.60	9.1	0.44	65.9	1.37	20.9
	4 WEEKS	---	6.79	9.5	0.45	66.6	1.40	21.0
	8 WEEKS	---	7.74	10.6	0.52	66.7	1.37	20.4
	13 WEEKS	---	7.94	10.8	0.54	67.4	1.36	20.2
3	PRETEST I	---	6.25	9.2	0.44	70.6	1.48	21.0
	PRETEST II	---	5.87	8.6	0.41	69.3	1.47	21.2
	4 WEEKS	---	5.84	8.7	0.41	69.7	1.49	21.3
	8 WEEKS	---	5.56	8.3	0.39	70.3	1.48	21.1
	13 WEEKS	---	6.06	8.7	0.43	70.5	1.43	20.4
4	PRETEST I	---	6.60	9.2	0.44	67.1	1.40	20.9
	PRETEST II	---	6.20	8.7	0.41	66.8	1.40	21.0
	4 WEEKS	---	7.19	10.1	0.48	67.2	1.41	20.9
	8 WEEKS	---	6.40	8.9	0.43	67.3	1.38	20.6
	13 WEEKS	---	7.21	9.9	0.49	67.4	1.38	20.4
GROUP 2 (2500 PPM)								
5	PRETEST I	---	6.71	9.1	0.44	66.0	1.35	20.5
	PRETEST II	---	6.35	8.6	0.42	65.4	1.35	20.7
	4 WEEKS	---	6.50	8.9	0.42	65.2	1.37	20.9
	8 WEEKS	---	6.67	8.9	0.43	64.8	1.34	20.7
	13 WEEKS	---	7.36	9.9	0.49	65.9	1.35	20.5
6	PRETEST I	---	6.65	9.3	0.45	68.3	1.40	20.5
	PRETEST II	---	6.24	8.8	0.42	67.1	1.40	20.9
	4 WEEKS	---	6.98	9.6	0.46	66.3	1.38	20.8
	8 WEEKS	---	7.04	9.6	0.47	66.8	1.36	20.4
	13 WEEKS	---	8.10	10.9	0.54	67.0	1.35	20.1
7	PRETEST I	---	5.55	8.1	0.39	69.4	1.46	21.1
	PRETEST II	---	5.73	8.1	0.39	68.1	1.41	20.7
	4 WEEKS	---	5.67	8.3	0.38	67.7	1.46	21.5
	8 WEEKS	---	6.03	8.4	0.41	67.8	1.40	20.7
	13 WEEKS	---	7.03	9.7	0.49	69.1	1.38	19.9
8	PRETEST I	---	6.36	8.9	0.43	67.3	1.40	20.7
	PRETEST II	---	6.16	8.3	0.41	66.7	1.35	20.2
	4 WEEKS	---	6.24	8.8	0.42	66.5	1.40	21.1
	8 WEEKS	---	6.68	9.2	0.44	66.5	1.38	20.7
	13 WEEKS	---	7.04	9.5	0.47	67.3	1.35	20.0
GROUP 3 (5000 PPM)								
9	PRETEST I	---	6.29	8.8	0.42	66.5	1.39	20.9
	PRETEST II	---	5.97	8.3	0.39	65.3	1.38	21.2
	4 WEEKS	---	6.48	9.1	0.43	65.7	1.41	21.4
	8 WEEKS	---	6.80	9.1	0.45	65.9	1.34	20.4
	13 WEEKS	---	7.62	10.3	0.51	66.4	1.35	20.4
10	PRETEST I	---	6.27	9.1	0.44	69.7	1.45	20.9
	PRETEST II	---	6.37	9.1	0.43	68.1	1.43	21.0
	4 WEEKS	---	6.57	9.6	0.44	67.4	1.45	21.6
	8 WEEKS	---	6.80	9.7	0.46	68.1	1.42	20.9
	13 WEEKS	---	7.40	10.3	0.51	68.8	1.39	20.2

HEMATOLOGY
MALES

ANIMAL NUMBER		REMARK	RBC T/L	HB mmol/L	HCT L/L	MCV fL	MCH fmol	MCHC mmol/L
GROUP 3 (5000 PPM)								
11	PRETEST I	---	5.98	8.6	0.42	69.6	1.44	20.7
	PRETEST II	---	5.86	8.2	0.40	68.3	1.40	20.5
	4 WEEKS	---	6.28	8.9	0.43	68.0	1.42	20.9
	8 WEEKS	---	6.77	9.5	0.46	68.2	1.40	20.5
	13 WEEKS	---	8.05	11.5	0.56	69.4	1.43	20.7
12	PRETEST I	---	6.42	9.2	0.45	69.6	1.43	20.5
	PRETEST II	---	6.38	9.0	0.44	68.2	1.41	20.7
	4 WEEKS	---	6.61	9.4	0.45	68.4	1.41	20.7
	8 WEEKS	---	6.18	8.7	0.43	69.1	1.41	20.4
	13 WEEKS	---	6.63	9.1	0.46	69.4	1.38	19.9
GROUP 4 (10000 PPM)								
13	PRETEST I	---	7.18	9.7	0.46	63.8	1.35	21.2
	PRETEST II	---	6.98	9.3	0.44	63.3	1.33	21.0
	4 WEEKS	---	7.36	9.9	0.47	63.3	1.35	21.3
	8 WEEKS	---	7.13	9.6	0.45	63.0	1.35	21.4
	13 WEEKS	---	7.27	9.4	0.46	63.8	1.30	20.4
14	PRETEST I	---	6.35	9.2	0.45	70.6	1.46	20.7
	PRETEST II	---	6.16	9.1	0.42	68.5	1.48	21.6
	4 WEEKS	---	6.29	9.4	0.44	69.2	1.49	21.5
	8 WEEKS	---	6.46	9.3	0.45	68.9	1.44	20.9
	13 WEEKS	---	6.91	9.9	0.49	70.2	1.43	20.4
15	PRETEST I	---	5.88	8.7	0.42	71.6	1.48	20.7
	PRETEST II	---	5.77	8.7	0.41	70.4	1.51	21.4
	4 WEEKS	---	5.99	9.1	0.42	69.9	1.51	21.6
	8 WEEKS	---	5.87	8.6	0.41	70.0	1.46	20.9
	13 WEEKS	---	6.75	9.8	0.48	71.6	1.45	20.3
16	PRETEST I	---	6.67	9.4	0.45	67.5	1.41	21.0
	PRETEST II	---	6.32	9.0	0.42	66.1	1.42	21.5
	4 WEEKS	---	7.12	10.1	0.47	66.2	1.42	21.5
	8 WEEKS	---	7.12	9.9	0.47	66.2	1.40	21.1
	13 WEEKS	---	7.77	10.7	0.53	67.8	1.38	20.4

HEMATOLOGY
MALES

ANIMAL NUMBER		PLATELETS G/L	RETICULOCYTE COUNT RETIC. %	RETIC. T/L	HFR %	MFR %	LFR %	NEN /100 WBC
GROUP 1 (0 PPM)								
1	PRETEST I	393	1.31	0.0825	1.6	15.6	82.8	0.0
	PRETEST II	411	1.22	0.0781	4.4	16.8	78.8	0.0
	4 WEEKS	477	1.55	0.1082	9.2	17.2	73.6	0.0
	8 WEEKS	442	1.12	0.0755	4.5	22.9	72.6	0.0
	13 WEEKS	422	0.97	0.0652	2.8	9.3	87.9	0.0
2	PRETEST I	324	1.01	0.0647	2.4	14.3	83.3	0.0
	PRETEST II	326	0.90	0.0585	1.5	11.0	87.5	0.0
	4 WEEKS	304	0.90	0.0609	4.0	8.5	87.5	0.0
	8 WEEKS	327	0.89	0.0666	0.8	10.3	88.9	0.0
	13 WEEKS	304	0.63	0.0489	1.6	10.6	87.8	0.0
3	PRETEST I	438	0.51	0.0313	2.1	9.6	88.3	0.0
	PRETEST II	426	0.53	0.0306	0.7	9.3	90.0	0.0
	4 WEEKS	460	0.64	0.0376	1.7	8.7	89.6	0.0
	8 WEEKS	483	0.64	0.0356	1.7	10.3	88.0	0.0
	13 WEEKS	538	0.40	0.0236	0.1	4.1	95.8	0.0
4	PRETEST I	344	1.39	0.0892	5.0	24.0	71.0	0.0
	PRETEST II	318	1.62	0.0983	5.9	20.8	73.3	0.0
	4 WEEKS	393	1.33	0.0951	5.2	29.3	65.5	0.0
	8 WEEKS	285	1.05	0.0659	7.1	20.7	72.2	0.0
	13 WEEKS	297	1.22	0.0858	6.9	27.2	65.9	0.0
GROUP 2 (2500 PPM)								
5	PRETEST I	207	0.79	0.0508	2.1	12.8	85.1	0.0
	PRETEST II	211	0.93	0.0577	4.2	12.6	83.2	0.0
	4 WEEKS	197	0.92	0.0594	2.9	14.3	82.8	0.0
	8 WEEKS	214	0.94	0.0616	3.2	17.5	79.3	0.0
	13 WEEKS	203	0.84	0.0612	0.9	12.6	86.5	0.0
6	PRETEST I	279	1.30	0.0848	2.1	15.6	82.3	0.0
	PRETEST II	289	0.83	0.0511	1.6	12.3	86.1	0.0
	4 WEEKS	267	0.73	0.0502	3.2	8.2	88.6	0.0
	8 WEEKS	225	0.88	0.0605	4.1	8.6	87.3	0.0
	13 WEEKS	290	0.63	0.0493	1.5	10.0	88.5	0.0
7	PRETEST I	356	0.66	0.0358	1.5	4.4	94.1	0.0
	PRETEST II	357	0.51	0.0282	2.6	3.8	93.6	0.0
	4 WEEKS	339	0.40	0.0234	1.7	6.4	91.9	0.0
	8 WEEKS	332	0.37	0.0224	2.3	6.9	91.5	0.0
	13 WEEKS	333	0.66	0.0450	1.0	11.2	87.8	0.0
8	PRETEST I	399	1.07	0.0663	1.6	13.9	84.5	0.0
	PRETEST II	366	0.95	0.0562	1.5	8.1	90.4	0.0
	4 WEEKS	340	0.86	0.0533	2.4	7.8	89.8	0.0
	8 WEEKS	367	0.89	0.0586	2.3	10.8	86.9	0.0
	13 WEEKS	351	0.69	0.0471	1.5	10.2	88.3	0.0
GROUP 3 (5000 PPM)								
9	PRETEST I	444	0.78	0.0488	7.2	17.1	75.7	0.0
	PRETEST II	393	1.01	0.0604	3.4	11.3	85.3	0.0
	4 WEEKS	474	1.10	0.0722	4.6	18.4	77.0	0.0
	8 WEEKS	476	1.09	0.0718	4.3	21.8	73.9	0.0
	13 WEEKS	485	1.00	0.0739	4.3	15.2	80.5	0.0
10	PRETEST I	328	1.26	0.0762	2.6	16.4	81.0	0.0
	PRETEST II	392	0.85	0.0522	4.0	9.2	86.8	0.0
	4 WEEKS	328	0.75	0.0493	3.2	13.7	83.1	0.0
	8 WEEKS	308	0.78	0.0522	5.0	16.0	79.0	0.0
	13 WEEKS	339	0.62	0.0446	4.3	9.8	85.9	0.0

HEMATOLOGY
MALES

ANIMAL NUMBER		PLATELETS G/L	RETICULOCYTE COUNT RETIC. %	RETIC. T/L	HFR %	MFR %	LFR %	NEN /100 WBC
GROUP 3 (5000 PPM)								
11	PRETEST I	286	0.89	0.0524	3.0	15.5	81.5	0.0
	PRETEST II	281	0.83	0.0467	3.6	10.1	86.3	0.0
	4 WEEKS	291	0.81	0.0509	3.6	10.7	85.7	0.0
	8 WEEKS	324	0.94	0.0627	4.9	12.2	82.9	0.0
	13 WEEKS	306	1.25	0.0996	5.7	20.4	73.9	0.0
12	PRETEST I	411	1.28	0.0803	3.4	14.7	81.9	0.0
	PRETEST II	448	1.51	0.0944	6.4	22.2	71.4	0.0
	4 WEEKS	439	1.86	0.1231	7.4	22.7	69.9	0.0
	8 WEEKS	371	1.35	0.0832	4.2	22.5	73.3	0.0
	13 WEEKS	334	1.15	0.0741	2.3	12.8	84.9	0.0
GROUP 4 (10000 PPM)								
13	PRETEST I	516	1.48	0.1039	1.8	19.9	78.3	0.0
	PRETEST II	483	1.83	0.1235	6.2	21.8	72.0	0.0
	4 WEEKS	578	1.53	0.1118	4.2	22.1	73.7	0.0
	8 WEEKS	472	1.26	0.0895	4.3	14.5	81.2	0.0
	13 WEEKS	495	0.97	0.0679	1.5	13.7	84.8	0.0
14	PRETEST I	385	1.63	0.1011	3.8	23.0	73.2	0.0
	PRETEST II	125	1.83	0.1122	4.0	17.8	78.2	0.0
	4 WEEKS	488	1.51	0.0942	6.4	19.7	73.9	0.0
	8 WEEKS	380	1.45	0.0922	4.8	18.0	77.2	0.0
	13 WEEKS	344	1.14	0.0762	6.8	16.9	76.3	0.0
15	PRETEST I	360	1.76	0.1012	7.3	24.5	68.2	0.0
	PRETEST II	346	1.77	0.1020	9.4	26.2	64.4	0.0
	4 WEEKS	418	1.49	0.0903	8.6	21.4	70.0	0.0
	8 WEEKS	368	0.85	0.0489	4.7	19.1	76.2	0.0
	13 WEEKS	376	1.04	0.0680	4.4	19.9	75.7	0.0
16	PRETEST I	327	1.67	0.1106	6.3	24.8	68.9	0.0
	PRETEST II	396	2.02	0.1281	6.7	26.6	66.7	0.0
	4 WEEKS	375	1.44	0.1024	5.0	25.5	69.5	0.0
	8 WEEKS	297	1.30	0.0913	4.0	18.8	77.2	0.0
	13 WEEKS	314	1.14	0.0856	7.1	21.3	71.6	0.0