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Ms. Christine Todd Whitman
Administrator
U. S. Environmental Protection Agency
P. O. Box 1473
Merrifield, VA 22116

Dear Ms. Whitman:

The American Chemistry Council (Council) makes available to the public and appropriate government agencies final reports of environmental, health, and safety research that it manages. In keeping with this policy, the following final report that the Council's Brominated Flame Retardant Industry Panel (BFRIP) recently conducted is enclosed:

- Hexabromocyclododecane (HBCD): A 90-Day Oral (Gavage) Toxicity Study of HBCD in Rats.

This report does not include confidential information.

If you have any questions, please contact Wendy K. Sherman, the BFRIP Manager, at 703/741-5639 or via email [wendy_sherman@americanchemistry.com].

Sincerely yours,

Elizabeth Festa Watson
Managing Director, CHEMSTAR

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FINAL REPORT

Volume 1 of 4
(Text and Summary Tables 1-68)

STUDY TITLE

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

STUDY DIRECTOR

Christopher P. Chengelis, Ph.D., D.A.B.T.

STUDY INITIATED ON

March 2, 2000

STUDY COMPLETION DATE

December 14, 2001

PERFORMING LABORATORY

WIL Research Laboratories, Inc.
1407 George Road
Ashland, Ohio 44805-9281

LABORATORY STUDY NUMBER

WIL-186012

SPONSOR

Chemical Manufacturers Association
Brominated Flame Retardant Industry Panel (BFRIP)
1300 Wilson Blvd.
Arlington, VA 22209

WIL-186012
CMA-BFRIP

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

COMPLIANCE STATEMENT

This study, designated WIL-186012, was conducted in compliance with the United States Environmental Protection Agency (EPA) Good Laboratory Practice Regulations (40 CFR Part 792), the Organisation for Economic Cooperation and Development (OECD) Principles of Good Laboratory Practice [C (97) 186/Final], the standard operating procedures of WIL Research Laboratories, Inc., and the protocol as approved by the sponsor. Characterization of the test article was supplied by the sponsor (presented in Appendix A); it is unknown whether the characterization analysis was conducted according to Good Laboratory Practices.

The protocol was designed and the study was conducted in accordance with EPA OPPTS Guideline 870.3100 and the OECD Guidelines for Testing of Chemicals, Health Effects Test Guidelines, Section 408, adopted September 21, 1998.

Study Director: _____ 14 Dec 01
Christopher P. Chengelis, Ph.D., D.A.B.T. — Date
Director, Toxicology

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

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A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

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A 90-Day Oral (Gavage) Toxicity Study of HBCD in Rats

I. SUMMARY

The test article, a composite of three lots of commercial hexabromocyclododecane (HBCD), was administered by oral gavage in corn oil once daily to four groups of Crl:CD(SD)IGS BR rats (n=15/sex/group) at dose levels of 0 (control), 100 (low), 300 (mid) and 1000 (high) mg/kg/day seven days per week for 90 days. The dosage volume was 5 ml/kg. The control animals received the vehicle, corn oil, only. At the end of the 90-day treatment period, 10 animals/sex/group were euthanized and necropsied. The remaining rats continued on test untreated for a 28-day recovery period prior to necropsy.

In addition to the main toxicology groups, two satellite groups of 20 animals/sex/group were treated concurrently in an identical manner at dose levels of 0 or 1000 mg HBCD/kg/day for up to 90 days. Body weights were recorded weekly. Two animals/sex/group were euthanized on study days 2, 6, 9, 13, 20, 27, 55, 89, 104 and 118, and blood and body fat (mesenteric and/or omental) were collected. The body fat was analyzed for HBCD content.

Animals in the main toxicology groups were observed twice daily throughout the study for mortality and morbidity. Body weights and food consumption were measured weekly. Blood was collected at study weeks 3 (n=5/sex/group), 13 (n=10/sex/group) and 17 (n=5/sex/group) for hematology, serum chemistry and hormone (T_3, T_4 and TSH) measurements. Urine was collected prior to each necropsy, at study weeks 13 and 17, for urinalysis. Ocular examinations were performed prior to initiation of dosing and during study weeks 12 and 15. Functional Observational Battery and Locomotor Activity evaluations were performed on 5 animals/sex/group prior to initiation of dosing, during the last week of test article administration (study week 13), and during the recovery period. An examination of vaginal cytology (for estrus cycle determinations) was

performed on study days 69-90. At each necropsy, sperm motility/viability, morphology, and number were assessed. Complete necropsies were performed on all animals. Approximately 40 organs and/or tissues/animal were collected and preserved. The adrenals, brain, epididymides, heart, kidneys, liver, ovaries, prostate, spleen, testes, thymus, thyroids with parathyroids, and uterus with cervix were weighed. Paraffin sections of tissues stained with hematoxylin and eosin from the control and 1000 mg/kg/day dose groups and the liver, lungs, prostate glands and thyroid glands in the 100 and 300 mg/kg/day doses, and gross lesions from all animals were examined under the light microscope. Livers from five randomly chosen animals/sex from the control and 1000 mg/kg/day dose groups were examined microscopically using Oil Red O or periodic acid Schiff's (PAS) reagent for evidence of lipid accumulation or glycogen accumulation/depletion, respectively. Statistical comparisons by sex and treatment day were made between the control and treated animals where indicated ($p<0.05$).

No test article-related effect on mortality occurred. Clinical signs were non-specific, low in incidence, non-dose-related and not related to test article administration. No test article-related changes occurred in body weight, food consumption, Functional Observational Battery or Locomotor Activity. No test article-related effects on hematologic parameters were noted. No test article-related ocular lesions were detected at the ophthalmic exams. No test article-related changes were noted on the estrus cycle as determined by vaginal cytology, or on sperm motility/viability, morphology, and number. Instances of statistically significant differences between control and some treatment groups were detected at study week 13 in the clinical chemistry data, hormone data, organ weight data and histology findings. They were generally secondary to the inducing effects on the liver or were otherwise not considered adverse effects of treatment as discussed further below.

Statistically significant ($p<0.05$ or $p<0.01$) test article-related clinical chemistry changes at week 13 include an increase in albumin (all dose levels for males), total protein (all dose levels for females and 1000 mg/kg/day for males), globulin (300 and 1000 mg/kg/day for females), and chloride (all doses for both sexes). In addition, increased gamma glutamyltransferase levels were noted in the 1000 mg/kg/day group ($p<0.01$). Thyroxine (T_4) levels were decreased at study week 13 compared to the control mean in all male dose groups and the 300 and 1000 mg/kg/day dose females ($p<0.05$ or $p<0.01$). There were no corresponding statistical effects on T_3 and TSH. While potentially test article-related, the changes in serum chemistry parameters were not of sufficient magnitude to be adverse, occurred in otherwise clinically normal animals, tended to be within or close to historical control values, and were not present at the end of the recovery period; furthermore, these serum albumin and gamma glutamyltransferase increases were probably secondary to the increases in liver weight. The increases in serum chloride were probably secondary to be presence of free bromide in the test article preparation which interfered with the chloride determination methodology. The decrease in T_4, which was also reversible, was also probably secondary to increased liver weight (secondary to microsomal enzyme induction, known to cause increased metabolism and clearance of T_4 in the rat).

The incidence of observations noted at gross necropsy was low and there was no evidence of frank organ damage. On histopathologic examination of tissues, relatively mild findings occurred in both the control and treated groups. Potential test article-related histologic changes were identified in the liver and thyroid glands but these would not be considered indicative of frank toxicity. These organs were examined microscopically in all groups at both necropsies. The liver changes in male rats at the 90-day necropsy (Study Week 13) were characterized as minimal hepatocellular vacuolation and occurred in 10% of control males and ~50% of the males at 100, 300 and 1000 mg/kg/day. Minimal hepatocellular

vacuolation was also detected in females in the control and test article treated groups without a clear dose response (3 to 6/10 animals per group) but, mild and moderate vacuolation was detected in females only in the 300 (1/10) and 1000 mg/kg/day (2/10) dose groups. Minimal to mild hepatocellular hypertrophy was also detected only in the 1000 mg/kg/day group (5/10) females. Minimal thyroid follicular cell hypertrophy was detected 1/10, 1/10, 5/10 and 7/10 males in the control, 100, 300 and 1000 mg/kg/day groups, respectively and in 4/10 and 3/10 females in the 300 and 1000 mg/kg/day groups, respectively. In addition, mild thyroid follicular hypertrophy was detected in 4/10 females and 1/10 males in the 1000 mg/kg/day group. The histologic changes in the liver were accompanied by an increase in liver weight. In contrast there were no statistically significant changes in thyroid weight (absolute, relative to body weight and relative to brain weight). At study week 13, mean liver weights in all dose levels of both sexes (absolute, relative to body weight and relative to brain weight) were increased compared to the male and female control means ($p<0.05$ or $p<0.01$). The increases in liver weight were a result of a microsomal enzyme inducing effect[1] and were not typically considered indicative of toxicity in absence of frank organ damage. The reversible histologic changes (vacuolation and hypertrophy) are often found to accompany increased liver weight caused by liver enzyme induction. At week 17, the liver changes (weight and histology) had at least partially, if not fully, resolved in all treated groups without delayed or long-term toxic effects. The histologic changes in the thyroid had also nearly completely resolved except in the 1000 mg/kg/day group females, where partial recovery occurred.

Increases in mean prostate weight were noted in the 1000 mg/kg/day group males at the primary necropsy. However, the increases in prostate weight were probably not of toxicological significance since the increases did not persist to the

recovery period, there were no correlating histologic findings and no change in sperm production.

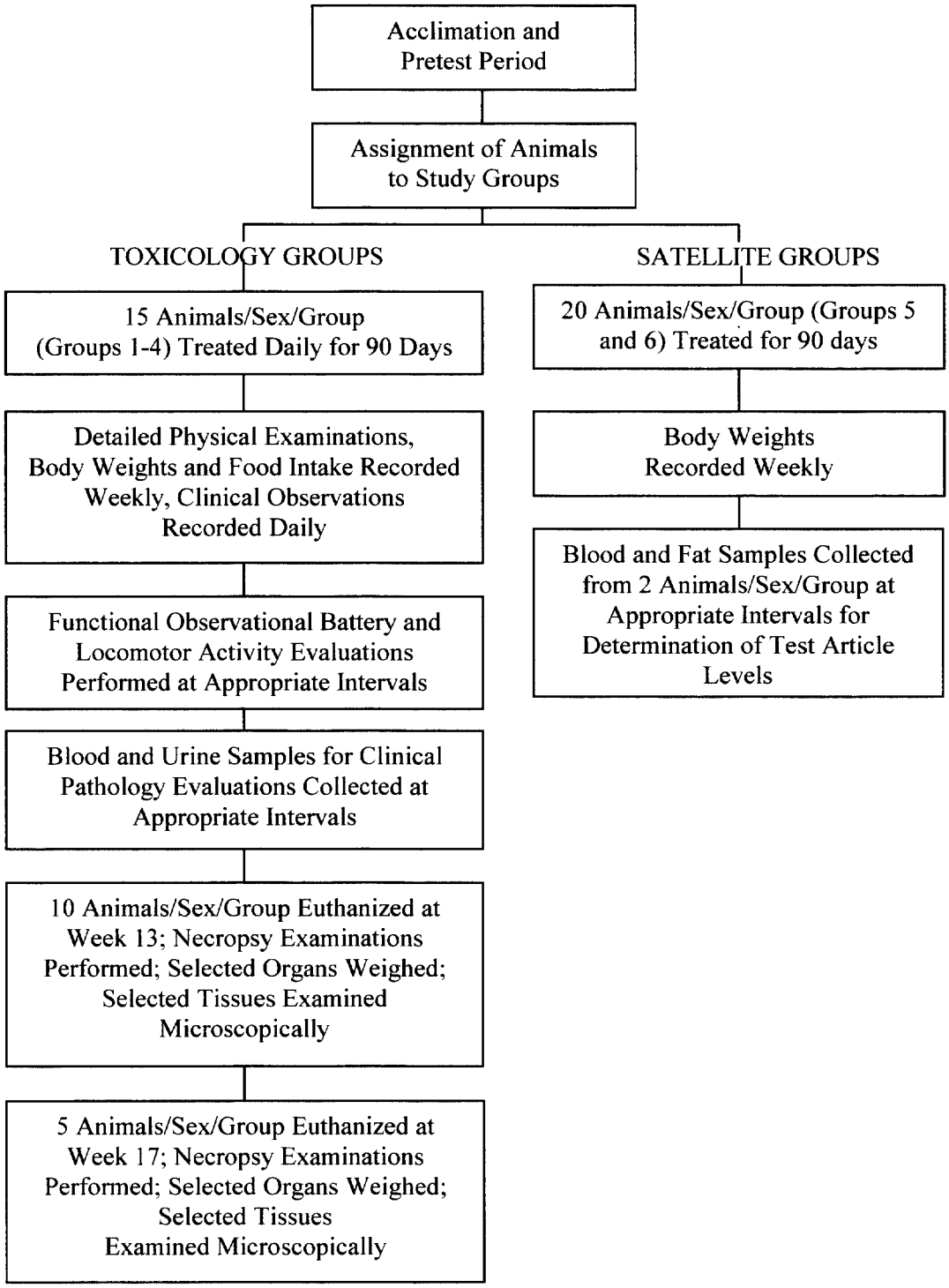
HBCD was detected in the adipose tissue of male and female rats treated with 1000 mg/kg/day for up to 90 days. Isomer-specific analysis showed that the relative isomer concentrations in adipose tissue at all time points were alpha>>gamma>beta which is in contrast to the test article composition (gamma>>alpha>beta). Steady state levels were achieved by study day 27. Levels in male and female rats were similar at all time points and declined during the recovery period.

All the test article-related changes at 100 and 300 mg/kg/day were mild, reversible, generally secondary to hepatic enzyme induction (which is an adaptive not a toxic change) and without effect on the clinical condition of the animals. The additional findings observed at 1000 mg/kg/day (increased gamma glutamyltransferase and additional increases in the size of the liver and prostate), were also reversible, not associated with specific target organ damage or diminished function and were, therefore, probably of limited, if any, toxicologic significance. On this basis the no-observed-adverse-effect level (NOAEL) of HBCD administered to Crl:CD®(SD)IGS BR rats by gavage in corn oil for 90 days is 1000 mg/kg/day.

II. OBJECTIVE

The objective of this study was to evaluate the potential repeated dose toxicity of HBCD when administered to rats by oral gavage at doses up to 1000 mg/kg/day for 90 days. In addition to the end points routinely evaluated in a 90-day study, this study included an evaluation of neurotoxicity potential through Functional Observational Battery (FOB) and Locomotor Activity (MA) assessments, measurement of serum TSH, T_3 and T_4 levels, vaginal cytology and sperm assessments, and measurement of test article concentration in adipose tissue. Reversibility, persistence or delayed occurrence of toxic effects were evaluated by a 28-day post-treatment recovery period. The selected route of administration was oral by gavage since this route is an acceptable and standard method for administering test material per OECD Guideline Section 408 and OPPTS Guideline 870.3100. The animal model, the Crl:CD®(SD)IGS BR rat, is recognized as appropriate for subchronic toxicity studies and substantial historical control data are available.

III. STUDY DESIGN



IV. EXPERIMENTAL PROCEDURES

A. INTRODUCTION

This report presents the data from "A 90-Day Oral (Gavage) Toxicity Study of HBCD in Rats". The experimental starting date, identified as the day of animal receipt, was April 11, 2000. Test article administration was initiated on April 26, 2000 (study day 0). The primary necropsy (study week 13) was conducted on July 26 and 27, 2000. The recovery necropsy (study week 17) was conducted on August 23, 2000. The experimental termination date, concluding with the last histopathology examination, was December 11, 2001.

The data for the toxicology groups (Groups 1-4) were assigned to computer protocol WIL-186012, and the data for the satellite groups (Groups 5 and 6) were assigned to computer protocol WIL-186012S.

B. TEST ARTICLE AND VEHICLE

1. TEST ARTICLE IDENTIFICATION

The test article, HBCD, was received from Wildlife International Ltd., Easton, Maryland, on January 14, 2000, as follows:

Identification	No. of Containers Received	Description
HBCD (Hexabromocyclododecane) Test Substance # 4615 Composite Sample #'s 4515,4520, 4521 [WIL Log No. 4590A]	One Bottle Gross Weight: 3158.1 g	Off-white powder

The test article was a composite made from equal portions of three individual commercial HBCD products manufactured by Albemarle Corporation, Dead Sea Bromine Group/Bromine Compounds, Ltd., and Great Lakes Chemical Corporation. The characterization of the test article was the responsibility of the sponsor. The test article was stored at room

temperature (68±4°F), in a dry, well-ventilated area and was considered stable under these conditions (Appendix A). On February 1, 2000, a 1.07g sample of the test article was collected and stored in the Archives at WIL Research Laboratories, Inc.

2. VEHICLE IDENTIFICATION

The vehicle utilized in preparation of the test mixtures and for administration to the control group was Mazola® corn oil, manufactured by Best Foods Division, CPC International, Inc., Englewood Cliffs, New Jersey.

3. PREPARATION

A sufficient volume of the vehicle, Mazola® corn oil, was dispensed into a storage container. The vehicle was stirred continuously throughout use with a magnetic stirrer.

The appropriate amount of test article for each group was weighed into tared, calibrated storage containers. A sufficient amount of the vehicle was added and stirred until a uniform mixture was obtained using a magnetic stirrer. The appropriate amount of vehicle was added to bring the formulation to volume. Preparations were stirred until uniform and continuously throughout use. After preparation, dosing formulations were divided into daily aliquots.

All dosing formulations were prepared weekly and stored at room temperature.

4. ADMINISTRATION

The test mixtures were administered orally by gastric intubation via a 16-gauge stainless steel gavage cannula (Popper and Sons, Inc., Hyde Park, New York 11040) as a single daily dose for a minimum of 90 consecutive days through the day prior to the scheduled necropsy. A dose volume of 5 ml/kg was used for all dosage levels. The concurrent control group

animals received the vehicle, Mazola® corn oil, on a comparable regimen at a dose volume of 5 ml/kg. Animals were dosed at approximately the same time each day. Individual dosages were adjusted based on the most recent body weights to provide the correct mg/kg/day dose. Adjusted doses became effective the day after collection of the weekly body weights.

The following table presents the study group assignment:

Group Number	Treatment	Dosage Level (mg/kg/day)	Dosage Volume (ml/kg)	Number of Animals[a] Males	Females
Toxicology Groups (WIL-186012)					
1	Vehicle	0	5	15	15
2	HBCD	100	5	15	15
3	HBCD	300	5	15	15
4	HBCD	1000	5	15	15
Satellite Groups[b] (WIL-186012S)					
5	Vehicle	0	5	20	20
6	HBCD	1000	5	20	20

[a]= First five animals/sex/group were assigned to the neurotoxicity evaluations (FOB and MA) and were also assigned to the 28-day recovery period.
[b]=Animals were used for the collection of tissues for special analyses.

5. SAMPLING AND ANALYSES

Prior to the initiation of dosing, sample dosing formulations were prepared for the lowest and highest concentration groups, and 10-ml aliquots were withdrawn from the top, middle and bottom of each solution for homogeneity determinations. Samples were also collected from the middle of these preparations and stored under laboratory conditions for ten days. These samples were then used for stability analyses. In addition, the remainder of each preparation was subdivided into seven aliquots and stored at room temperature. Following storage for ten days and re-suspension using the same procedures to be used for dosing, samples were taken from the top and bottom of the last daily aliquot from each preparation and were analyzed to confirm homogeneity in a dosing aliquot. Dosage preparations, including the control group, were verified for test

material concentration using a validated HPLC method during study weeks 0, 1, 2, 3, 7 and 12. Upon the completion of the in-life phase, all remaining (unused) test material was returned to the sponsor.

All analyses of the dosing formulations were performed at WIL Research Laboratories, Inc., and the methodology and results are presented in Appendix B. The dosing formulations were homogeneous and within 100% (± 10%) of target dose concentrations.

C. ANIMAL RECEIPT AND ACCLIMATION/PRETEST PERIOD

One hundred twenty-one male and one hundred twenty-two female Crl:CD®(SD)IGS BR rats in good health were received on April 11, 2000, from Charles River Laboratories, Portage, Michigan. The animals were 36 days old upon receipt. Each animal was examined by a qualified technician on the day of receipt and weighed on the following day. Animals were uniquely identified by Monel® metal eartags displaying the permanent identification number. All animals were housed for a 15-day acclimation and pretest period; observations were made twice daily for mortality and general changes in appearance or behavior.

Pretest data collection began on April 20, 2000. Individual body weights were recorded and detailed physical examinations were performed on the first and last days of pretest week -1 (April 20 and 25, 2000, respectively). Individual food consumption was measured for the interval week -1 to week 0. Functional Observational Battery and Locomotor Activity assessments were performed on five animals/sex/group during pretest. For computer entry, some pretest data were assigned to computer protocol number WIL-186012P. Pretest clinical observations are presented in Appendix C.

D. ANIMAL HOUSING

All animals were housed individually in clean, wire-mesh cages suspended above cage-board. All animals were maintained in accordance with the "Guide

for the Care and Use of Laboratory Animals."[3] The animal facilities at WIL Research Laboratories, Inc., are accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International).

E. DIET, DRINKING WATER AND MAINTENANCE

The basal ration used in this study was PMI Nutrition International, Inc., Certified Rodent LabDiet® 5002, a certified feed with appropriate analyses performed by the manufacturer and provided to WIL Research Laboratories, Inc. Municipal water supplying the facility is sampled and analyzed for contaminants according to standard operating procedures. The results of these analyses are maintained at WIL Research Laboratories, Inc. Contaminants were not present in animal feed or water at levels sufficient to interfere with the objectives of this study. The basal diet and reverse osmosis-treated (on-site) drinking water, delivered by an automatic watering system, were provided *ad libitum* throughout the study period except during the period of fasting prior to blood collection when food but not water was withheld.

F. ENVIRONMENTAL CONDITIONS

All animals were housed throughout the acclimation period and during the study in an environmentally-controlled room. Controls were set to maintain temperature at 72 ± 5°F (22° ± 3°C) and relative humidity at approximately 30-70%. Room temperature and relative humidity were recorded daily. Actual recorded ranges for temperature and humidity were 70.0 to 76.5°F (21.1 to 24.7°C) and 37.7 to 68.0%, respectively, during the study period. Light timers were set to provide a 12-hour light/12-hour dark photoperiod. The light/dark periods were interrupted as necessary to conduct protocol-specified activities.

G. ASSIGNMENT OF ANIMALS TO TREATMENT GROUPS

On April 20, 2000, (study day -6), all available rats were weighed using the WIL Toxicology Data Management System (WTDMS™) and examined in

detail for physical abnormalities. These data were reviewed by the study director and animals judged suitable for testing were selected for use in the computerized randomization procedure. A printout containing the animal numbers and individual group assignments was generated based on body weight stratification in a block design. The animals then were arranged according to the printout. The toxicology groups each consisted of 15 males and 15 females and the satellite groups each consisted of 20 males and 20 females. After randomization into study groups, animals were then assigned to recovery. These animals were then randomized into two study replicates to allow for the reasonable conduct of the Functional Observational Battery and Locomotor Activity assessments. Each dose group and sex were approximately equally represented within each study replicate. The selected animals were approximately seven weeks old at the initiation of dosing; body weight values ranged from 212 to 289 grams for the males and from 147 to 205 grams for the females in the toxicology groups and 204 to 268 grams for the males and 143 to 201 grams for the females in the satellite groups. Body weights at randomization were within ± 20% of the mean for all animals.

H. CLINICAL OBSERVATIONS AND SURVIVAL (ALL GROUPS)

The animals were observed twice daily, once in the morning and once in the afternoon, for mortality and moribundity. Clinical observations were performed on all toxicology group animals approximately one to two hours following dosing (designated as one hour post-dosing for reporting purposes). During the recovery period, animals were examined once daily. Each animal in the toxicology group received a detailed physical examination weekly beginning one week prior to test article administration (study week -1), and prior to the scheduled necropsy. The animals were removed from their home cages and placed in a standard arena for observation. Observations were detailed and carefully recorded. Signs noted included, but were not limited to, changes in

skin, fur, eyes or mucous membranes, occurrence of secretions and excretions and autonomic activity (e.g., lacrimation, piloerection, pupil size, unusual respiratory pattern). Changes in gait, posture and response to handling, as well as the presence of clonic or tonic movements, stereotypical (e.g., excessive grooming, repetitive circling) or bizarre behavior (e.g., self mutilation, walking backwards) was recorded. Signs such as skin lesions and hair loss were also recorded. The absence or presence of findings was recorded for individual animals.

I. BODY WEIGHTS (ALL GROUPS)

Individual body weights were recorded weekly, beginning one week prior to test article administration. Mean body weight changes were calculated for each study week. A final body weight (fasted) was recorded for each animal on the day of scheduled necropsy.

J. FOOD CONSUMPTION (TOXICOLOGY GROUPS)

Individual food consumption was measured weekly, beginning one week prior to test article administration. When food consumption could not be measured for a given interval (due to spillage, weighing error, obvious erroneous value, etc.) the appropriate interval was footnoted as "NA" (Not Applicable) on the individual tables. Food intake was calculated as g/animal/day for the corresponding body weight intervals.

K. FUNCTIONAL OBSERVATIONAL BATTERY (TOXICOLOGY GROUPS)

Functional Observational Battery (FOB) evaluations were performed on five animals/sex/group during the pretest week and the last week of test article administration (study weeks -1 and 12, respectively). Evaluations were also performed on the same five designated recovery animals/sex/group (Groups 1-4) during study week 16 of the recovery period. Testing was performed by the same technicians, whenever possible, without knowledge of the animal group assignment. The FOB was performed in a sound-attenuated room equipped

with a white noise generator set to operate at 70 ± 10 db. All animals were observed for the following parameters as described below (refer to Appendix E for a detailed description of the scoring criteria used for each observation):

1. HOME CAGE OBSERVATIONS

Posture	Biting
Convulsions/Tremors	Palpebral (eyelid) closure
Feces consistency	

2. HANDLING OBSERVATIONS

Ease of removal from cage	Salivation
Lacrimation/Chromodacryorrhea	Fur appearance
Piloerection	Respiratory rate/character
Palpebral closure	Mucous membranes/Eye/ Skin color
Red/Crusty deposits	Muscle tone
Eye prominence	
Ease of handling animal in hand	

3. OPEN FIELD OBSERVATIONS (evaluated over a 2-minute observation period)

Mobility	Gait
Rearing	Arousal
Convulsions/Tremors	Urination/Defecation
Grooming	Gait score
Bizarre/Stereotypic behavior	Backing
Time to first step (seconds)	

4. SENSORY OBSERVATIONS

Approach response	Touch response
Startle response	Tail pinch response
Pupil response	Eyeblink response
Forelimb extension	Hindlimb extension
Air righting reflex	Olfactory orientation

5. NEUROMUSCULAR OBSERVATIONS

Hindlimb extensor strength
Hindlimb foot splay
Grip strength - hind and forelimb
Rotarod performance

6. PHYSIOLOGICAL OBSERVATIONS

Catalepsy
Body temperature
Body weight

L. LOCOMOTOR ACTIVITY (TOXICOLOGY GROUPS)

Locomotor Activity observations were performed on five animals/sex/group during the pretest week and the last week of test article administration (study weeks -1 and 12, respectively). Evaluations were also performed on the same five designated recovery animals/sex/group during study week 16 of the recovery period.

Locomotor Activity, recorded after the completion of the FOB, was measured automatically using the San Diego Instruments - Photobeam Activity System (San Diego Instruments Inc., San Diego, CA). This personal computer-controlled system utilizes a series of infrared photobeams surrounding a clear plastic, rectangular cage to quantify each animal's motor activity. The testing of treatment groups was done according to replicate sequence. Each animal was tested separately. Data were collected in five minute epochs (print intervals) and the test session duration was 60 minutes.

Data for ambulatory and total motor activity were tabulated. Total motor activity was defined as a combination of fine motor skills (i.e. grooming; interruption of one photobeam) and ambulatory motor activity (interruption of two or more consecutive photobeams).

M. CLINICAL PATHOLOGY (TOXICOLOGY GROUPS)

Blood samples for clinical pathology evaluations were taken from five animals/sex/group at approximately one month (May 17, 2000, study week 3), from ten animals/sex/group at the end of the dosing period (July 26, 2000, study week 13) and from five animals/sex/group at the end of the recovery period (August 23, 2000, study week 17). The animals were fasted overnight prior to each blood collection. Blood was collected from the lateral tail vein at the one month evaluation and prior to the scheduled necropsies (except as noted below). Urine samples were collected from all animals overnight using metabolism cages the day prior to blood collection. Historical control data for selected serum chemistry parameters is presented in Appendix G. Clinical pathology methods, procedures and references are presented in Appendix H.

1. HEMATOLOGY

Total Leukocyte Count (White Cell)
Erythrocyte Count (Red Cells)
Hemoglobin
Hematocrit
Mean Corpuscular Volume (MCV)
Mean Corpuscular Hemoglobin (MCH)
Mean Corpuscular Hemoglobin Concentration (MCHC)
Platelet Count[a]
Prothrombin Time (Pro Time)[a]
Activated Partial Thromboplastin Time (APTT)[a]
Differential Leukocyte Count Percent and Absolute
-Neutrophil
-Lymphocyte
-Monocyte
-Eosinophil
-Basophil
Platelet Estimate[b]
Red Blood Cell Morphology (RBC Morphology)[b]

( ) = Designates tabular abbreviation
[a] = Terminal evaluation only, blood collected from the vena cava after euthanasia
[b] = Presented on individual tables if the automated differential data (CELL-DYN® 3500, Abbott Laboratories, Santa Clara, CA) were verified by manual review of the slides

2. SERUM CHEMISTRY

Albumin	Aspartate Aminotransferase (Aspartat Transfer)
Total Protein	Gamma Glutamyltransferase (Glutamyl Transfer)
Globulin [by calculation]	Glucose
Albumin/Globulin Ratio (A/G Ratio)	Total Cholesterol (Cholesterol)
Total Bilirubin (Total Bili)	Calcium
Urea Nitrogen	Chloride
Creatinine	Phosphorus
Alkaline Phosphatase (Alkaline Phos'tse)	Potassium
Alanine Aminotransferase (Alanine Transfer)	Sodium

( ) = Designates tabular abbreviation

3. URINALYSIS

Specific Gravity (SG)	Ketones (KET)
pH	Bilirubin (BIL)
Urobilinogen (URO)	Occult Blood (BLD)
Total Volume (TVOL)	Leukocytes (LEU)
Color	Nitrites (NIT)
Appearance (APP)	Microscopy of Sediment [Tabular abbreviations appear on individual tables]
Protein (PRO)	
Glucose (GLU)	

( ) = Designates tabular abbreviation

4. SERUM HORMONES

Thyroid Stimulating Hormone (TSH)	Triiodothyronine (Total T_3)
	Thyroxine (Total T_4)

( ) = Designates tabular abbreviation

N. OPHTHALMIC EXAMINATIONS (TOXICOLOGY GROUPS)

Ocular examinations were conducted on all animals prior to the initiation of dosing (study week -1), during study week 12 and during the recovery period (study week 15). All ocular examinations were conducted using an indirect ophthalmoscope and a slit lamp biomicroscope, preceded by pupillary dilation with an appropriate mydriatic agent. Examinations prior to test article

administration and during study week 12 were performed by David A. Wilkie, D.V.M., M.S., D.A.C.V.O. Examinations during the recovery period were performed by Brian C. Gilger, D.V.M., M.S., D.A.C.V.O. (Appendix I).

O. DETERMINATION OF ESTROUS CYCLES (TOXICOLOGY GROUPS)

Vaginal smears for determination of the stage of estrus were obtained from all females once daily beginning study day 69 through the last primary necropsy for the females. The average cycle length was calculated for complete estrous cycles (i.e., the total number of returns to metestrus [M] or diestrus [D] from estrus [E] or proestrus [P]) beginning on study day 69. The final vaginal smear for each female was collected on the day of necropsy.

P. ANATOMIC PATHOLOGY (TOXICOLOGY GROUPS)

1. MACROSCOPIC EXAMINATION

A complete necropsy was conducted all animals. All animals were euthanized by carbon dioxide followed by exsanguination. The necropsy included, but was not limited to, examination of the external surface, all orifices and the cranial, thoracic, abdominal and pelvic cavities including viscera. At the time of necropsy, the following tissues and organs were collected and preserved in 10% neutral buffered formalin:

Adrenals (2)
Aorta
Bone with marrow (sternebrae)
Bone marrow smear (from femur)[a]
Brain (forebrain, midbrain, hindbrain)
Epididymides(2)[b,c]
Eyes with optic nerve (2)[d]
Gastrointestinal tract
- Esophagus
- Stomach
- Duodenum
- Jejunum
- Ileum
- Cecum
- Colon
- Rectum

Heart
Kidneys (2)
Liver (sections of two lobes)[e]
Lungs [including bronchi, fixed by inflation with fixative (2)]
Lymph node
- Mesenteric
- Submandibular

Mammary gland (females only)
Ovaries with oviducts (2)
Pancreas
Peripheral nerve (sciatic)
Pituitary
Prostate
Salivary glands [mandibular (2)]
Seminal vesicles (2)
Skeletal muscle (vastus medialis)
Skin
Spinal cord (cervical, midthoracic, lumbar)
Spleen
Testes (2)[b,c]
Thymus
Thyroids [with parathyroids if present (2)]
Trachea
Urinary bladder
Uterus with cervix
Vagina
Vas deferens (2)
All gross lesions (when possible)

[a] = Bone marrow smears were obtained at the scheduled necropsies but were not placed in 10% neutral buffered formalin; to be examined only if scientifically warranted.

[b] = Left testis and epididymis used for spermatogenic evaluation (See Section IV.Q.).

[c] = Testis and epididymis (right only) were preserved in Bouin's solution. Transverse sections of 2-4 microns were made for the testis and longitudinal sections for the epididymis. PAS and hematoxylin staining was used for the right testis and epididymis. The following regions of the epididymis was embedded: caput, corpus and cauda.

[d] = Preserved in Davidson's solution.

[e] = Livers from five rats/sex (randomly chosen) were examined microscopically from the control and high dose groups for the presence of lipid and glycogen.

2. ORGAN WEIGHTS

The following organs from animals euthanized at the scheduled necropsies were weighed:

Adrenals	Ovaries (with oviducts)
Brain	Prostate
Epididymides** (total and cauda)	Spleen
Heart	Testes**
Kidneys	Thymus
Liver	Thyroids with parathyroids*
	Uterus and cervix

Paired organs were weighed together. Designated (**) paired organs were weighed separately. Designated (*) organs were weighed after fixation. Organ to final body weight and organ to brain weight ratios were calculated.

3. SLIDE PREPARATION AND MICROSCOPIC EXAMINATION

After fixation, protocol-specified tissues were trimmed according to standard operating procedures and the protocol. Trimmed tissues were processed into paraffin blocks, sectioned at 5-8 microns, mounted on glass microscope slides and stained with hematoxylin and eosin.

Microscopic examination was conducted on all tissues listed in Section IV.P.1. from all animals in the control and 1000 mg/kg/day groups at the primary necropsy. The liver, lungs, prostate glands and thyroid glands were examined from all animals in the 100 and 300 mg/kg/day groups euthanized at the primary necropsy, and all animals at the recovery necropsy. In addition, the livers from five animals/sex (randomly chosen) from the control and 1000 mg/kg/day groups were also examined microscopically for evidence of lipid accumulation and glycogen accumulation or depletion. Frozen sections of fixed tissue were prepared and stained with Oil Red O by Pathology Associates International (PAI), Fredericksburg, Maryland, and returned to WIL Research Laboratories, Inc. These sections were examined

by the study pathologist for evidence of lipid accumulation. The paraffin-embedded tissue was sectioned and stained with periodic acid Schiff's reagent (with and without diastase treatment) by WIL Research Laboratories, Inc. These sections were examined by the study pathologist for evidence of glycogen accumulation or depletion.

Microscopic examinations were conducted by Ann E. Radovsky, D.V.M., Ph.D., D.A.C.V.P., D.A.B.T., Staff Pathologist, WIL Research Laboratories, Inc.

Q. SPERMATOGENESIS EVALUATIONS (TOXICOLOGY GROUPS)

The following quantitative assessments of the process of spermatogenesis were performed on all males at the primary and recovery necropsies.

1. MOTILITY/VIABILITY ASSESSMENT

Immediately following euthanasia, the reproductive tract of each male was exposed via a ventral mid-line incision. The right epididymis was excised and weighed separately with the exception noted in Section X.5. An incision was made in the distal region of the cauda epididymis. The cauda was then placed in Dulbecco's phosphate-buffered saline (maintained at approximately 37°C) with 10 mg/ml Bovine Serum Albumin (BSA). A sample of the diluted sperm was then loaded into a 100 µl cannula for determination of motility. As sperm motility can be affected by temperature shock, all cannulas, diluents and slides were pre-warmed and maintained at 37°C. Motility determinations were performed under constant temperature (approximately 37°C) using the Hamilton-Thorne HTM-IVOS Version 10 computer-assisted sperm analysis (CASA) system. At least 200 (if possible) motile and nonmotile spermatozoa/animal were analyzed.

2. MORPHOLOGY ASSESSMENT

A sample of sperm for morphology assessment was obtained from the right cauda epididymis of each male. Sperm morphology was evaluated using a modification of the wet-mount technique described by Linder *et al.*[4] Abnormal forms of sperm (double heads, double tails, micro- or megacephalic, etc.) were recorded from a differential count of 200 spermatozoa/animal.

3. ENUMERATION OF EPIDIDYMAL AND TESTICULAR SPERM NUMBERS AND SPERM PRODUCTION RATE (SPR)

The left testis and epididymis from each male at the scheduled necropsies were weighed and frozen, then homogenized and evaluated for sperm numbers and sperm production rate using the method described by Blazak *et al.*[5] Analyses were performed using the Hamilton-Thorne CASA system.

R. DETERMINATION OF TEST ARTICLE FAT CONCENTRATION (SATELLITE GROUPS)

On study days 2, 6, 9, 13, 20, 27, 55, 89, 104 and 118, two animals/sex/group were euthanized by carbon dioxide asphyxiation. Immediately upon euthanasia, approximately two to three ml of blood were collected from the vena cava and placed in clot tubes for serum preparation. Serum samples were frozen at approximately -20°C for potential analysis of the test article or bromide concentration. After the blood samples were collected, one to two grams of fat (mesenteric and/or omental) was collected. Perirenal fat was collected if necessary to obtain a sample of sufficient size. Samples were frozen in liquid nitrogen and stored at approximately -70°C until overnight shipment on dry ice to Wildlife International, Easton, Maryland, for determination of test article concentration (Appendix J).

S. STATISTICAL METHODS

All statistical tests were performed using appropriate computing devices or programs. All analyses were two-tailed for significance levels of 5% and 1%. Each mean was presented with the standard deviation (S.D.) and the number of animals (N) used to calculate the mean. Statistical analyses were not performed if the number of animals was two or less. Body weights, body weight changes, food consumption, estrous cycle, clinical pathology data, organ weights epididymal and testicular sperm numbers and sperm production rates were subjected to a one-way analysis of variance (ANOVA).[6] If significant differences ($p<0.05$) were indicated by the ANOVA,[6] Dunnett's test[7] was used to compare the control and treated groups. Clinical laboratory values for leukocytes that occur at a low incidence (i.e., monocytes, eosinophils and basophils) were not subjected to statistical analysis.

The percentage of motile spermatozoa and the percentage of sperm with normal morphology were analyzed by the Kruskal-Wallis nonparametric ANOVA test[8] to determine intergroup differences, followed by the Mann-Whitney U-Test[8] comparing the control and test article-treated groups if the ANOVA revealed statistical significance ($p<0.05$).

T. DATA RETENTION

The sponsor will have title to all documentation records, raw data, specimens or other work product generated during the performance of the study. All work product including raw paper data and specimens will be retained in the Archives at WIL Research Laboratories, Inc., as per protocol.

Raw data, a retention sample of the test article and the original final report will be retained in the Archives at WIL Research Laboratories, Inc., in compliance with regulatory requirements.

V. RESULTS

A. CLINICAL OBSERVATIONS AND SURVIVAL (ALL GROUPS)

Summary Data: Tables 1, 2, 2A, 2B, 3, 4

Individual Data: Table 69 and Appendix K

There were no test article-related deaths. However, one male (no. 43359) in the 1000 mg/kg/day group was found dead on study day 11. There were no clinical observations 24 hours prior to death. Although the cause of death was undetermined, the lack of any other deaths in the 1000 mg/kg/day group indicate that this death was probably unrelated to administration of HBCD.

All other animals survived to the scheduled necropsies. No clinical signs which could be attributed to the test article were observed. Clinical signs in the test article-treated groups were observed similarly in the control group, were limited to a few animals in various groups and/or were findings commonly noted in laboratory rats of this strain.

B. BODY WEIGHTS (ALL GROUPS)

Summary Data: Tables 5, 6

Individual Data: Tables 70, 71

Mean body weights of the male and female treated groups were statistically comparable to the control means throughout the study ($p<0.05$). Occasional statistically significant decreases in body weight gains were detected in males, 1000 mg/kg/day group, but these were slight and did not follow any trends or patterns. Female body weight gains in the treated groups were comparable to the control mean at all time points.

C. FOOD CONSUMPTION (TOXICOLOGY GROUPS)

Summary Data: Table 7

Individual Data: Table 72

Food consumption was not affected by test article administration at any dose level. Scattered incidences of statistically significant differences were

occasionally noted, but these differences were considered incidental and not biologically or toxicologically significant.

D. FUNCTIONAL OBSERVATIONAL BATTERY (TOXICOLOGY GROUPS)

1. HOME CAGE OBSERVATIONS

Summary Data: Tables 8, 9, 10, 11, 12, 13

Individual Data: Tables 73, 74, 75

No remarkable differences were apparent between the control and treated groups at any evaluation.

2. HANDLING OBSERVATIONS

Summary Data: Tables 14, 15, 16, 17, 18, 19

Individual Data: Tables 76, 77, 78

No remarkable differences were apparent between the control and treated groups when the handling observations were evaluated during study week 12 and during the recovery evaluation.

3. OPEN FIELD OBSERVATIONS

Summary Data: Tables 20, 21, 22, 23, 24, 25

Individual Data: Tables 79, 80, 81

No remarkable differences were apparent between the control and treated groups when the open field observations were evaluated during study week 12 and during the recovery evaluation.

4. SENSORY OBSERVATIONS

Summary Data: Tables 26, 27, 28, 29, 30, 31

Individual Data: Tables 82, 83, 84

No remarkable differences were apparent between the control and treated groups when the sensorimotor observations were evaluated during study week 12 and during the recovery evaluation.

5. NEUROMUSCULAR OBSERVATIONS

Summary Data: Tables 32, 33, 34, 35, 36, 37

Individual Data: Tables 85, 86, 87

No remarkable differences were apparent between the control and treated groups when the neuromuscular responses were evaluated during study week 12 and during the recovery evaluation.

6. PHYSIOLOGICAL OBSERVATIONS

Summary Data: Tables 38, 39, 40

Individual Data: Tables 88, 89, 90

No remarkable differences were apparent between the control and treated groups when the physiological parameters were evaluated during study week 12 and during the recovery evaluation.

E. LOCOMOTOR ACTIVITY (TOXICOLOGY GROUPS)

Summary Data: Table 41

Individual Data: Tables 91, 92, 93

No remarkable differences were apparent between the control and treated groups when Locomotor Activity was evaluated during study week 12 and during the recovery evaluation.

F. CLINICAL PATHOLOGY(TOXICOLOGY GROUPS)

1. HEMATOLOGY

Summary Data: Tables 42, 43, 44

Individual Data: Tables 94, 95, 96, 97, 98, 99, 100, 101, 102

No test article-related significant changes in hematology parameters were detected at study weeks 3, 13 or 17. Occasional scattered statistically significant differences from the control group were noted in treated animals; however these were not considered biologically significant. These included at study week 3 increased mean hematocrit and hemoglobin content in the 300 mg/kg/day group males ($p<0.05$). Mean

prothrombin time was increased in the 100, 300 and 1000 mg/kg/day group males at study week 13 ($p<0.05$). The mean prothrombin time was decreased in the 100 and 300 mg/kg/day group females at study week 13 ($p<0.05$). None of these changes were of sufficient magnitude as to be toxicologically significant. No other remarkable differences from the control group were observed in hematology parameters.

2. SERUM CHEMISTRY

Summary Data: Table 45

Individual Data: Tables 103, 104, 105

Historical Control Data: Appendix G

Statistically significant ($p<0.05$ or $p<0.01$) differences from the control group were noted at study weeks 3, 13, and 17. These statistical differences (refer to Text Tables 1 and 2) were as follows. Mean total protein was increased in the 1000 mg/kg/day group males and 100, 300 and 1000 mg/kg/day group females. In the male treated groups, the increased total protein appeared primarily due to the increased albumin (100, 300 and 1000 mg/kg/day groups) while in the female treated groups the increases were due to increased globulin (300 and 1000 mg/kg/day groups). The slight nature of these changes, lack of associated pathology and the differences between genders indicate that these changes were not of toxicological significance. Dose-related increased serum chloride values were noted in the 100, 300 and 1000 mg/kg/day group males and females at study weeks 3 and 13; however these apparent increases may have been due to bromide ion contamination in the test article which in turn can artificially elevate chloride ions by interfering in the laboratory method as free chloride ions. In addition, there were no observations or histologic changes consistent with hyperchloremia. Higher serum gamma glutamyltransferase was noted in the 1000 mg/kg/day group males and

females at study weeks 3 and 13, when compared to the control group, but this change did not persist to the study week 17 recovery evaluation. A pattern of responses could suggest a relationship to treatment with the test article but an analysis indicates that these findings were not of toxicological consequence.

Text Table 1: Selected Serum Chemistry Results for Male Rats at Study Week 13

Parameter	HBCD Dose Levels (mg/kg/day)				Normal Range[a]
	0	100	300	1000	
Albumin	4.3	4.6*	4.7**	4.9**	4.4-4.7
Total Protein	7.0	7.2	7.2	7.6**	6.7-7.3
Globulin	2.6	2.6	2.5	2.7	2.2-2.8
Chloride	99	104**	107**	114**	99-103
GGT	0	0	0	1**	0.27±0.569

* = p<0.05 ** = p<0.01

[a] = WIL Research Laboratories, Inc., Historical Control data (average ± S.D.) presented in Appendix G.

Text Table 2: Selected Serum Chemistry Results for Female Rats at Study Week 13

Parameter	HBCD Dose Levels (mg/kg/day)				Normal Range[a]
	0	100	300	1000	
Albumin	5.2	5.6	5.6	5.7	4.7-5.6
Total Protein	7.3	7.9**	8.1**	8.3**	6.9-7.9
Globulin	2.1	2.3	2.4*	2.5**	2.0-2.5
Chloride	101	104**	105**	111**	99-104
GGT	0	0	0	2**	0.41±0.934

* = p<0.05 ** = p<0.01

[a] = WIL Research Laboratories, Inc., Historical Control data (average ± S.D.) presented in Appendix G.

No other test article-related effects were noted on serum chemistry parameters. However, several statistically significant (p<0.05 or p<0.01) differences were noted in the treated groups when compared to the control group. Mean calcium levels were increased in the 100, 300 and 1000 mg/kg/day group females at study weeks 3 and 13, when compared

to the control group. Decreased mean total bilirubin was noted in the 100, 300 and 1000 mg/kg/day group males at study week 3, when compared to the control group. Mean glucose was decreased in the 300 mg/kg/day group males and increased in the 100 mg/kg/day group females at study week 3, when compared to the control group. Mean urea nitrogen was decreased in the 1000 mg/kg/day group females and decreased aspartate aminotransferase was noted in the 100 and 1000 mg/kg/day group females at study week 3, when compared to the control group. Decreased alkaline phosphatase was noted in the 100, 300 and 1000 mg/kg/day group females at study week 13, when compared to the control group. None of these differences were attributed to treatment with test article due to the lack of a dose-related response, the lack of similar changes at other evaluations, or occurrence in a direction which is without physiologic significance (i.e. the decrease BUN and creatinine in 300 mg/kg/day group females and the decrease in serum alanine aminotransferase and aspartate aminotransferase in the 100, 300 and 1000 mg/kg/day group males and 300 and 1000 mg/kg/day group males, respectively). Additionally, the absolute changes in the measured parameters of the 100 and 300 mg/kg/day groups were small and within the range of historical control values for this species, strain, sex and laboratory (e.g. total plasma protein, serum calcium, serum GGT, serum albumin, serum globulin and serum chloride). At study week 17, increased mean albumin was noted in the 300 mg/kg/day group males, when compared to the control group. However, this increase was not attributed to treatment since a similar increased value was not observed in the 1000 mg/kg/day group males. No other remarkable differences were noted in serum chemistry parameters.

3. URINALYSIS

Summary Data: Table 46

Individual Data: Tables 106, 107, 108, 109, 110, 111

No test article-related effects were found on urinalysis. A statistically increased value in total volume in the 300 mg/kg/day dose males at study week 13 was detected compared to the control group ($p<0.05$), but was considered not related to treatment due to the lack of dose response and the absence of histologic changes indicative of renal disease.

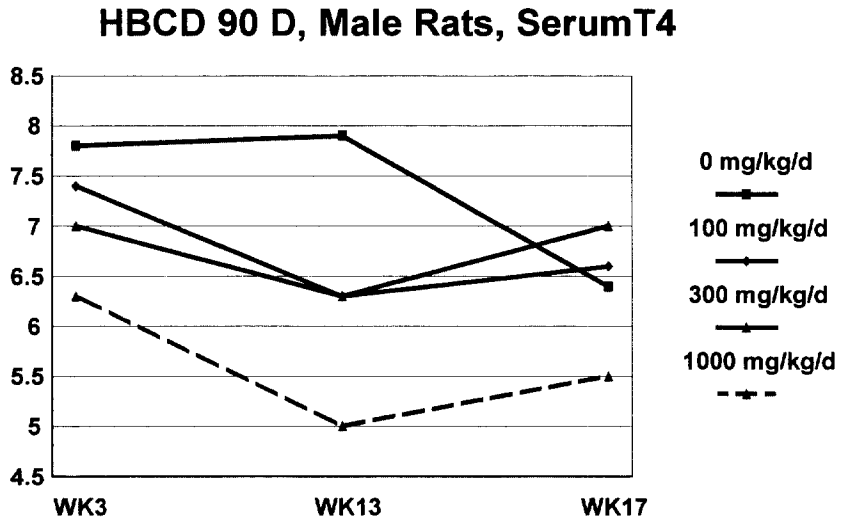
4. SERUM HORMONES

Summary Data: Table 47

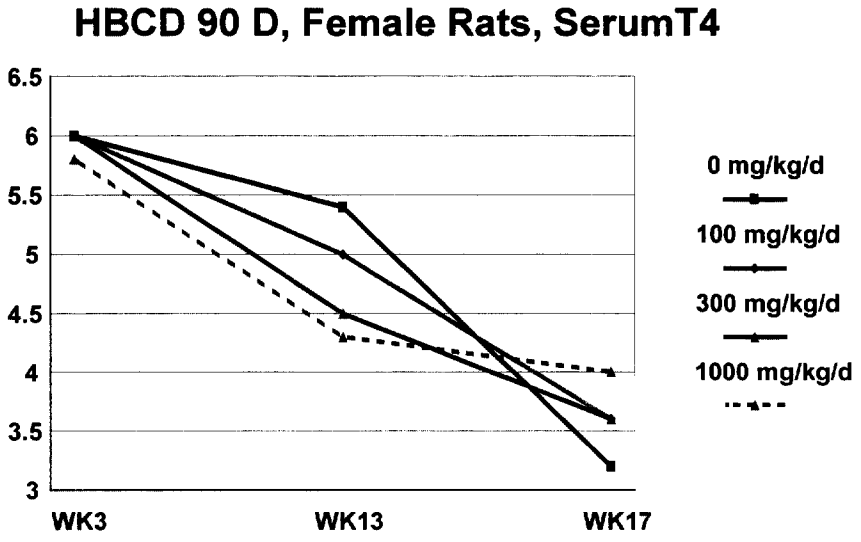
Individual Data: Tables 112,113, 114

Mean thyroxine (T_4) levels were decreased compared to the control means in the 100, 300 and 1000 mg/kg/day group males, and 300 and 1000 mg/kg/day group females at study week 13 (statistically significant at $p<0.05$ when compared to the control group). Mean T_4 levels were comparable to control means at study week 17. Serum TSH and T_3 levels in all dose groups were statistically comparable to the control means at study weeks 3, 13, or 17 (Text Figures 1, 2).

Text Figure 1. Mean serum T_4 levels in male rats at study weeks 3, 13, and 17. Means in treated animals were statistically different from the control mean at study week 13 only ($p<0.01$).



Text Figure 2. Mean serum T_4 levels in female rats at study weeks 3, 13, and 17. Means in the mid and high dose groups were statistically different from the control mean at study week 13 only ($p<0.05$).



G. OPHTHALMIC EXAMINATIONS (TOXICOLOGY GROUPS)

Summary Data: Tables 48, 49, 50

Individual Data: Tables 115, 116, 117

There were no test article-related oculopathic findings at any evaluation.

H. ESTROUS CYCLE DATA (TOXICOLOGY GROUPS)

Summary Data: Table 51

Individual Data: Table 118

The following table summarizes the relevant parameters used in the evaluation of the estrous cycle:

Text Table 3: Estrous Cycles

Dose Level (mg/kg/day)	Mean Estrus Cycle	One Occurrence or No Estrous Recorded	No. of Animals with Estrous Cycles of 6 Days or More	% Days in Diestrus
0	4.5	2	1	76.5
100	4.7	2	2	74.3
300	5.3	2	2	71.3
1000	5.2	4	2	75.9

None of these parameters were significantly affected by the test article. Thus, the test article had no adverse effect on the estrous cycles of females that received doses as high as 1000 mg/kg/day for 90 consecutive days.

I. ANATOMIC PATHOLOGY (TOXICOLOGY GROUPS)

1. MACROSCOPIC EXAMINATION

Summary Data: Tables 52, 53, 54

Individual Data: Tables 119,120, 121

No test article-related macroscopic effects were detected during gross necropsy at study weeks 13 or 17. Spontaneous lesions and incidental findings occurred in both the control and treated groups and were of the usual number, type and frequency observed for this strain.

2. ORGAN WEIGHTS

Summary Data: Tables 55, 56, 57, 58, 59, 60

Individual Data: Tables 122, 123, 124, 125, 126, 127

Test article-related increased mean liver weight (absolute, relative to final body weight and relative to brain weight) was noted in the 100, 300 and 1000 mg/kg/day group males and females at the primary necropsy (statistically significant at p<0.05 or p<0.01). This effect was consistent with the histopathological findings in the liver. Increased mean prostate weight (absolute, relative to final body weight and relative to brain weight; p<0.05) in the 1000 mg/kg/day group males was also attributed to test article administration. No other remarkable differences were noted at the primary necropsy.

Text Table 4. Mean Liver, Prostate and Thyroid/Parathyroid Weights at Study Weeks 13 and 17.

Dose (mg/kg/day)	0		100		300		1000	
Sex	M	F	M	F	M	F	M	F
Week 13, Mean Liver Weight								
Absolute (g)	14.3	8.1	17.0*	9.9*	17.2*	10.6**	19.0**	12.4**
Relative to Body Wt	2.7	2.9	3.2**	3.6**	3.2**	3.6**	3.9**	4.3**
Relative to Brain Wt	702	437	821*	540**	846*	569**	953**	679**
Week 13, Mean Prostate Weight								
Absolute (g)	0.95	---	0.99	---	1.12	---	1.25*	---
Relative to Body Wt	0.180	---	0.185	---	0.210	---	0.255**	---
Relative to Brain Wt	46.4	---	47.8	---	55.5	---	62.7**	---
Week 17, Mean Thyroid/Parathyroid Weight								
Absolute (g)	0.029	0.016	0.031	0.020	0.028	0.022*	0.028	0.022*
Relative to Body Wt	0.005	0.006	0.006	0.007	0.005	0.008*	0.006	0.008*
Relative to Brain Wt	1.47	0.87	1.48	1.07	1.37	1.18*	1.42	1.19*

* Statistically different from control mean (p<0.05).
** Statistically different from control mean (p<0.01).

Increased mean liver weights completely, or nearly completely, resolved in all groups by the week 17 recovery necropsy. Prostate weights were similar to the control group at the recovery necropsy.

No other test article-related effects were noted on organ weights. Several statistically significant ($p<0.05$ or $p<0.01$) differences were noted at the recovery necropsy. Increased mean spleen weight was noted in the 300 mg/kg/day group males (absolute) and 100 and 300 mg/kg/day group females (relative to final body weight), when compared to the control group. Increased mean kidney weight (relative to final body weight) was noted in the 100, 300 and 1000 mg/kg/day group males, when compared to the control group. Also at study week 17, mean thyroid/parathyroid weights (absolute, relative to body weight, and relative to brain weight) were increased in females of the 300 and 1000 mg/kg/day doses compared to the control means ($p<0.05$). These differences were probably not related to the test article since they occurred during the nondosing recovery period. No other remarkable differences were noted on organ weights.

3. MICROSCOPIC EXAMINATION

Summary Data: Tables 61, 62, 63

Individual Data: Tables 119, 120, 121

Histologic changes were graded as to incidence (number of animals affected) and severity (minimal, mild, moderate, severe or present). Liver and thyroid changes not indicative of frank toxicity were found in some treated animals (Text Table 5).

Text Table 5. Histopathology results of the liver and thyroid (study week 13).

Dose (mg/kg/day)	0		100		300		1000	
Sex	M	F	M	F	M	F	M	F
LIVER								
No. examined	10	10	10	10	10	10	9	10
Vacuolation, Hepatocellular	2/10	3/10	6/10	6/10	5/10	5/10	6/9	9/10
Minimal	1	3	5	6	4	3	5	5
Mild	1	--	1	--	1	1	1	2
Moderate	--	--	--	--	--	1	--	2
Necrosis	0/10	0/10	0/10	0/10	1/10	0/10	1/10	0/10
Minimal	--	--	--	--	1	--	1	--
Hypertrophy, Hepatocellular, Centrilobular	0/10	0/10	0/10	0/10	0/10	0/10	0/10	5/10
Minimal	--	--	--	--	--	--	--	2
Mild	--	--	--	--	--	--	--	3
THYROID								
No. examined	10	10	10	10	10	10	9	10
Hypertrophy, Follicular Cell	1/10	0/10	1/10	0/10	5/10	4/9	8/9	7/10
Minimal	1	--	1	--	5	4	7	3
Mild	--	--	--	--	--	--	1	4

At the 90-day sacrifice, the liver changes in male rats were characterized as minimal hepatocellular vacuolation. The vacuolation was characterized by clear variously sized cytoplasmic vacuoles located in the periportal to mid-zonal regions. Minimal hepatocellular vacuolation occurred in 10% of control males and ~50% of the males at 100, 300 and 1000 mg/kg/day. Minimal hepatocellular vacuolation was detected in the control and treated females (3/10; 6/10; 3/10; 5/10). A slight increase in the severity of this change was detected in 300 and 1000 mg/kg/day group females, but not in males, at low incidence. Mild and moderate hepatocellular vacuolation, respectively, was detected in 1/10 and 2/10 females in each of the 300 and 1000 mg/kg/day dose groups. In addition, an indication of centrilobular hepatocellular hypertrophy was detected in the 1000 mg/kg/day group females. Minimal and mild centrilobular hepatocellular hypertrophy was

detected in 20 and 30%, respectively, of the 1000 mg/kg/day group females.

Results of the Oil Red O (lipid) and PAS (glycogen) stains were as follows: minimal to moderate Oil Red O staining was noted in the periportal to midzonal areas in the control and treated animals. Little PAS staining was detected in any animal and, where detected, was primarily located in the centrilobular region. The PAS staining was abolished by pretreatment of the specimens with diastase. These findings suggest that the material contained in the vacuoles was lipid, and that further, the lipid was not present in unusually high amounts.

At the 90-day sacrifice, minimal thyroid follicular cell hypertrophy was detected in 1/10, 1/10, 5/10 and 7/9 male rats in the control, 100, 300 and 1000 mg/kg/day dose groups, respectively. Minimal thyroid follicular hypertrophy was detected in 4/10 and 3/10 females in the 300 and 1000 mg/kg/day dose groups, respectively. Mild thyroid follicular hypertrophy was detected in 1/10 males and 4/10 females in the 1000 mg/kg/day dose group.

At the recovery necropsy, the liver changes had resolved in all treated animals without any delayed or long-term toxic effects. The thyroid changes had also resolved in all males and in the 300 mg/kg/day dose group females, and had nearly completely resolved in the 1000 mg/kg/day dose group females.

Despite the increase in prostate weight (see Section V.I.2.) there were no definitive test article-related prostate findings noted histopathologically.

Granulomatous inflammation was detected in lungs of individual treated animals and was likely associated with the method of

administration of the test article, e.g. gavage, which allowed for aspiration of the test article.

There were no other histomorphologic changes present in any of the tissues evaluated that were related to oral administration of the test article.

J. SPERM MOTILITY/VIABILITY, MORPHOLOGY, AND NUMBER (TOXICOLOGY GROUPS)

Summary Data: Tables 64, 65, 66, 67, 68

Individual Data: Tables 128, 129, 130, 131, 132, 133, 134, 135, 136, 137

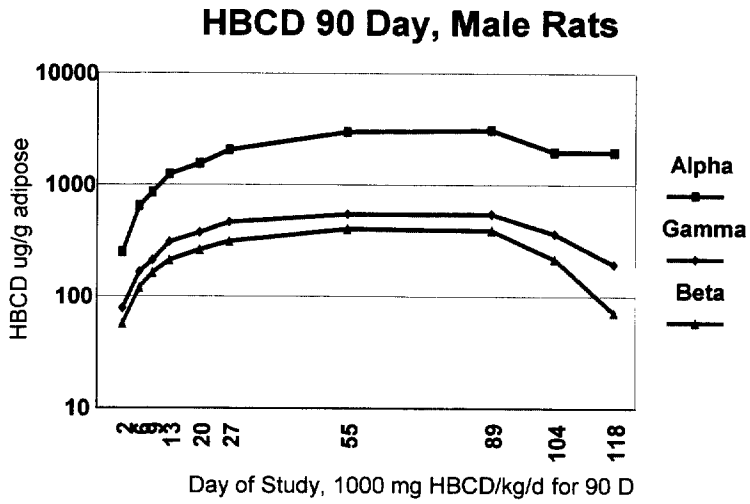
No test article-related effects on spermatogenic endpoints were detected. Sperm motility, morphology and number were similar between the control and treated groups ($p<0.05$).

K. DETERMINATION OF TEST ARTICLE FAT CONCENTRATION (SATELLITE GROUPS)

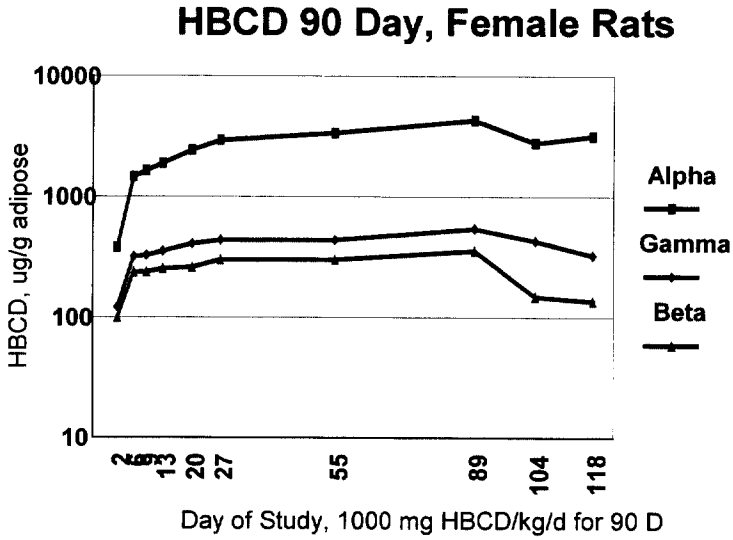
Data: Appendix J

HBCD was detected in the adipose tissue of male and female rats treated with 1000 mg/kg/day for up to 90 days (Text Figures 3 and 4). Isomer-specific analysis showed that the relative isomer concentrations in adipose tissue at all time points were alpha>>gamma>beta in contrast to the test article composition of gamma>>alpha>beta. The alpha isomer, present at ~6% of the test article, accounted for 65-70% of the total HBCD content in adipose at all time points. The gamma isomer, ~85% of the test article, accounted for 14-20% of the total HBCD content in adipose at all time points. The beta isomer, ~5% of the test article, accounted for 9-15% of the total HBCD content in adipose at all time points. Levels detected in male and female rats were similar at all time points and declined during the recovery period. Steady state levels were achieved by study day 27.

Text Figure 3. Mean HBCD levels (2 rats/time point) in omental fat of male rats administered 1000 mg/kg/day.



Text Figure 4. Mean HBCD levels (2/day) in omental fat of female rats administered 1000 mg/kg/day.



VI. DISCUSSION AND CONCLUSIONS

HBCD, administered via gavage at doses up to 1000 mg/kg/day for 90 days, produced no adverse effects on mortality, clinical signs, body weight, food consumption, or on the results of the gross necropsy, functional observational battery, locomotor activity, urinalysis, hematology or serum chemistry evaluations. No adverse effects of treatment were detected on the results of vaginal cytology or on sperm motility/viability, morphology, and number.

Treatment with HBCD resulted in increased mean liver weights in all doses of both sexes at study week 13. This weight change completely, or nearly completely, resolved in all groups by the week 17 recovery necropsy. The increase in liver weight was not accompanied by serious morphologic or functional changes. Microscopic changes in the liver were not indicative of serious liver pathology. In addition, serum levels of enzymes indicative of liver pathology were not elevated and serum levels of components produced by the liver were not decreased.

In the absence of test article-related histopathologic and serum chemistry changes, increases in liver weight are considered an adaptive, rather than a toxic response, are not uncommon in the rat, and are most likely the result of microsomal induction[1]. Hepatic enzyme induction in the rat is known to produce an increase in liver weight and may occur without accompanying histologic changes. Some evidence of hepatic enzyme induction was detected microscopically and possibly enzymatically: minimal to mild hepatocellular centrilobular hypertrophy was detected in a few females in the 1000 mg/kg/day dose group and the mean serum GGT level in the 1000 mg/kg/day group males and females was statistically increased compared to the control mean. The magnitude of the protein changes was too slight to be of toxicological significance. The changes in GGT were not accompanied by histologic changes in the expected target organs (periportal liver and kidney) and were reversible. The

hepatic GGT content may be increased by enzyme-inducing xenobiotics, and this increase may be reflected in elevated activity of the enzyme in blood serum[9,10].

Minimal thyroid follicular cell hypertrophy was detected at a higher incidence than in the control animals in the 300 and 1000 mg/kg/day group male and female rats at study week 13, and mild thyroid follicular cell hypertrophy was detected in some 1000 mg/kg/day group females and one 1000 mg/kg/day group male. In addition, serum T4 levels were depressed compared to the control mean at study week 13 in all dose groups except the 100 mg/kg/day group females. The reduction in serum T4 levels at study week 13 was not accompanied by evidence of toxicity or adverse effects, and the animals were clinically normal. T4 levels in treated animals were comparable to the control mean at study weeks 3 and 17, and T3 and TSH levels were unaffected by treatment at any time point.

Serum T4 levels in the rat are known to be sensitive to the effects of induction of hepatic UDP-glucuronyl transferase. The increased liver weights, histologic evidence of hepatic induction, and possible serologic evidence of hepatic enzyme induction (increased GGT blood levels) suggest that the reduction in T4 levels found in this study was related to an enhanced elimination of T4 due to induction of hepatic drug metabolizing enzymes. The minimal to mild thyroid follicular cell hypertrophy and increase in thyroid weight detected in some animals is the normal physiological response to depressed serum T4 levels.

Although mean prostate weight was increased in the 1000 mg/kg/day group males at study week 13, this increase was not accompanied by evidence of pathology on histologic exam. Further, the other components of the male reproduction system examined in this study (gross appearance, weight, histopathology, and sperm motility, morphology and number) were not affected by treatment.

HBCD was detected in the adipose tissue of male and female rats treated with 1000 mg/kg/day for up to 90 days. The majority of the HBCD content in adipose

tissue was composed of the alpha isomer. Isomer specific analysis showed that the relative isomer concentrations in adipose tissue at all time points were alpha>>gamma>beta and is in contrast to the test article composition (gamma>>alpha>beta). The alpha isomer, present as ~6% of the test article, accounted for 65-70% of the total HBCD content in adipose at all time points. The gamma isomer, ~85% of the test article, accounted for 14-20% of the total HBCD content in adipose at all time points. The beta isomer, ~5% of the test article, accounted for 9-15% of the total HBCD content in adipose at all time points. Levels in male and female rats were similar at all time points and declined during the recovery period. Steady state levels appeared to have been reached by day 27.

In conclusion, the potential test article-related changes were mild, reversible, secondary to hepatic induction, and there was no effect on the clinical condition of the animals. Based on the absence of toxicity observed in this study, the no-adverse-effect-level of HBCD administered to Crl:CD(SD)IGS BR rats by gavage in corn oil for 90 days was 1000 mg/kg/day, the highest dose tested.

VII. KEY STUDY PERSONNEL AND REPORT SUBMISSION

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for GJS — 14 Dec 01
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VII. KEY STUDY PERSONNEL AND REPORT SUBMISSION (continued)

Robert A. Wally, B.S.
Group Supervisor, Study Analysis and Reports

14 December 2001
Date

Approved and Submitted By:

Christopher P. Chengelis, Ph.D., D.A.B.T.
Study Director

14 Dec 01
Date

VIII. QUALITY ASSURANCE UNIT STATEMENT

Date(s) of Inspection(s)	Phase Inspected	Date(s) Findings Reported to Study Director	Date(s) Findings Reported to Management
4/25/00	Test Material Preparation/ Analysis	4/26/00	5/26/00
5/17/00	Blood Collection/Analysis	5/17/00	6/29/00
6/5/00	Animal Care/Equipment	6/6/00	7/31/00
7/24/00	Functional Observational Battery	7/24/00	8/31/00
7/26/00	Necropsy	7/26/00	8/31/00
8/14/00	Animal Care/Equipment	8/14/00	9/27/00
8/15/00	Detailed Physicals/Body Weights/Food Weights	8/15/00	9/27/00
8/16/00	Trimming of Tissues	8/16/00	9/27/00
8/23/00	Urine Collection/Analysis	8/23/00	9/27/00
8/23/00	Necropsy	8/24/00	9/27/00
12/8/00	Study Records (Rx-1)	12/8/00	1/31/01
12/5-6, 11/00	Study Records (I-1)	12/11/00	1/31/01
12/7, 15/00	Study Records (I-3)	12/15/00	1/31/01
12/6-7, 15/00	Study Records (I-2)	12/15/00	1/31/01
12/7, 15/00	Study Records (I-4)	12/15/00	1/31/01
12/8, 15, 19/00	Study Records (N-1)	12/19/00	1/31/01
12/11, 19/00	Study Records (N-2)	12/19/00	1/31/01
12/11-12, 19/00	Study Records (C-1 through C-4)	12/20/00	1/31/01
12/13, 15, 18-19, 21/00	Study Records (A-1 through A-8)	12/21/00	1/31/01
12/16, 18, 21/00	Draft Report (Analytical Chemistry)	12/21/00	1/31/01
1/4-5, 11/01	Study Records (H-1)	1/11/01	2/28/01
1/5, 11/01	Study Records (H-2)	1/11/01	2/28/01
1/5, 11/01	Study Records (P-1)	1/11/01	2/28/01
1/3-9, 13, 16-17/01	Draft Report (without Analytical Chemistry Appendix)	1/18/01	2/28/01
1/18/01	Microtoming of Tissues	1/18/01	2/28/01
3/14-15/01	Study Records (P-2 Additional Pathology Data)	3/15/01	4/30/01
12/9-10/01	Revised Draft Report	12/10/01	12/14/01

The study was inspected in accordance with the United States EPA Good Laboratory Practice Regulations, the OECD Principles of Good Laboratory Practice, the standard operating procedures of WIL Research Laboratories, Inc., and the protocol with the following exceptions. Data presented in Appendix A was the responsibility of Albemarle Corporation. Data presented in Appendix J was the responsibility of

Wildlife International. Quality Assurance findings, derived from the inspections during the conduct of the study and from the inspections of the raw data and the draft report, are documented and have been reported to the study director. A status report is submitted to management monthly.

This report accurately reflects the data generated during the study. The methods and procedures used in the study were those specified in the protocol, its amendments and the standard operating procedures of WIL Research Laboratories, Inc.

The raw data, retention sample(s), if applicable, and the final report will be stored in the Archives at WIL Research Laboratories, Inc., or another location specified by the sponsor.

Report Audited By:

Deborah L Little
for: Lori J. Goodrich
Auditor II, Quality Assurance

12/14/2001
Date

Report Reviewed by:

Deborah L Little
for: Lori A. Rush, B.S.
Validation Specialist, Quality Assurance

12/14/2001
Date

Deborah L Little
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Date

IX. REFERENCES

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X. DEVIATIONS FROM THE PROTOCOL

This study was conducted in accordance with the protocol and protocol amendments except for the following.

1. Section IV.B.4. Group 2 (100 mg/kg/day) female nos. 43419 and 43468, were found to be in the wrong cages on May 16, 2000. Female no. 43419 was overdosed by 17-20% and female no. 43468 was underdosed by 17-20% of their targeted doses from May 9, 2000 to May 16, 2000.

2. Section IV.B.5. Although not required by protocol, additional samples were collected after one and five days of storage and resuspended for homogeneity confirmation.

3. Section IV.O. The estrus stage for female no. 43478 (300 mg/kg/day) was not entered on July 27, 2000 (determination day 24) due to the inability to locate the slide.

4. Section IV.P.1. On August 23, 2000 (recovery necropsy), the following animals were euthanized with isoflurane instead of carbon dioxide: nos. 43295 and 43326 (Group 1 males); 43409 and 43423 (Group 1 females); 43400, 43413 and 43416 (Group 2 females); 43426 and 43461 (Group 3 females) and 43410 and 43421 (Group 4 females).

5. Section IV.Q.1. On August 23, 2000 (recovery necropsy) the right epididymis could not be positively identified for animal no. 43340 (Group 2). The left epididymis was excised, weighed and used for motility assessment.

6. Section IV.R. Weights were not collected for the omental/mesenteric fat samples collected on April 28, 2000.

These deviations did not negatively impact the quality or integrity of the data nor the outcome of the study.

WIL-186012
CMA-BFRIP

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

Tables 1-137

TABLE 1
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF SURVIVAL AND DISPOSITION

MALES

GROUP :	1				2				3				4			
WEEK	LIVE	FD	EE	SE	LIVE	FD	EE	SE	LIVE	FD	EE	SE	LIVE	FD	EE	SE
0	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
1	15	0	0	0	15	0	0	0	15	0	0	0	14	1	0	0
2	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
3	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
4	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
5	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
6	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
7	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
8	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
9	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
10	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
11	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
12	15	0	0	0	15	0	0	0	15	0	0	0	14	0	0	0
13	5	0	0	10	5	0	0	10	5	0	0	10	5	0	0	9
14	5	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0
15	5	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0
16	5	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0
17	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0	5

WEEK = WEEK OF STUDY FD = FOUND DEAD EE = EUTHANIZED IN EXTREMIS SE = SCHEDULED EUTHANASIA

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 1
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF SURVIVAL AND DISPOSITION

FEMALES

GROUP :	1				2				3				4			
WEEK	LIVE	FD	EE	SE	LIVE	FD	EE	SE	LIVE	FD	EE	SE	LIVE	FD	EE	SE
0	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
1	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
2	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
3	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
4	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
5	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
6	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
7	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
8	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
9	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
10	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
11	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
12	15	0	0	0	15	0	0	0	15	0	0	0	15	0	0	0
13	5	0	0	10	5	0	0	10	5	0	0	10	5	0	0	10
14	5	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0
15	5	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0
16	5	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0
17	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0	5

WEEK = WEEK OF STUDY FD = FOUND DEAD EE = EUTHANIZED IN EXTREMIS SE = SCHEDULED EUTHANASIA

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PSURVv4.01
10/26/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	04-26-00 TO 08-23-00			
GROUP:	1	2	3	4
NORMAL				
-NO SIGNIFICANT CLINICAL OBSERVATIONS	200/15	211/15	212/15	187/15
DISPOSITION				
-FOUND DEAD	0/ 0	0/ 0	0/ 0	1/ 1
-PRIMARY NECROPSY (INTERVAL 13)	10/10	10/10	10/10	9/ 9
-RECOVERY NECROPSY (INTERVAL 17)	5/ 5	5/ 5	5/ 5	5/ 5
BEHAVIOR/CNS				
-UNKEMPT APPEARANCE	0/ 0	0/ 0	0/ 0	1/ 1
BODY/INTEGUMENT				
-HAIR LOSS FORELIMB(S)	22/ 4	0/ 0	0/ 0	14/ 1
CARDIO-PULMONARY				
-RALES	0/ 0	0/ 0	0/ 0	2/ 1
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND RIGHT EYE	0/ 0	1/ 1	5/ 3	0/ 0
-DRIED RED MATERIAL AROUND LEFT EYE	1/ 1	3/ 1	0/ 0	0/ 0
-CLEAR DISCHARGE LEFT EYE	0/ 0	1/ 1	0/ 0	0/ 0
-RED DISCHARGE LEFT EYE	0/ 0	1/ 1	0/ 0	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	04-26-00 TO 08-23-00			
GROUP:	1	2	3	4
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND NOSE	2/ 2	0/ 0	1/ 1	1/ 1
-OPACITY LEFT EYE	1/ 1	0/ 0	0/ 0	0/ 0
EXCRETA				
-WET YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	1/ 1
-SOFT FECES	1/ 1	1/ 1	0/ 0	2/ 2
-RED PENILE DISCHARGE	0/ 0	0/ 0	0/ 0	1/ 1
BODY/INTEG II				
-SCABBING VENTRAL NECK AREA	0/ 0	0/ 0	1/ 1	0/ 0
-SCABBING END OF TAIL	0/ 0	1/ 1	0/ 0	0/ 0
-SCABBING UROGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
ORAL/DENTAL				
-WET CLEAR MATERIAL VENTRAL NECK	0/ 0	0/ 0	1/ 1	2/ 2
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	1/ 1	0/ 0	3/ 3
-UPPER INCISOR(S) MALALIGNED	1/ 1	0/ 0	9/ 1	0/ 0
-LOWER INCISOR(S) LONG, TRIMMED	0/ 0	2/ 2	7/ 1	0/ 0
-UPPER INCISOR(S) MISSING	0/ 0	0/ 0	1/ 1	0/ 0
-UPPER INCISOR(S) BROKEN	0/ 0	1/ 1	3/ 1	0/ 0
SPECIAL				
-PROLAPSED PENIS	0/ 0	0/ 0	0/ 0	2/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	04-26-00 TO 08-23-00			
GROUP:	1	2	3	4
BODY/INTEG III				
-WET CLEAR MATERIAL FORELIMB(S)	0/ 0	0/ 0	1/ 1	1/ 1
-DRIED BROWN MATERIAL ANOGENITAL AREA	2/ 2	0/ 0	0/ 0	1/ 1
-WET BROWN MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	2/ 2
-WET YELLOW MATERIAL ANOGENITAL AREA	1/ 1	0/ 0	0/ 0	0/ 0
-WET YELLOW MATERIAL VENTRAL TRUNK	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED BROWN MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	0/ 0
SPECIAL II				
-TAIL BROKEN	3/ 1	0/ 0	0/ 0	0/ 0
-END OF TAIL MISSING	0/ 0	4/ 1	0/ 0	0/ 0
-6MM X 6MM X 4MM FIRM IMMOVEABLE MASS LEFT SIDE OF MOUTH	0/ 0	4/ 1	0/ 0	0/ 0
-3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	0/ 0	4/ 2
-5MM X 5MM X 5MM FIRM MOVABLE MASS UROGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	04-26-00 TO 08-23-00			
GROUP:	1	2	3	4
NORMAL				
-NO SIGNIFICANT CLINICAL OBSERVATIONS	194/15	195/15	218/15	218/15
DISPOSITION				
-PRIMARY NECROPSY (INTERVAL 13)	10/10	10/10	10/10	10/10
-RECOVERY NECROPSY (INTERVAL 17)	5/ 5	5/ 5	5/ 5	5/ 5
BODY/INTEGUMENT				
-HAIR LOSS FORELIMB(S)	24/ 3	26/ 2	4/ 1	2/ 1
-HAIR LOSS HINDLIMB(S)	0/ 0	5/ 2	0/ 0	0/ 0
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND RIGHT EYE	0/ 0	2/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND LEFT EYE	0/ 0	5/ 1	0/ 0	0/ 0
-RED DISCHARGE RIGHT EYE	0/ 0	1/ 1	0/ 0	0/ 0
-RED DISCHARGE LEFT EYE	0/ 0	3/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND NOSE	0/ 0	1/ 1	2/ 2	0/ 0
-DRIED RED MATERIAL FACIAL AREA	0/ 0	1/ 1	0/ 0	0/ 0
EXCRETA				
-WET YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	0/ 0	2/ 2
BODY/INTEG II				
-SCABBING FORELIMB(S)	1/ 1	1/ 1	1/ 1	6/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	04-26-00 TO 08-23-00			
GROUP:	1	2	3	4
BODY/INTEG II				
-SCABBING END OF TAIL	2/ 1	0/ 0	1/ 1	0/ 0
ORAL/DENTAL				
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	0/ 0	1/ 1
-UPPER INCISOR(S) MALALIGNED	0/ 0	3/ 1	0/ 0	1/ 1
-LOWER INCISOR(S) LONG, TRIMMED	0/ 0	3/ 1	0/ 0	0/ 0
SPECIAL				
-SWOLLEN RIGHT EAR	0/ 0	0/ 0	2/ 1	0/ 0
-REDDENED RIGHT EAR	0/ 0	0/ 0	2/ 1	0/ 0
BODY/INTEG III				
-WET BROWN MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	1/ 1	1/ 1	0/ 0
-WET YELLOW MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-WET RED MATERIAL FORELIMB(S)	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED RED MATERIAL FORELIMB(S)	0/ 0	1/ 1	0/ 0	0/ 0
SPECIAL II				
-TAIL BROKEN	10/ 1	0/ 0	0/ 0	0/ 0
-15MM X 10MM X 5 MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	4/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	04-26-00 TO 08-23-00			
GROUP:	1	2	3	4
SPECIAL II				
-END OF TAIL MISSING	0/ 0	0/ 0	1/ 1	0/ 0
-5MM X 5MM X 5MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	4/ 1
-5MM X 5MM X 3MM FIRM, MOVABLE, SCABBING MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-7MM X 7MM X 5MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-10MM X 10MM X 10MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	4/ 1
-5MM X 5MM X 3MM FIRM, MOVABLE, SCABBING MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-7MM X 7MM X 3MM FIRM, MOVABLE, RUPTURED, PURULENT DISCHARGE, MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-3MM X 3MM X 3MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	2/ 1
-3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	1/ 1	0/ 0
-2MM X 2MM X 1MM FIRM REDDENED IMMOVEABLE MASS ON RIGHT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	3/ 1	0/ 0
-2MM X 2MM X 1MM FIRM REDDENED IMMOVEABLE MASS LEFT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	1/ 1	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	04-26-00 TO 08-23-00			
GROUP:	1	2	3	4
SPECIAL II				
-30MM X 20MM X 10MM FIRM, IMMOVEABLE, RUPTURED, RED DISCHARGE, SCABBING MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-ESTROUS SMEAR DETERMINED TO BE ESTROUS PRIOR TO NECROPSY	2/ 2	2/ 2	1/ 1	1/ 1
-ESTROUS SMEAR DETERMINED TO METESTROUS PRIOR TO NECROPSY	0/ 0	1/ 1	2/ 2	1/ 1
-ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY	8/ 8	7/ 7	6/ 6	8/ 8
-SLIDE UNAVAILABLE; UNABLE TO DETERMINE ESTROUS STAGE	0/ 0	0/ 0	1/ 1	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA

TABLE 2A (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - DOSING PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	04-26-00 TO 07-28-00			
GROUP:	1	2	3	4
NORMAL				
-NO SIGNIFICANT CLINICAL OBSERVATIONS	183/15	188/15	191/15	169/15
DISPOSITION				
-FOUND DEAD	0/ 0	0/ 0	0/ 0	1/ 1
-PRIMARY NECROPSY (INTERVAL 13)	10/10	10/10	10/10	9/ 9
BEHAVIOR/CNS				
-UNKEMPT APPEARANCE	0/ 0	0/ 0	0/ 0	1/ 1
BODY/INTEGUMENT				
-HAIR LOSS FORELIMB(S)	18/ 4	0/ 0	0/ 0	10/ 1
CARDIO-PULMONARY				
-RALES	0/ 0	0/ 0	0/ 0	1/ 1
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND RIGHT EYE	0/ 0	1/ 1	5/ 3	0/ 0
-DRIED RED MATERIAL AROUND LEFT EYE	1/ 1	2/ 1	0/ 0	0/ 0
-CLEAR DISCHARGE LEFT EYE	0/ 0	1/ 1	0/ 0	0/ 0
-RED DISCHARGE LEFT EYE	0/ 0	1/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND NOSE	2/ 2	0/ 0	1/ 1	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2A (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - DOSING PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	04-26-00 TO 07-28-00			
GROUP:	1	2	3	4
EXCRETA				
-WET YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	1/ 1
-SOFT FECES	1/ 1	0/ 0	0/ 0	2/ 2
BODY/INTEG II				
-SCABBING VENTRAL NECK AREA	0/ 0	0/ 0	1/ 1	0/ 0
-SCABBING END OF TAIL	0/ 0	1/ 1	0/ 0	0/ 0
-SCABBING UROGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
ORAL/DENTAL				
-WET CLEAR MATERIAL VENTRAL NECK	0/ 0	0/ 0	1/ 1	2/ 2
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	1/ 1	0/ 0	3/ 3
-UPPER INCISOR(S) MALALIGNED	1/ 1	0/ 0	6/ 1	0/ 0
-LOWER INCISOR(S) LONG, TRIMMED	0/ 0	2/ 2	4/ 1	0/ 0
-UPPER INCISOR(S) BROKEN	0/ 0	1/ 1	1/ 1	0/ 0
SPECIAL				
-PROLAPSED PENIS	0/ 0	0/ 0	0/ 0	2/ 1
BODY/INTEG III				
-WET CLEAR MATERIAL FORELIMB(S)	0/ 0	0/ 0	1/ 1	1/ 1
-DRIED BROWN MATERIAL ANOGENITAL AREA	2/ 2	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2A (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - DOSING PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE: 04-26-00 TO 07-28-00

GROUP:	1	2	3	4
BODY/INTEG III				
-WET BROWN MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	2/ 2
-WET YELLOW MATERIAL ANOGENITAL AREA	1/ 1	0/ 0	0/ 0	0/ 0
-WET YELLOW MATERIAL VENTRAL TRUNK	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED BROWN MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	0/ 0
SPECIAL II				
-END OF TAIL MISSING	0/ 0	4/ 1	0/ 0	0/ 0
-6MM X 6MM X 4MM FIRM IMMOVEABLE MASS LEFT SIDE OF MOUTH	0/ 0	4/ 1	0/ 0	0/ 0
-3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	0/ 0	3/ 1
-5MM X 5MM X 5MM FIRM MOVABLE MASS UROGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2A (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - DOSING PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	04-26-00 TO 07-28-00			
GROUP:	1	2	3	4
NORMAL				
-NO SIGNIFICANT CLINICAL OBSERVATIONS	172/15	177/15	195/15	193/15
DISPOSITION				
-PRIMARY NECROPSY (INTERVAL 13)	10/10	10/10	10/10	10/10
BODY/INTEGUMENT				
-HAIR LOSS FORELIMB(S)	21/ 3	26/ 2	4/ 1	2/ 1
-HAIR LOSS HINDLIMB(S)	0/ 0	3/ 2	0/ 0	0/ 0
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND NOSE	0/ 0	0/ 0	2/ 2	0/ 0
EXCRETA				
-WET YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	0/ 0	2/ 2
BODY/INTEG II				
-SCABBING FORELIMB(S)	1/ 1	1/ 1	0/ 0	6/ 1
-SCABBING END OF TAIL	2/ 1	0/ 0	1/ 1	0/ 0
ORAL/DENTAL				
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2A (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - DOSING PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	04-26-00 TO 07-28-00			
GROUP:	1	2	3	4
ORAL/DENTAL				
-UPPER INCISOR(S) MALALIGNED	0/ 0	0/ 0	0/ 0	1/ 1
SPECIAL				
-SWOLLEN RIGHT EAR	0/ 0	0/ 0	2/ 1	0/ 0
-REDDENED RIGHT EAR	0/ 0	0/ 0	2/ 1	0/ 0
BODY/INTEG III				
-WET BROWN MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	0/ 0
-WET YELLOW MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-WET RED MATERIAL FORELIMB(S)	0/ 0	0/ 0	0/ 0	1/ 1
SPECIAL II				
-TAIL BROKEN	10/ 1	0/ 0	0/ 0	0/ 0
-15MM X 10MM X 5 MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	4/ 1
-END OF TAIL MISSING	0/ 0	0/ 0	1/ 1	0/ 0
-5MM X 5MM X 5MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	4/ 1
-5MM X 5MM X 3MM FIRM, MOVABLE, SCABBING MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2A (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - DOSING PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	04-26-00 TO 07-28-00			
GROUP:	1	2	3	4
SPECIAL II				
-7MM X 7MM X 5MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-10MM X 10MM X 10MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	4/ 1
-5MM X 5MM X 3MM FIRM, MOVABLE, SCABBING MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-7MM X 7MM X 3MM FIRM, MOVABLE, RUPTURED, PURULENT DISCHARGE, MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-3MM X 3MM X 3MM FIRM, MOVABLE MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	2/ 1
-3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	1/ 1	0/ 0
-2MM X 2MM X 1MM FIRM REDDENED IMMOVEABLE MASS ON RIGHT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	2/ 1	0/ 0
-2MM X 2MM X 1MM FIRM REDDENED IMMOVEABLE MASS LEFT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	1/ 1	0/ 0
-30MM X 20MM X 10MM FIRM, IMMOVEABLE, RUPTURED, RED DISCHARGE, SCABBING MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-ESTROUS SMEAR DETERMINED TO BE ESTROUS PRIOR TO NECROPSY	2/ 2	2/ 2	1/ 1	1/ 1
-ESTROUS SMEAR DETERMINED TO METESTROUS PRIOR TO NECROPSY	0/ 0	1/ 1	2/ 2	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2A (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - DOSING PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	04-26-00 TO 07-28-00			
GROUP:	1	2	3	4
SPECIAL II				
-ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY	8/ 8	7/ 7	6/ 6	8/ 8
-SLIDE UNAVAILABLE; UNABLE TO DETERMINE ESTROUS STAGE	0/ 0	0/ 0	1/ 1	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2B (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - RECOVERY PERIOD)

PROJECT NO.:WIL-186012 — A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS — PAGE 1

SPONSOR:CMA — SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	07-27-00 TO 08-23-00			
GROUP:	1	2	3	4
NORMAL				
-NO SIGNIFICANT CLINICAL OBSERVATIONS	21/ 9	30/12	26/10	20/ 7
DISPOSITION				
-PRIMARY NECROPSY (INTERVAL 13)	7/ 7	7/ 7	7/ 7	6/ 6
-RECOVERY NECROPSY (INTERVAL 17)	5/ 5	5/ 5	5/ 5	5/ 5
BODY/INTEGUMENT				
-HAIR LOSS FORELIMB(S)	5/ 2	0/ 0	0/ 0	4/ 1
CARDIO-PULMONARY				
-RALES	0/ 0	0/ 0	0/ 0	1/ 1
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND LEFT EYE	1/ 1	1/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND NOSE	1/ 1	0/ 0	1/ 1	0/ 0
-OPACITY LEFT EYE	1/ 1	0/ 0	0/ 0	0/ 0
EXCRETA				
-WET YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	1/ 1
-SOFT FECES	0/ 0	1/ 1	0/ 0	0/ 0
-RED PENILE DISCHARGE	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2B (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - RECOVERY PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PROJECT NO.:WIL-186012
SPONSOR:CMA

----- M A L E -----

TABLE RANGE:	07-27-00 TO 08-23-00			
GROUP:	1	2	3	4
BODY/INTEG II				
-SCABBING UROGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
ORAL/DENTAL				
-WET CLEAR MATERIAL VENTRAL NECK	0/ 0	0/ 0	0/ 0	1/ 1
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	0/ 0	1/ 1
-UPPER INCISOR(S) MALALIGNED	1/ 1	0/ 0	3/ 1	0/ 0
-LOWER INCISOR(S) LONG, TRIMMED	0/ 0	0/ 0	3/ 1	0/ 0
-UPPER INCISOR(S) MISSING	0/ 0	0/ 0	1/ 1	0/ 0
-UPPER INCISOR(S) BROKEN	0/ 0	0/ 0	2/ 1	0/ 0
SPECIAL				
-PROLAPSED PENIS	0/ 0	0/ 0	0/ 0	1/ 1
BODY/INTEG III				
-WET CLEAR MATERIAL FORELIMB(S)	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED BROWN MATERIAL ANOGENITAL AREA	2/ 2	0/ 0	0/ 0	0/ 0
-WET BROWN MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	1/ 1
-WET YELLOW MATERIAL ANOGENITAL AREA	1/ 1	0/ 0	0/ 0	0/ 0
-WET YELLOW MATERIAL VENTRAL TRUNK	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED BROWN MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2B (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - RECOVERY PERIOD)

PROJECT NO.:WIL-186012 A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS

SPONSOR:CMA SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	07-27-00 TO 08-23-00			
GROUP:	1	2	3	4
SPECIAL II				
-TAIL BROKEN	3/ 1	0/ 0	0/ 0	0/ 0
-3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2B (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - RECOVERY PERIOD)

PROJECT NO.:WIL-186012 A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS

SPONSOR:CMA SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	07-27-00 TO 08-23-00			
GROUP:	1	2	3	4
NORMAL				
-NO SIGNIFICANT CLINICAL OBSERVATIONS	27/10	23/ 9	27/ 9	31/11
DISPOSITION				
-PRIMARY NECROPSY (INTERVAL 13)	7/ 7	7/ 7	7/ 7	7/ 7
-RECOVERY NECROPSY (INTERVAL 17)	5/ 5	5/ 5	5/ 5	5/ 5
BODY/INTEGUMENT				
-HAIR LOSS FORELIMB(S)	3/ 1	2/ 2	1/ 1	1/ 1
-HAIR LOSS HINDLIMB(S)	0/ 0	2/ 1	0/ 0	0/ 0
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND RIGHT EYE	0/ 0	2/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND LEFT EYE	0/ 0	5/ 1	0/ 0	0/ 0
-RED DISCHARGE RIGHT EYE	0/ 0	1/ 1	0/ 0	0/ 0
-RED DISCHARGE LEFT EYE	0/ 0	3/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND NOSE	0/ 0	1/ 1	1/ 1	0/ 0
-DRIED RED MATERIAL FACIAL AREA	0/ 0	1/ 1	0/ 0	0/ 0
BODY/INTEG II				
-SCABBING FORELIMB(S)	0/ 0	0/ 0	1/ 1	1/ 1
-SCABBING END OF TAIL	1/ 1	0/ 0	1/ 1	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2B (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - RECOVERY PERIOD)

PROJECT NO.:WIL-186012 A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS

SPONSOR:CMA SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	07-27-00 TO 08-23-00			
GROUP:	1	2	3	4
ORAL/DENTAL				
-UPPER INCISOR(S) MALALIGNED	0/ 0	3/ 1	0/ 0	0/ 0
-LOWER INCISOR(S) LONG, TRIMMED	0/ 0	3/ 1	0/ 0	0/ 0
SPECIAL				
-SWOLLEN RIGHT EAR	0/ 0	0/ 0	1/ 1	0/ 0
-REDDENED RIGHT EAR	0/ 0	0/ 0	1/ 1	0/ 0
BODY/INTEG III				
-WET BROWN MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	1/ 1	1/ 1	0/ 0
-WET YELLOW MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-WET RED MATERIAL FORELIMB(S)	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED RED MATERIAL FORELIMB(S)	0/ 0	1/ 1	0/ 0	0/ 0
SPECIAL II				
-TAIL BROKEN	1/ 1	0/ 0	0/ 0	0/ 0
-END OF TAIL MISSING	0/ 0	0/ 0	1/ 1	0/ 0
-2MM X 2MM X 1MM FIRM REDDENED IMMOVEABLE MASS ON RIGHT SIDE OF MOUTH ON LIP	0/ 0	0/ 0	1/ 1	0/ 0
-30MM X 20MM X 10MM FIRM, IMMOVEABLE, RUPTURED, RED DISCHARGE, SCABBING MASS LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 2B (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS - RECOVERY PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE: 07-27-00 TO 08-23-00

GROUP:	1	2	3	4
SPECIAL II				
-ESTROUS SMEAR DETERMINED TO BE ESTROUS PRIOR TO NECROPSY	2/ 2	2/ 2	0/ 0	1/ 1
-ESTROUS SMEAR DETERMINED TO METESTROUS PRIOR TO NECROPSY	0/ 0	1/ 1	2/ 2	1/ 1
-ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY	5/ 5	4/ 4	4/ 4	5/ 5
-SLIDE UNAVAILABLE; UNABLE TO DETERMINE ESTROUS STAGE	0/ 0	0/ 0	1/ 1	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 3 (1-HOUR POST-DOSING)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	04-26-00 TO 07-27-00			
GROUP:	1	2	3	4
	1-HOUR POST-DOSE			
BEHAVIOR/CNS				
-UNKEMPT APPEARANCE	0/ 0	0/ 0	0/ 0	3/ 3
CARDIO-PULMONARY				
-RALES	0/ 0	1/ 1	0/ 0	1/ 1
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND RIGHT EYE	0/ 0	1/ 1	3/ 1	0/ 0
-DRIED RED MATERIAL AROUND LEFT EYE	0/ 0	12/ 1	0/ 0	0/ 0
-RED DISCHARGE RIGHT EYE	0/ 0	0/ 0	1/ 1	0/ 0
-CLEAR DISCHARGE LEFT EYE	0/ 0	2/ 1	0/ 0	0/ 0
EXCRETA				
-WET YELLOW MATERIAL UROGENITAL AREA	0/ 0	1/ 1	0/ 0	3/ 3
-SOFT FECES	0/ 0	0/ 0	0/ 0	4/ 2
ORAL/DENTAL				
-WET CLEAR MATERIAL VENTRAL NECK	0/ 0	0/ 0	1/ 1	4/ 3
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	2/ 2	9/ 6
BODY/INTEG III				
-WET CLEAR MATERIAL FORELIMB(S)	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 3 (1-HOUR POST-DOSING)

PROJECT NO.:WIL-186012 — A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS — PAGE 2

SPONSOR:CMA-BFRIP — SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	04-26-00 TO 07-27-00			
GROUP:	1	2	3	4
	1-HOUR POST-DOSE			
BODY/INTEG III				
-DRIED BROWN MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	5/ 2
-WET BROWN MATERIAL ANOGENITAL AREA	1/ 1	0/ 0	0/ 0	1/ 1
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
-WET YELLOW MATERIAL ANOGENITAL AREA	2/ 2	0/ 0	0/ 0	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 3 (1-HOUR POST-DOSING)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	04-26-00 TO 07-27-00			
GROUP:	1	2	3	4
	1-HOUR POST-DOSE			
EYES/EARS/NOSE				
-CLEAR DISCHARGE RIGHT EYE	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED RED MATERIAL FACIAL AREA	0/ 0	0/ 0	0/ 0	1/ 1
EXCRETA				
-WET YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	0/ 0	2/ 2
-SOFT FECES	0/ 0	0/ 0	0/ 0	2/ 1
ORAL/DENTAL				
-WET CLEAR MATERIAL VENTRAL NECK	0/ 0	0/ 0	0/ 0	3/ 3
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	0/ 0	3/ 3
BODY/INTEG III				
-WET CLEAR MATERIAL FORELIMB(S)	0/ 0	0/ 0	0/ 0	1/ 1
-WET CLEAR MATERIAL VENTRAL TRUNK	0/ 0	0/ 0	0/ 0	1/ 1
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	0/ 0	2/ 2
-DRIED YELLOW MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 4 (DAILY OBSERVATIONS - RECOVERY PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE:	07-26-00 TO 08-22-00			
GROUP:	1	2	3	4
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND LEFT EYE	0/ 0	1/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND NOSE	0/ 0	1/ 1	1/ 1	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 4 (DAILY OBSERVATIONS - RECOVERY PERIOD)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- F E M A L E -----

TABLE RANGE:	07-26-00 TO 08-22-00			
GROUP:	1	2	3	4
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND RIGHT EYE	0/ 0	1/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND LEFT EYE	0/ 0	4/ 1	0/ 0	0/ 0
-RED DISCHARGE RIGHT EYE	0/ 0	1/ 1	0/ 0	0/ 0
-RED DISCHARGE LEFT EYE	0/ 0	3/ 1	0/ 0	0/ 0
EXCRETA				
-RED MATERIAL ON CAGE FLOOR	0/ 0	0/ 0	1/ 1	0/ 0
-DEFECATION DECREASED	0/ 0	3/ 1	0/ 0	0/ 0
-FECES SMALLER THAN NORMAL	0/ 0	1/ 1	0/ 0	0/ 0
-RECTAL MUCOUS EXUDATE	0/ 0	0/ 0	1/ 1	0/ 0
BODY/INTEG III				
-DRIED BROWN MATERIAL ANOGENITAL AREA	0/ 0	1/ 1	0/ 0	0/ 0
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	6/ 1	0/ 0	0/ 0
-DRIED BROWN MATERIAL UROGENITAL AREA	0/ 0	1/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL FORELIMB(S)	0/ 0	1/ 1	0/ 0	0/ 0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

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PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 5
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK -1					
	MEAN	206.	207.	207.	206.
	S.D.	15.5	17.2	15.3	15.1
	N	15	15	15	15
0					
	MEAN	243.	243.	243.	241.
	S.D.	15.7	17.1	19.4	16.5
	N	15	15	15	15
1					
	MEAN	295.	292.	297.	295.
	S.D.	21.3	28.4	22.8	21.8
	N	15	15	15	15
2					
	MEAN	332.	331.	338.	336.
	S.D.	26.4	35.1	29.5	25.7
	N	15	15	15	14
3					
	MEAN	364.	363.	371.	367.
	S.D.	28.3	38.5	33.3	31.1
	N	15	15	15	14

None significantly different from control group

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 5
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 4					
	MEAN	394.	390.	400.	394.
	S.D.	29.4	41.1	36.0	33.6
	N	15	15	15	14
5					
	MEAN	421.	418.	427.	420.
	S.D.	31.2	43.5	39.9	36.9
	N	15	15	15	14
6					
	MEAN	446.	443.	456.	446.
	S.D.	30.3	45.9	43.1	41.1
	N	15	15	15	14
7					
	MEAN	466.	460.	472.	459.
	S.D.	31.5	48.1	46.2	43.5
	N	15	15	15	14
8					
	MEAN	482.	480.	489.	471.
	S.D.	33.0	49.8	46.5	47.3
	N	15	15	15	14

None significantly different from control group

TABLE 5
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 9					
	MEAN	498.	494.	505.	484.
	S.D.	33.9	52.2	49.1	50.8
	N	15	15	15	14
10					
	MEAN	513.	509.	520.	493.
	S.D.	35.5	56.1	50.6	53.1
	N	15	15	15	14
11					
	MEAN	526.	521.	536.	501.
	S.D.	35.9	57.0	55.3	54.7
	N	15	15	15	14
12					
	MEAN	540.	538.	550.	514.
	S.D.	36.1	61.5	54.3	54.9
	N	15	15	15	14
13					
	MEAN	547.	540.	556.	512.
	S.D.	37.6	66.3	55.0	56.3
	N	15	15	15	14

None significantly different from control group

TABLE 5

PROJECT NO.:WIL-186012 A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS

SPONSOR:CMA-BFRIP BODY WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 14					
	MEAN	548.	514.	554.	508.
	S.D.	41.2	92.9	55.9	65.2
	N	5	5	5	5
15					
	MEAN	560.	519.	559.	517.
	S.D.	35.3	88.2	54.8	71.1
	N	5	5	5	5
16					
	MEAN	568.	523.	563.	522.
	S.D.	32.0	90.1	55.3	69.4
	N	5	5	5	5
17					
	MEAN	578.	535.	570.	532.
	S.D.	28.0	90.1	54.4	70.0
	N	5	5	5	5

None significantly different from control group

TABLE 5
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- F E M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK -1					
	MEAN	159.	159.	159.	158.
	S.D.	15.4	14.5	13.8	14.6
	N	15	15	15	15
0					
	MEAN	178.	176.	178.	174.
	S.D.	14.2	16.4	14.8	16.0
	N	15	15	15	15
1					
	MEAN	205.	201.	205.	205.
	S.D.	17.3	18.3	18.1	22.1
	N	15	15	15	15
2					
	MEAN	220.	220.	225.	227.
	S.D.	19.7	20.4	20.8	27.9
	N	15	15	15	15
3					
	MEAN	236.	230.	238.	238.
	S.D.	19.9	21.8	23.9	26.8
	N	15	15	15	15

None significantly different from control group

TABLE 5
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- F E M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 4					
	MEAN	250.	241.	249.	250.
	S.D.	22.2	20.1	24.5	31.4
	N	15	15	15	15
5					
	MEAN	259.	253.	259.	258.
	S.D.	23.6	23.6	24.5	33.2
	N	15	15	15	15
6					
	MEAN	268.	263.	272.	270.
	S.D.	24.8	24.8	27.5	31.1
	N	15	15	15	15
7					
	MEAN	274.	268.	276.	274.
	S.D.	25.6	24.8	29.0	32.9
	N	15	15	15	15
8					
	MEAN	279.	272.	282.	282.
	S.D.	24.0	26.7	29.9	32.8
	N	15	15	15	15

None significantly different from control group

TABLE 5
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- F E M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 9					
	MEAN	284.	276.	289.	289.
	S.D.	25.2	27.4	30.3	35.4
	N	15	15	15	15
10					
	MEAN	287.	280.	294.	295.
	S.D.	27.5	28.3	30.9	36.6
	N	15	15	15	15
11					
	MEAN	290.	285.	298.	298.
	S.D.	24.9	28.7	32.8	38.7
	N	15	15	15	15
12					
	MEAN	298.	292.	306.	307.
	S.D.	26.5	31.0	34.6	42.7
	N	15	15	15	15
13					
	MEAN	297.	291.	303.	307.
	S.D.	26.7	32.6	37.1	41.1
	N	15	15	15	15

None significantly different from control group

TABLE 5
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- F E M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 14					
	MEAN	294.	285.	284.	300.
	S.D.	29.5	35.7	38.1	40.0
	N	5	5	5	5
15					
	MEAN	298.	289.	290.	302.
	S.D.	34.4	40.4	40.3	42.4
	N	5	5	5	5
16					
	MEAN	300.	293.	291.	304.
	S.D.	33.0	35.5	44.2	40.0
	N	5	5	5	5
17					
	MEAN	306.	299.	297.	308.
	S.D.	34.6	30.1	41.3	40.0
	N	5	5	5	5

None significantly different from control group

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R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 6
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHT GAINS (GRAMS) - SUMMARY OF MEANS

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK -1 TO 0				
MEAN	37.	37.	36.	35.
S.D.	5.2	5.0	5.5	7.6
N	15	15	15	15
0 TO 1				
MEAN	52.	49.	55.	54.
S.D.	7.3	14.6	5.4	7.3
N	15	15	15	15
1 TO 2				
MEAN	37.	39.	41.	42.
S.D.	10.7	10.4	8.3	8.0
N	15	15	15	14
2 TO 3				
MEAN	33.	32.	33.	31.
S.D.	6.7	6.6	8.1	9.1
N	15	15	15	14
3 TO 4				
MEAN	29.	27.	29.	28.
S.D.	8.3	6.7	9.0	7.7
N	15	15	15	14

None significantly different from control group

TABLE 6
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHT GAINS (GRAMS) - SUMMARY OF MEANS

		----- M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK	4 TO 5				
	MEAN	27.	28.	27.	26.
	S.D.	4.9	5.6	7.0	6.5
	N	15	15	15	14
	5 TO 6				
	MEAN	26.	25.	29.	25.
	S.D.	5.2	3.5	5.7	6.4
	N	15	15	15	14
	6 TO 7				
	MEAN	19.	17.	16.	13.**
	S.D.	4.7	5.2	5.8	4.4
	N	15	15	15	14
	7 TO 8				
	MEAN	17.	20.	17.	12.
	S.D.	5.0	4.6	7.2	4.6
	N	15	15	15	14
	8 TO 9				
	MEAN	16.	14.	16.	13.
	S.D.	5.6	3.8	5.6	5.1
	N	15	15	15	14

** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 6
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHT GAINS (GRAMS) - SUMMARY OF MEANS

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 9 TO 10				
MEAN	15.	15.	15.	9.*
S.D.	5.1	6.5	5.4	6.3
N	15	15	15	14
10 TO 11				
MEAN	13.	12.	17.	8.
S.D.	4.5	4.3	6.7	5.0
N	15	15	15	14
11 TO 12				
MEAN	14.	17.	14.	13.
S.D.	5.6	7.3	6.7	3.6
N	15	15	15	14
12 TO 13				
MEAN	7.	2.	5.	-2.**
S.D.	5.9	7.3	7.7	8.5
N	15	15	15	14
13 TO 14				
MEAN	3.	1.	-2.	-3.
S.D.	6.5	8.2	5.0	9.5
N	5	5	5	5

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 6
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHT GAINS (GRAMS) - SUMMARY OF MEANS

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 14 TO 15				
MEAN	12.	4.	5.	9.
S.D.	10.2	5.9	6.4	6.6
N	5	5	5	5
15 TO 16				
MEAN	8.	4.	4.	5.
S.D.	3.4	3.6	4.5	5.1
N	5	5	5	5
16 TO 17				
MEAN	10.	11.	7.	10.
S.D.	5.1	1.1	8.0	8.2
N	5	5	5	5

None significantly different from control group

TABLE 6
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHT GAINS (GRAMS) - SUMMARY OF MEANS

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK -1 TO 0				
MEAN	19.	17.	20.	17.
S.D.	4.8	4.8	5.1	4.0
N	15	15	15	15
0 TO 1				
MEAN	27.	26.	27.	31.
S.D.	6.3	7.8	8.7	7.8
N	15	15	15	15
1 TO 2				
MEAN	15.	18.	20.	22.
S.D.	8.6	7.8	8.5	9.1
N	15	15	15	15
2 TO 3				
MEAN	16.	11.	13.	11.
S.D.	8.4	4.9	7.1	8.8
N	15	15	15	15
3 TO 4				
MEAN	14.	11.	12.	12.
S.D.	5.1	4.3	7.4	10.4
N	15	15	15	15

None significantly different from control group

TABLE 6
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHT GAINS (GRAMS) - SUMMARY OF MEANS

		----- F E M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK	4 TO 5				
	MEAN	9.	11.	9.	8.
	S.D.	6.4	6.6	6.6	4.5
	N	15	15	15	15
	5 TO 6				
	MEAN	9.	10.	13.	12.
	S.D.	4.7	7.7	7.2	6.6
	N	15	15	15	15
	6 TO 7				
	MEAN	6.	6.	4.	4.
	S.D.	6.9	5.3	4.5	4.6
	N	15	15	15	15
	7 TO 8				
	MEAN	6.	4.	5.	8.
	S.D.	4.9	4.9	6.9	8.0
	N	15	15	15	15
	8 TO 9				
	MEAN	4.	4.	7.	7.
	S.D.	4.5	4.9	7.0	5.6
	N	15	15	15	15

None significantly different from control group

TABLE 6
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHT GAINS (GRAMS) - SUMMARY OF MEANS

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 9 TO 10				
MEAN	4.	4.	5.	6.
S.D.	4.6	6.8	6.4	4.2
N	15	15	15	15
10 TO 11				
MEAN	3.	5.	4.	4.
S.D.	6.8	3.9	4.2	6.4
N	15	15	15	15
11 TO 12				
MEAN	8.	7.	8.	8.
S.D.	6.2	4.6	3.9	7.1
N	15	15	15	15
12 TO 13				
MEAN	-1.	-1.	-3.	1.
S.D.	4.7	4.5	6.2	6.1
N	15	15	15	15
13 TO 14				
MEAN	-1.	-3.	-2.	-10.
S.D.	4.4	10.0	8.8	5.7
N	5	5	5	5

None significantly different from control group

TABLE 6
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
BODY WEIGHT GAINS (GRAMS) - SUMMARY OF MEANS

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 14 TO 15				
MEAN	4.	4.	6.	2.
S.D.	5.2	5.2	3.4	4.6
N	5	5	5	5
15 TO 16				
MEAN	2.	4.	1.	2.
S.D.	2.5	8.6	4.2	3.0
N	5	5	5	5
16 TO 17				
MEAN	6.	6.	6.	4.
S.D.	3.4	9.7	7.1	6.6
N	5	5	5	5

None significantly different from control group

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10/27/2000
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PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 7
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
WEEKLY FOOD CONSUMPTION (GRAMS/ANIMAL/DAY) - SUMMARY OF MEANS

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK -1 TO 0				
MEAN	22.	22.	21.	21.
S.D.	2.0	1.9	3.0	2.0
N	15	15	15	15
0 TO 1				
MEAN	21.	21.	21.	21.
S.D.	1.2	2.3	1.8	1.6
N	15	15	15	15
1 TO 2				
MEAN	20.	20.	21.	21.
S.D.	1.8	2.0	2.4	2.1
N	15	15	15	14
2 TO 3				
MEAN	22.	21.	21.	21.
S.D.	4.2	3.5	1.7	2.3
N	15	15	15	14
3 TO 4				
MEAN	19.	19.	19.	19.
S.D.	1.7	1.5	2.5	2.3
N	14	15	15	14

None significantly different from control group

TABLE 7
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
WEEKLY FOOD CONSUMPTION (GRAMS/ANIMAL/DAY) - SUMMARY OF MEANS

		----- M A L E -----			
	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK	4 TO 5				
	MEAN	21.	20.	21.	21.
	S.D.	1.5	1.7	2.3	2.4
	N	15	15	15	14
	5 TO 6				
	MEAN	20.	19.	20.	20.
	S.D.	1.7	1.6	2.5	2.3
	N	15	15	15	14
	6 TO 7				
	MEAN	20.	19.	20.	20.
	S.D.	1.6	1.6	2.1	1.8
	N	15	15	15	14
	7 TO 8				
	MEAN	20.	19.	20.	19.
	S.D.	1.7	1.6	1.9	2.0
	N	15	15	15	14
	8 TO 9				
	MEAN	20.	19.	20.	19.
	S.D.	1.1	1.3	2.0	2.5
	N	15	15	15	14

None significantly different from control group

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 7
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
WEEKLY FOOD CONSUMPTION (GRAMS/ANIMAL/DAY) - SUMMARY OF MEANS

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 9 TO 10				
MEAN	19.	18.	19.	19.
S.D.	1.5	1.8	1.9	2.0
N	15	15	15	14
10 TO 11				
MEAN	19.	18.	20.	19.
S.D.	1.0	1.8	2.2	1.9
N	15	15	15	14
11 TO 12				
MEAN	19.	19.	19.	19.
S.D.	1.1	1.7	2.1	2.0
N	15	15	15	14
12 TO 13				
MEAN	19.	18.	19.	18.
S.D.	1.5	1.9	2.2	2.2
N	15	15	15	14
13 TO 14				
MEAN	22.	21.	20.	20.
S.D.	1.1	1.9	1.5	2.7
N	5	5	5	5

None significantly different from control group

TABLE 7
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
WEEKLY FOOD CONSUMPTION (GRAMS/ANIMAL/DAY) - SUMMARY OF MEANS

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 14 TO 15				
MEAN	25.	23.	23.	24.
S.D.	0.5	1.6	1.9	3.1
N	4	5	5	5
15 TO 16				
MEAN	22.	25.	25.	25.
S.D.	7.5	1.8	2.6	2.7
N	5	5	5	5
16 TO 17				
MEAN	26.	25.	25.	24.
S.D.	1.8	1.6	1.6	2.5
N	5	5	5	5

None significantly different from control group

TABLE 7
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
WEEKLY FOOD CONSUMPTION (GRAMS/ANIMAL/DAY) - SUMMARY OF MEANS

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK -1 TO 0				
MEAN	16.	17.	16.	16.
S.D.	1.2	2.5	1.2	1.7
N	15	15	15	15
0 TO 1				
MEAN	15.	15.	15.	16.
S.D.	1.4	1.8	1.7	2.1
N	15	15	15	15
1 TO 2				
MEAN	14.	14.	15.	16.*
S.D.	1.4	1.6	1.4	2.3
N	15	15	15	15
2 TO 3				
MEAN	15.	15.	15.	17.
S.D.	1.3	1.8	1.6	4.4
N	15	15	15	15
3 TO 4				
MEAN	14.	13.	14.	14.
S.D.	1.5	1.3	1.9	3.2
N	15	15	15	15

* = Significantly different from the control group at 0.05 using Dunnett's test

TABLE 7
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
WEEKLY FOOD CONSUMPTION (GRAMS/ANIMAL/DAY) - SUMMARY OF MEANS

GROUP:		----- F E M A L E ----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 4 TO 5	MEAN	15.	15.	15.	15.
	S.D.	2.0	1.8	1.6	2.4
	N	15	15	15	15
5 TO 6	MEAN	14.	15.	14.	15.
	S.D.	1.7	2.2	1.6	2.3
	N	15	15	15	15
6 TO 7	MEAN	14.	14.	14.	15.
	S.D.	1.9	1.9	1.3	1.8
	N	15	15	15	15
7 TO 8	MEAN	14.	13.	14.	15.
	S.D.	1.3	1.9	1.5	2.3
	N	15	15	15	15
8 TO 9	MEAN	14.	13.	14.	15.
	S.D.	1.8	1.5	1.2	2.1
	N	15	15	15	15

None significantly different from control group

TABLE 7

PROJECT NO.:WIL-186012 A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS

SPONSOR:CMA-BFRIP WEEKLY FOOD CONSUMPTION (GRAMS/ANIMAL/DAY) - SUMMARY OF MEANS

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 9 TO 10				
MEAN	14.	13.	14.	15.
S.D.	1.4	1.6	1.5	1.7
N	15	15	15	15
10 TO 11				
MEAN	13.	13.	13.	14.*
S.D.	1.6	1.6	1.4	2.4
N	15	15	15	15
11 TO 12				
MEAN	13.	14.	13.	14.
S.D.	1.7	4.5	1.6	2.2
N	15	15	15	15
12 TO 13				
MEAN	13.	13.	13.	15.
S.D.	1.5	1.6	1.5	1.9
N	15	15	15	15
13 TO 14				
MEAN	16.	14.	14.	15.
S.D.	3.6	1.5	2.1	3.4
N	5	5	5	5

* = Significantly different from the control group at 0.05 using Dunnett's test

TABLE 7

PROJECT NO.:WIL-186012 A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS

SPONSOR:CMA-BFRIP WEEKLY FOOD CONSUMPTION (GRAMS/ANIMAL/DAY) - SUMMARY OF MEANS

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WEEK 14 TO 15				
MEAN	19.	15.	17.	16.
S.D.	3.9	3.7	2.8	2.2
N	5	5	5	5
15 TO 16				
MEAN	18.	17.	17.	17.
S.D.	2.2	1.0	2.4	2.1
N	5	5	5	5
16 TO 17				
MEAN	19.	17.	18.	18.
S.D.	2.5	0.8	1.9	2.6
N	5	5	5	5

None significantly different from control group

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TABLE 8 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	4	5	5	4
ASLEEP, LYING ON SIDE OR CURLED UP	0	0	0	1
ALERT, ORIENTED TOWARD OBSERVER	1	0	0	0
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
BITING				
NONE	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	5	5	5
FECES CONSISTENCY				
PELLETS	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 8 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	5	4	5	5
ALERT, ORIENTED TOWARD OBSERVER	0	1	0	0
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
BITING				
NONE	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	5	5	5
FECES CONSISTENCY				
PELLETS	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 9 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	80.0	100.	100.	80.0
ASLEEP, LYING ON SIDE OR CURLED UP	0.	0.	0.	20.0
ALERT, ORIENTED TOWARD OBSERVER	20.0	0.	0.	0.
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
BITING				
NONE	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	100.	100.	100.
FECES CONSISTENCY				
PELLETS	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 9 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	100.	80.0	100.	100.
ALERT, ORIENTED TOWARD OBSERVER	0.	20.0	0.	0.
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
BITING				
NONE	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	100.	100.	100.
FECES CONSISTENCY				
PELLETS	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 10 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	4	3	3	3
ASLEEP, LYING ON SIDE OR CURLED UP	1	1	1	1
ALERT, ORIENTED TOWARD OBSERVER	0	1	1	1
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
BITING				
NONE	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	4	4	4	4
EYELIDS COMPLETELY SHUT	1	1	1	1
FECES CONSISTENCY				
PELLETS	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 10 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	5	4	5	2
ASLEEP, LYING ON SIDE OR CURLED UP	0	0	0	1
ALERT, ORIENTED TOWARD OBSERVER	0	1	0	2
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
BITING				
NONE	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	5	5	4
EYELIDS COMPLETELY SHUT	0	0	0	1
FECES CONSISTENCY				
PELLETS	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 11 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	80.0	60.0	60.0	60.0
ASLEEP, LYING ON SIDE OR CURLED UP	20.0	20.0	20.0	20.0
ALERT, ORIENTED TOWARD OBSERVER	0.	20.0	20.0	20.0
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
BITING				
NONE	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	80.0	80.0	80.0	80.0
EYELIDS COMPLETELY SHUT	20.0	20.0	20.0	20.0
FECES CONSISTENCY				
PELLETS	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 11 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	100.	80.0	100.	40.0
ASLEEP, LYING ON SIDE OR CURLED UP	0.	0.	0.	20.0
ALERT, ORIENTED TOWARD OBSERVER	0.	20.0	0.	40.0
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
BITING				
NONE	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	100.	100.	80.0
EYELIDS COMPLETELY SHUT	0.	0.	0.	20.0
FECES CONSISTENCY				
PELLETS	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

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R:07/18/2001

PROJECT NO.:WIL-186012
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TABLE 12 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	3	4	4	1
ASLEEP, LYING ON SIDE OR CURLED UP	2	1	1	3
ALERT, ORIENTED TOWARD OBSERVER	0	0	0	1
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
BITING				
NONE	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	2	4	4	2
EYELIDS SLIGHTLY DROOPING	1	0	1	2
DROOPING EYELIDS (HALF-CLOSED)	1	1	0	1
EYELIDS COMPLETELY SHUT	1	0	0	0
FECES CONSISTENCY				
PELLETS	2	2	4	1
PELLETS, PARTIALLY FORMED	0	0	0	1
PELLETS ABSENT	3	3	1	3

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 12 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	2	2	3	2
ALERT, ORIENTED TOWARD OBSERVER	3	3	2	3
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
BITING				
NONE	4	5	5	4
BITING OF CAGE	0	0	0	1
BITING OF SELF	1	0	0	0
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	4	5	5
EYELIDS SLIGHTLY DROOPING	0	1	0	0
FECES CONSISTENCY				
PELLETS	2	2	3	1
PELLETS ABSENT	3	3	2	4

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 13 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	60.0	80.0	80.0	20.0
ASLEEP, LYING ON SIDE OR CURLED UP	40.0	20.0	20.0	60.0
ALERT, ORIENTED TOWARD OBSERVER	0.	0.	0.	20.0
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
BITING				
NONE	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	40.0	80.0	80.0	40.0
EYELIDS SLIGHTLY DROOPING	20.0	0.	20.0	40.0
DROOPING EYELIDS (HALF-CLOSED)	20.0	20.0	0.	20.0
EYELIDS COMPLETELY SHUT	20.0	0.	0.	0.
FECES CONSISTENCY				
PELLETS	40.0	40.0	80.0	20.0
PELLETS, PARTIALLY FORMED	0.	0.	0.	20.0
PELLETS ABSENT	60.0	60.0	20.0	60.0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 13 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HOME CAGE OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
POSTURE				
SITTING OR STANDING NORMALLY	40.0	40.0	60.0	40.0
ALERT, ORIENTED TOWARD OBSERVER	60.0	60.0	40.0	60.0
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
BITING				
NONE	80.0	100.	100.	80.0
BITING OF CAGE	0.	0.	0.	20.0
BITING OF SELF	20.0	0.	0.	0.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	80.0	100.	100.
EYELIDS SLIGHTLY DROOPING	0.	20.0	0.	0.
FECES CONSISTENCY				
PELLETS	40.0	40.0	60.0	20.0
PELLETS ABSENT	60.0	60.0	40.0	80.0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
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TABLE 14 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	3	3	3	2
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	2	2	2	3
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	5	5	5	5
LACRIMATION				
NONE	5	5	5	5
CHROMODACRYORRHEA				
ABSENT	5	5	5	5
SALIVATION				
NONE	5	5	5	5
PILOERECTION				
NONE	5	5	5	5
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	5	5	5
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 14 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY CHARACTER				
NORMAL	5	5	5	5
RED DEPOSITS - eyes				
ABSENT	5	5	5	5
RED DEPOSITS - nose				
ABSENT	5	5	5	5
RED DEPOSITS - mouth				
ABSENT	5	5	5	5
CRUSTY DEPOSITS - eyes				
ABSENT	5	5	5	5
CRUSTY DEPOSITS - nose				
ABSENT	5	5	5	5
CRUSTY DEPOSITS - mouth				
ABSENT	5	5	5	5
MUCOUS MEMBRANES - color				
PINK	5	5	5	5
EYES - color				
PINK	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 14 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
SKIN - color				
PINK	5	5	5	5
EYE PROMINENCE				
NORMAL	5	5	5	5
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 14 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	3	3	0	1
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	2	2	5	4
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	5	5	5	5
LACRIMATION				
NONE	5	5	5	5
CHROMODACRYORRHEA				
ABSENT	5	5	5	5
SALIVATION				
NONE	5	5	5	5
PILOERECTION				
NONE	5	5	5	5
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	5	5	5
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 14 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY CHARACTER NORMAL	5	5	5	5
RED DEPOSITS - eyes ABSENT	5	5	5	5
RED DEPOSITS - nose ABSENT	5	5	5	5
RED DEPOSITS - mouth ABSENT	5	5	5	5
CRUSTY DEPOSITS - eyes ABSENT	5	5	5	5
CRUSTY DEPOSITS - nose ABSENT	5	5	5	5
CRUSTY DEPOSITS - mouth ABSENT	5	5	5	5
MUCOUS MEMBRANES - color PINK	5	5	5	5
EYES - color PINK	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 14 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
SKIN - color				
PINK	5	5	5	5
EYE PROMINENCE				
NORMAL	5	5	5	5
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 15 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	60.0	60.0	60.0	40.0
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	40.0	40.0	40.0	60.0
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	100.	100.	100.	100.
LACRIMATION				
NONE	100.	100.	100.	100.
CHROMODACRYORRHEA				
ABSENT	100.	100.	100.	100.
SALIVATION				
NONE	100.	100.	100.	100.
PILOERECTION				
NONE	100.	100.	100.	100.
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	100.	100.	100.
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 15 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY CHARACTER NORMAL	100.	100.	100.	100.
RED DEPOSITS - eyes ABSENT	100.	100.	100.	100.
RED DEPOSITS - nose ABSENT	100.	100.	100.	100.
RED DEPOSITS - mouth ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - eyes ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - nose ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - mouth ABSENT	100.	100.	100.	100.
MUCOUS MEMBRANES - color PINK	100.	100.	100.	100.
EYES - color PINK	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 15 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
SKIN - color				
PINK	100.	100.	100.	100.
EYE PROMINENCE				
NORMAL	100.	100.	100.	100.
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 15 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	60.0	60.0	0.	20.0
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	40.0	40.0	100.	80.0
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	100.	100.	100.	100.
LACRIMATION				
NONE	100.	100.	100.	100.
CHROMODACRYORRHEA				
ABSENT	100.	100.	100.	100.
SALIVATION				
NONE	100.	100.	100.	100.
PILOERECTION				
NONE	100.	100.	100.	100.
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	100.	100.	100.
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 15 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY CHARACTER NORMAL	100.	100.	100.	100.
RED DEPOSITS - eyes ABSENT	100.	100.	100.	100.
RED DEPOSITS - nose ABSENT	100.	100.	100.	100.
RED DEPOSITS - mouth ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - eyes ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - nose ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - mouth ABSENT	100.	100.	100.	100.
MUCOUS MEMBRANES - color PINK	100.	100.	100.	100.
EYES - color PINK	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 15 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
SKIN - color				
PINK	100.	100.	100.	100.
EYE PROMINENCE				
NORMAL	100.	100.	100.	100.
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 16 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	5	5	4	5
MODERATELY DIFFICULT: ANIMAL REARS, OFTEN FOLLOWING INVESTIGATOR'S HAND	0	0	1	0
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	5	5	5	5
LACRIMATION				
NONE	5	5	5	5
CHROMODACRYORRHEA				
ABSENT	5	5	5	5
SALIVATION				
NONE	5	5	5	5
PILOERECTION				
NONE	5	5	5	5
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	5	5	5	4
SLIGHTLY SOILED	0	0	0	1
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	5	5	5
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 16 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY CHARACTER				
NORMAL	5	5	5	5
RED DEPOSITS - eyes				
PRESENT	0	1	0	1
ABSENT	5	4	5	4
RED DEPOSITS - nose				
PRESENT	0	0	1	1
ABSENT	5	5	4	4
RED DEPOSITS - mouth				
PRESENT	0	0	0	1
ABSENT	5	5	5	4
CRUSTY DEPOSITS - eyes				
ABSENT	5	5	5	5
CRUSTY DEPOSITS - nose				
ABSENT	5	5	5	5
CRUSTY DEPOSITS - mouth				
ABSENT	5	5	5	5
MUCOUS MEMBRANES - color				
PINK	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 16 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EYES - color				
PINK	5	5	5	5
SKIN - color				
PINK	5	5	5	5
EYE PROMINENCE				
NORMAL	5	5	5	5
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 16 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	5	4	5	4
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	0	1	0	1
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	5	5	5	5
LACRIMATION				
NONE	5	5	5	5
CHROMODACRYORRHEA				
ABSENT	5	5	5	5
SALIVATION				
NONE	5	5	5	5
PILOERECTION				
NONE	5	5	5	5
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	5	5	5
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 16 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY CHARACTER NORMAL	5	5	5	5
RED DEPOSITS - eyes ABSENT	5	5	5	5
RED DEPOSITS - nose ABSENT	5	5	5	5
RED DEPOSITS - mouth ABSENT	5	5	5	5
CRUSTY DEPOSITS - eyes ABSENT	5	5	5	5
CRUSTY DEPOSITS - nose ABSENT	5	5	5	5
CRUSTY DEPOSITS - mouth ABSENT	5	5	5	5
MUCOUS MEMBRANES - color PINK	5	5	5	5
EYES - color PINK	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 16 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
SKIN - color				
PINK	5	5	5	5
EYE PROMINENCE				
NORMAL	5	5	5	5
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 17 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	100.	100.	80.0	100.
MODERATELY DIFFICULT: ANIMAL REARS, OFTEN FOLLOWING INVESTIGATOR'S HAND	0.	0.	20.0	0.
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	100.	100.	100.	100.
LACRIMATION				
NONE	100.	100.	100.	100.
CHROMODACRYORRHEA				
ABSENT	100.	100.	100.	100.
SALIVATION				
NONE	100.	100.	100.	100.
PILOERECTION				
NONE	100.	100.	100.	100.
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	100.	100.	100.	80.0
SLIGHTLY SOILED	0.	0.	0.	20.0
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	100.	100.	100.
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 17 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY CHARACTER				
NORMAL	100.	100.	100.	100.
RED DEPOSITS - eyes				
PRESENT	0.	20.0	0.	20.0
ABSENT	100.	80.0	100.	80.0
RED DEPOSITS - nose				
PRESENT	0.	0.	20.0	20.0
ABSENT	100.	100.	80.0	80.0
RED DEPOSITS - mouth				
PRESENT	0.	0.	0.	20.0
ABSENT	100.	100.	100.	80.0
CRUSTY DEPOSITS - eyes				
ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - nose				
ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - mouth				
ABSENT	100.	100.	100.	100.
MUCOUS MEMBRANES - color				
PINK	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 17 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EYES - color				
PINK	100.	100.	100.	100.
SKIN - color				
PINK	100.	100.	100.	100.
EYE PROMINENCE				
NORMAL	100.	100.	100.	100.
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 17 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	100.	80.0	100.	80.0
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	0.	20.0	0.	20.0
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	100.	100.	100.	100.
LACRIMATION				
NONE	100.	100.	100.	100.
CHROMODACRYORRHEA				
ABSENT	100.	100.	100.	100.
SALIVATION				
NONE	100.	100.	100.	100.
PILOERECTION				
NONE	100.	100.	100.	100.
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	100.	100.	100.
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 17 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY CHARACTER				
NORMAL	100.	100.	100.	100.
RED DEPOSITS - eyes				
ABSENT	100.	100.	100.	100.
RED DEPOSITS - nose				
ABSENT	100.	100.	100.	100.
RED DEPOSITS - mouth				
ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - eyes				
ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - nose				
ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - mouth				
ABSENT	100.	100.	100.	100.
MUCOUS MEMBRANES - color				
PINK	100.	100.	100.	100.
EYES - color				
PINK	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 17 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
SKIN - color				
PINK	100.	100.	100.	100.
EYE PROMINENCE				
NORMAL	100.	100.	100.	100.
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 18 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	5	2	5	4
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	0	1	0	1
MODERATELY DIFFICULT: ANIMAL REARS, OFTEN FOLLOWING INVESTIGATOR'S HAND	0	2	0	0
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	5	5	5	4
MODERATELY LOW: SLIGHT RESISTANCE TO BEING HANDLED, WITH/WITHOUT VOCALIZATION	0	0	0	1
LACRIMATION				
NONE	5	5	5	5
CHROMODACRYORRHEA				
ABSENT	5	5	5	5
SALIVATION				
NONE	5	5	5	5
PILOERECTION				
NONE	5	5	5	5
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 18 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY RATE NORMAL: BY OBSERVATION (80-110/MIN.)	5	5	5	5
RESPIRATORY CHARACTER NORMAL	5	5	5	5
RED DEPOSITS - eyes ABSENT	5	5	5	5
RED DEPOSITS - nose ABSENT	5	5	5	5
RED DEPOSITS - mouth ABSENT	5	5	5	5
CRUSTY DEPOSITS - eyes ABSENT	5	5	5	5
CRUSTY DEPOSITS - nose ABSENT	5	5	5	5
CRUSTY DEPOSITS - mouth ABSENT	5	5	5	5
MUCOUS MEMBRANES - color PINK	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 18 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EYES - color				
PINK	5	5	5	5
SKIN - color				
PINK	5	5	5	5
EYE PROMINENCE				
NORMAL	5	5	5	5
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 18 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	4	3	4	5
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	0	2	1	0
DIFFICULT: RUNS AROUND CAGE, IS HARD TO GRAB, WITH/WITHOUT VOCALIZATION	1	0	0	0
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	5	4	5	5
MODERATELY LOW: SLIGHT RESISTANCE TO BEING HANDLED, WITH/WITHOUT VOCALIZATION	0	1	0	0
LACRIMATION				
NONE	5	4	5	5
SLIGHT	0	1	0	0
CHROMODACRYORRHEA				
ABSENT	5	5	5	5
SALIVATION				
NONE	5	5	5	5
PILOERECTION				
NONE	5	5	5	5
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	5	5	5	5
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 18 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	5	5	5	5
RESPIRATORY CHARACTER				
NORMAL	5	5	5	5
RED DEPOSITS - eyes				
PRESENT	1	1	0	0
ABSENT	4	4	5	5
RED DEPOSITS - nose				
ABSENT	5	5	5	5
RED DEPOSITS - mouth				
ABSENT	5	5	5	5
CRUSTY DEPOSITS - eyes				
ABSENT	5	5	5	5
CRUSTY DEPOSITS - nose				
ABSENT	5	5	5	5
CRUSTY DEPOSITS - mouth				
ABSENT	5	5	5	5
MUCOUS MEMBRANES - color				
PINK	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 18 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EYES - color				
PINK	5	5	5	5
SKIN - color				
PINK	5	5	5	5
EYE PROMINENCE				
NORMAL	5	4	4	5
EXOPHTHALMUS	0	1	1	0
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 19 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	100.	40.0	100.	80.0
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	0.	20.0	0.	20.0
MODERATELY DIFFICULT: ANIMAL REARS, OFTEN FOLLOWING INVESTIGATOR'S HAND	0.	40.0	0.	0.
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	100.	100.	100.	80.0
MODERATELY LOW: SLIGHT RESISTANCE TO BEING HANDLED, WITH/WITHOUT VOCALIZATION	0.	0.	0.	20.0
LACRIMATION				
NONE	100.	100.	100.	100.
CHROMODACRYORRHEA				
ABSENT	100.	100.	100.	100.
SALIVATION				
NONE	100.	100.	100.	100.
PILOERECTION				
NONE	100.	100.	100.	100.
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 19 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY RATE NORMAL: BY OBSERVATION (80-110/MIN.)	100.	100.	100.	100.
RESPIRATORY CHARACTER NORMAL	100.	100.	100.	100.
RED DEPOSITS - eyes ABSENT	100.	100.	100.	100.
RED DEPOSITS - nose ABSENT	100.	100.	100.	100.
RED DEPOSITS - mouth ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - eyes ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - nose ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - mouth ABSENT	100.	100.	100.	100.
MUCOUS MEMBRANES - color PINK	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 19 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EYES - color				
PINK	100.	100.	100.	100.
SKIN - color				
PINK	100.	100.	100.	100.
EYE PROMINENCE				
NORMAL	100.	100.	100.	100.
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 19 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EASE OF REMOVAL				
VERY EASY: ANIMAL SITS QUIETLY, ALLOWS INVESTIGATOR TO PICK IT UP	80.0	60.0	80.0	100.
EASY: WITH/WITHOUT VOCALIZATION, WITHOUT RESISTANCE OR SLIGHT RESISTANCE	0.	40.0	20.0	0.
DIFFICULT: RUNS AROUND CAGE, IS HARD TO GRAB, WITH/WITHOUT VOCALIZATION	20.0	0.	0.	0.
EASE OF HANDLING IN HAND				
LOW: NO RESISTANCE, ANIMAL IS EASY TO HANDLE	100.	80.0	100.	100.
MODERATELY LOW: SLIGHT RESISTANCE TO BEING HANDLED, WITH/WITHOUT VOCALIZATION	0.	20.0	0.	0.
LACRIMATION				
NONE	100.	80.0	100.	100.
SLIGHT	0.	20.0	0.	0.
CHROMODACRYORRHEA				
ABSENT	100.	100.	100.	100.
SALIVATION				
NONE	100.	100.	100.	100.
PILOERECTION				
NONE	100.	100.	100.	100.
FUR APPEARANCE				
NORMAL: CLEAN AND GROOMED	100.	100.	100.	100.
PALPEBRAL CLOSURE				
EYELIDS WIDE OPEN	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 19 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
RESPIRATORY RATE				
NORMAL: BY OBSERVATION (80-110/MIN.)	100.	100.	100.	100.
RESPIRATORY CHARACTER				
NORMAL	100.	100.	100.	100.
RED DEPOSITS - eyes				
PRESENT	20.0	20.0	0.	0.
ABSENT	80.0	80.0	100.	100.
RED DEPOSITS - nose				
ABSENT	100.	100.	100.	100.
RED DEPOSITS - mouth				
ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - eyes				
ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - nose				
ABSENT	100.	100.	100.	100.
CRUSTY DEPOSITS - mouth				
ABSENT	100.	100.	100.	100.
MUCOUS MEMBRANES - color				
PINK	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 19 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

HANDLING OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
EYES - color				
PINK	100.	100.	100.	100.
SKIN - color				
PINK	100.	100.	100.	100.
EYE PROMINENCE				
NORMAL	100.	80.0	80.0	100.
EXOPHTHALMUS	0.	20.0	20.0	0.
MUSCLE TONE				
MUSCLE IS FIRM BUT NOT HARD (NORMAL)	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 20 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.4	0.3	0.3	0.3
S.D.	0.13	0.08	0.09	0.04
MOBILITY				
NORMAL	5	5	5	5
GAIT				
NORMAL	5	5	5	5
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
GAIT SCORE				
NORMAL	5	5	5	5
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	5	5	5	5
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 20 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	5.6	9.8	10.0	6.4
	S.D.	4.56	6.38	4.36	3.65
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.2	0.2	0.0	0.4
	S.D.	0.45	0.45	0.00	0.55
URINATION	: MEAN	0.4	0.2	0.8	0.6
	S.D.	0.55	0.45	0.45	0.55
DEFECATION	: MEAN	0.6	1.0	1.2	1.0
	S.D.	0.89	1.73	1.79	1.73

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 20 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.3	0.3	0.3	0.3
S.D.	0.00	0.04	0.07	0.08
MOBILITY				
NORMAL	5	5	5	5
GAIT				
NORMAL	5	5	5	5
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
GAIT SCORE				
NORMAL	5	5	5	5
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	5	5	5	5
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 20 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	7.4	8.8	9.0	9.0
	S.D.	4.04	5.22	3.46	7.78
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.8	0.2	0.6	0.2
	S.D.	0.45	0.45	0.89	0.45
URINATION	: MEAN	0.2	0.8	0.2	0.2
	S.D.	0.45	0.84	0.45	0.45
DEFECATION	: MEAN	0.0	1.8	0.0	0.0
	S.D.	0.00	2.95	0.00	0.00

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 21 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.4	0.3	0.3	0.3
S.D.	0.13	0.08	0.09	0.04
MOBILITY				
NORMAL	100.	100.	100.	100.
GAIT				
NORMAL	100.	100.	100.	100.
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
GAIT SCORE				
NORMAL	100.	100.	100.	100.
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	100.	100.	100.	100.
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 21 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	5.6	9.8	10.0	6.4
	S.D.	4.56	6.38	4.36	3.65
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.2	0.2	0.0	0.4
	S.D.	0.45	0.45	0.00	0.55
URINATION	: MEAN	0.4	0.2	0.8	0.6
	S.D.	0.55	0.45	0.45	0.55
DEFECATION	: MEAN	0.6	1.0	1.2	1.0
	S.D.	0.89	1.73	1.79	1.73

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 21 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.3	0.3	0.3	0.3
S.D.	0.00	0.04	0.07	0.08
MOBILITY				
NORMAL	100.	100.	100.	100.
GAIT				
NORMAL	100.	100.	100.	100.
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
GAIT SCORE				
NORMAL	100.	100.	100.	100.
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	100.	100.	100.	100.
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 21 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	7.4	8.8	9.0	9.0
	S.D.	4.04	5.22	3.46	7.78
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.8	0.2	0.6	0.2
	S.D.	0.45	0.45	0.89	0.45
URINATION	: MEAN	0.2	0.8	0.2	0.2
	S.D.	0.45	0.84	0.45	0.45
DEFECATION	: MEAN	0.0	1.8	0.0	0.0
	S.D.	0.00	2.95	0.00	0.00

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 22 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.4	0.5	0.3	0.3
S.D.	0.08	0.11	0.12	0.11
MOBILITY				
NORMAL	5	5	5	5
GAIT				
NORMAL	5	5	5	5
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
GAIT SCORE				
NORMAL	5	5	5	5
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	5	5	5	5
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 22 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	4.2	5.8	6.8	4.0
	S.D.	2.17	3.35	1.64	1.87
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.2	0.0	0.0	0.0
	S.D.	0.45	0.00	0.00	0.00
URINATION	: MEAN	0.2	0.8	1.2	0.8
	S.D.	0.45	0.84	1.30	0.84
DEFECATION	: MEAN	0.2	0.4	0.0	0.4
	S.D.	0.45	0.55	0.00	0.55

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 22 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.3	0.3	0.3	0.4
S.D.	0.04	0.05	0.05	0.04
MOBILITY				
NORMAL	5	5	5	5
GAIT				
NORMAL	5	5	5	5
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
GAIT SCORE				
NORMAL	5	5	5	5
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	5	5	5	5
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 22 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	11.8	9.0	10.6	10.6
	S.D.	3.83	5.29	7.44	6.47
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.6	0.2	0.0	0.4
	S.D.	0.89	0.45	0.00	0.55
URINATION	: MEAN	0.2	0.2	0.2	0.0
	S.D.	0.45	0.45	0.45	0.00
DEFECATION	: MEAN	0.0	0.2	0.0	0.0
	S.D.	0.00	0.45	0.00	0.00

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 23 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.4	0.5	0.3	0.3
S.D.	0.08	0.11	0.12	0.11
MOBILITY				
NORMAL	100.	100.	100.	100.
GAIT				
NORMAL	100.	100.	100.	100.
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
GAIT SCORE				
NORMAL	100.	100.	100.	100.
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	100.	100.	100.	100.
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 23 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	4.2	5.8	6.8	4.0
	S.D.	2.17	3.35	1.64	1.87
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.2	0.0	0.0	0.0
	S.D.	0.45	0.00	0.00	0.00
URINATION	: MEAN	0.2	0.8	1.2	0.8
	S.D.	0.45	0.84	1.30	0.84
DEFECATION	: MEAN	0.2	0.4	0.0	0.4
	S.D.	0.45	0.55	0.00	0.55

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 23 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.3	0.3	0.3	0.4
S.D.	0.04	0.05	0.05	0.04
MOBILITY				
NORMAL	100.	100.	100.	100.
GAIT				
NORMAL	100.	100.	100.	100.
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
GAIT SCORE				
NORMAL	100.	100.	100.	100.
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	100.	100.	100.	100.
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 23 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	11.8	9.0	10.6	10.6
	S.D.	3.83	5.29	7.44	6.47
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.6	0.2	0.0	0.4
	S.D.	0.89	0.45	0.00	0.55
URINATION	: MEAN	0.2	0.2	0.2	0.0
	S.D.	0.45	0.45	0.45	0.00
DEFECATION	: MEAN	0.0	0.2	0.0	0.0
	S.D.	0.00	0.45	0.00	0.00

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

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11/20/2000
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TABLE 24 (WEEK 16 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
TIME TO FIRST STEP (seconds)	: MEAN	0.3	0.3	0.4	0.3
	S.D.	0.08	0.05	0.11	0.12
MOBILITY					
NORMAL		4	5	5	5
SLIGHTLY IMPAIRED		1	0	0	0
GAIT					
NORMAL		4	5	5	5
HUNCHED BODY		1	0	0	0
CONVULSIONS - CLONIC					
ABSENT		5	5	5	5
CONVULSIONS - TONIC					
ABSENT		5	5	5	5
TREMORS					
NONE		5	5	5	5
GAIT SCORE					
NORMAL		4	5	5	5
SLIGHT IMPAIRMENT, BUT DEFINITE		1	0	0	0
AROUSAL					
LOW: SOMEWHAT STUPOROUS		1	0	0	0
NORMAL: ALERT, EXPLORATORY MOVEMENTS		4	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 24 (WEEK 16 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
BIZARRE/STEREOTYPIC BEHAVIOR					
NONE		5	5	5	5
REARING	: MEAN	3.2	6.4	6.8	4.8
	S.D.	2.86	3.65	1.92	3.96
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.0	0.2	0.0	0.2
	S.D.	0.00	0.45	0.00	0.45
URINATION	: MEAN	0.6	0.4	0.8	1.0
	S.D.	0.89	0.55	0.84	0.71
DEFECATION	: MEAN	1.0	0.8	0.0	0.2
	S.D.	1.00	1.30	0.00	0.45

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 24 (WEEK 16 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.3	0.3	0.3	0.3
S.D.	0.05	0.04	0.04	0.07
MOBILITY				
NORMAL	5	5	5	5
GAIT				
NORMAL	5	5	5	5
CONVULSIONS - CLONIC				
ABSENT	5	5	5	5
CONVULSIONS - TONIC				
ABSENT	5	5	5	5
TREMORS				
NONE	5	5	5	5
GAIT SCORE				
NORMAL	5	5	5	5
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	5	5	5	5
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 24 (WEEK 16 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	14.2	11.0	10.6	11.4
	S.D.	6.87	6.89	5.08	7.30
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.4	0.6	0.4	0.2
	S.D.	0.55	0.55	0.89	0.45
URINATION	: MEAN	0.0	0.2	0.0	0.2
	S.D.	0.00	0.45	0.00	0.45
DEFECATION	: MEAN	0.0	0.6	0.0	0.0
	S.D.	0.00	1.34	0.00	0.00

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

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TABLE 25 (WEEK 16 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.3	0.3	0.4	0.3
S.D.	0.08	0.05	0.11	0.12
MOBILITY				
NORMAL	80.0	100.	100.	100.
SLIGHTLY IMPAIRED	20.0	0.	0.	0.
GAIT				
NORMAL	80.0	100.	100.	100.
HUNCHED BODY	20.0	0.	0.	0.
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
GAIT SCORE				
NORMAL	80.0	100.	100.	100.
SLIGHT IMPAIRMENT, BUT DEFINITE	20.0	0.	0.	0.
AROUSAL				
LOW: SOMEWHAT STUPOROUS	20.0	0.	0.	0.
NORMAL: ALERT, EXPLORATORY MOVEMENTS	80.0	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 25 (WEEK 16 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
BIZARRE/STEREOTYPIC BEHAVIOR					
NONE		100.	100.	100.	100.
REARING	: MEAN	3.2	6.4	6.8	4.8
	S.D.	2.86	3.65	1.92	3.96
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.0	0.2	0.0	0.2
	S.D.	0.00	0.45	0.00	0.45
URINATION	: MEAN	0.6	0.4	0.8	1.0
	S.D.	0.89	0.55	0.84	0.71
DEFECATION	: MEAN	1.0	0.8	0.0	0.2
	S.D.	1.00	1.30	0.00	0.45

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 25 (WEEK 16 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
TIME TO FIRST STEP (seconds) : MEAN	0.3	0.3	0.3	0.3
S.D.	0.05	0.04	0.04	0.07
MOBILITY				
NORMAL	100.	100.	100.	100.
GAIT				
NORMAL	100.	100.	100.	100.
CONVULSIONS - CLONIC				
ABSENT	100.	100.	100.	100.
CONVULSIONS - TONIC				
ABSENT	100.	100.	100.	100.
TREMORS				
NONE	100.	100.	100.	100.
GAIT SCORE				
NORMAL	100.	100.	100.	100.
AROUSAL				
NORMAL: ALERT, EXPLORATORY MOVEMENTS	100.	100.	100.	100.
BIZARRE/STEREOTYPIC BEHAVIOR				
NONE	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 25 (WEEK 16 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

OPEN FIELD OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
REARING	: MEAN	14.2	11.0	10.6	11.4
	S.D.	6.87	6.89	5.08	7.30
BACKING	: MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
GROOMING	: MEAN	0.4	0.6	0.4	0.2
	S.D.	0.55	0.55	0.89	0.45
URINATION	: MEAN	0.0	0.2	0.0	0.2
	S.D.	0.00	0.45	0.00	0.45
DEFECATION	: MEAN	0.0	0.6	0.0	0.0
	S.D.	0.00	1.34	0.00	0.00

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 26 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
SLOW APPROACH, SNIFFING OR TURNING AWAY	5	5	5	5
TOUCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	5	5	5
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	5	5	5	5
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	4	5	5
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0	1	0	0
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	5	5	5	5
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	5	5	5	5
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	5	5	5	5
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	5	5	5	5
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 26 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
AIR RIGHTING REFLEX				
NORMAL	5	4	5	5
SLIGHTLY UNCOORDINATED	0	1	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 26 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
SLOW APPROACH, SNIFFING OR TURNING AWAY	5	5	5	5
TOUCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	5	5	5
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	5	5	4	5
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0	0	1	0
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	5	4	5
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0	0	1	0
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	5	5	5	5
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	5	5	5	5
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	5	5	5	5
FORELIMB EXTENSION				
NO FORELIMB EXTENSION	1	0	0	0
FORELIMB EXTENSION PRESENT	4	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 26 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	5	5	5	5
AIR RIGHTING REFLEX				
NORMAL	4	5	5	5
SLIGHTLY UNCOORDINATED	1	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

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TABLE 27 (WEEK-1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
SLOW APPROACH, SNIFFING OR TURNING AWAY	100.	100.	100.	100.
TOUCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	100.	100.	100.
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	100.	100.	100.	100.
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	80.0	100.	100.
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0.	20.0	0.	0.
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	100.	100.	100.	100.
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	100.	100.	100.	100.
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	100.	100.	100.	100.
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	100.	100.	100.	100.
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 27 (WEEK-1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
AIR RIGHTING REFLEX				
NORMAL	100.	80.0	100.	100.
SLIGHTLY UNCOORDINATED	0.	20.0	0.	0.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 27 (WEEK-1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
SLOW APPROACH, SNIFFING OR TURNING AWAY	100.	100.	100.	100.
TOUCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	100.	100.	100.
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	100.	100.	80.0	100.
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0.	0.	20.0	0.
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	100.	80.0	100.
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0.	0.	20.0	0.
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	100.	100.	100.	100.
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	100.	100.	100.	100.
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	100.	100.	100.	100.
FORELIMB EXTENSION				
NO FORELIMB EXTENSION	20.0	0.	0.	0.
FORELIMB EXTENSION PRESENT	80.0	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 27 (WEEK-1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	100.	100.	100.	100.
AIR RIGHTING REFLEX				
NORMAL	80.0	100.	100.	100.
SLIGHTLY UNCOORDINATED	20.0	0.	0.	0.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

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TABLE 28 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
NO REACTION	0	1	0	0
SLOW APPROACH, SNIFFING OR TURNING AWAY	5	4	4	5
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0	0	1	0
TOUCH RESPONSE				
NO REACTION	0	1	0	0
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	4	4	5
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0	0	1	0
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	5	5	5	5
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	5	4	5
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0	0	1	0
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	5	5	5	5
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	5	5	5	5
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	5	5	5	5
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 28 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	5	5	5	5
AIR RIGHTING REFLEX				
NORMAL	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 28 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
SLOW APPROACH, SNIFFING OR TURNING AWAY	5	5	5	5
TOUCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	5	5	5
STARTLE RESPONSE				
NO REACTION	0	0	0	1
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	5	5	5	4
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	5	5	5
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	5	5	5	5
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	5	5	5	5
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	5	5	5	5
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	5	5	5	5
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 28 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
AIR RIGHTING REFLEX				
NORMAL	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

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TABLE 29 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
NO REACTION	0.	20.0	0.	0.
SLOW APPROACH, SNIFFING OR TURNING AWAY	100.	80.0	80.0	100.
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0.	0.	20.0	0.
TOUCH RESPONSE				
NO REACTION	0.	20.0	0.	0.
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	80.0	80.0	100.
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0.	0.	20.0	0.
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	100.	100.	100.	100.
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	100.	80.0	100.
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0.	0.	20.0	0.
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	100.	100.	100.	100.
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	100.	100.	100.	100.
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	100.	100.	100.	100.
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 29 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	100.	100.	100.	100.
AIR RIGHTING REFLEX				
NORMAL	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 29 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
SLOW APPROACH, SNIFFING OR TURNING AWAY	100.	100.	100.	100.
TOUCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	100.	100.	100.
STARTLE RESPONSE				
NO REACTION	0.	0.	0.	20.0
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	100.	100.	100.	80.0
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	100.	100.	100.
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	100.	100.	100.	100.
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	100.	100.	100.	100.
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	100.	100.	100.	100.
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	100.	100.	100.	100.
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 29 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
AIR RIGHTING REFLEX				
NORMAL	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

PFOBSUv4.11
10/27/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 30 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
NO REACTION	0	0	1	0
SLOW APPROACH, SNIFFING OR TURNING AWAY	5	5	4	5
TOUCH RESPONSE				
NO REACTION	0	0	1	0
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	5	4	5
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	5	5	5	5
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	5	5	5
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	5	5	5	5
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	5	5	5	5
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	5	5	5	5
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	5	5	5	5
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 30 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
AIR RIGHTING REFLEX				
NORMAL	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 30 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
SLOW APPROACH, SNIFFING OR TURNING AWAY	5	4	5	5
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0	1	0	0
TOUCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	4	5	5
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0	1	0	0
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	5	5	5	5
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	5	4	5	5
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0	1	0	0
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	5	5	5	5
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	5	5	5	5
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	5	5	5	5
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 30 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	5	5	5	5
AIR RIGHTING REFLEX				
NORMAL	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

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10/27/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 31 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
NO REACTION	0.	0.	20.0	0.
SLOW APPROACH, SNIFFING OR TURNING AWAY	100.	100.	80.0	100.
TOUCH RESPONSE				
NO REACTION	0.	0.	20.0	0.
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	100.	80.0	100.
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	100.	100.	100.	100.
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	100.	100.	100.
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	100.	100.	100.	100.
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	100.	100.	100.	100.
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	100.	100.	100.	100.
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	100.	100.	100.	100.
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 31 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
AIR RIGHTING REFLEX				
NORMAL	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

TABLE 31 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
APPROACH RESPONSE				
SLOW APPROACH, SNIFFING OR TURNING AWAY	100.	80.0	100.	100.
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0.	20.0	0.	0.
TOUCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	80.0	100.	100.
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0.	20.0	0.	0.
STARTLE RESPONSE				
SLIGHT REACTION, EAR FLICK OR SOME EVIDENCE THAT SNAP WAS HEARD	100.	100.	100.	100.
TAIL PINCH RESPONSE				
ANIMAL MAY SLOWLY TURN, WALK AWAY	100.	80.0	100.	100.
MORE ENERGETIC RESPONSE THAN (2), WITH/WITHOUT VOCALIZATION	0.	20.0	0.	0.
OLFACTORY ORIENTATION				
REACTION PRESENT: ANIMAL APPROACHES SWAB MAKING SNIFFING MOVEMENTS WITH NOSE	100.	100.	100.	100.
PUPIL RESPONSE				
PUPIL RESPONSE PRESENT	100.	100.	100.	100.
EYEBLINK RESPONSE				
EYEBLINK RESPONSE PRESENT	100.	100.	100.	100.
FORELIMB EXTENSION				
FORELIMB EXTENSION PRESENT	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 31 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

SENSORY OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:	1	2	3	4
NUMBER TESTED:	5	5	5	5
HINDLIMB EXTENSION				
HINDLIMB EXTENSION PRESENT	100.	100.	100.	100.
AIR RIGHTING REFLEX				
NORMAL	100.	100.	100.	100.

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
COMPLETE SCORING CRITERIA PRESENTED AS AN APPENDIX

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10/27/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 32 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		5	5	5	5
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	535.0	608.2	633.4	573.4
	S.D.	56.03	108.04	62.47	101.77
	HIND: MEAN	268.4	263.4	251.6	283.4
	S.D.	52.56	40.13	32.24	52.65
ROTAROD PERFORMANCE (seconds)	: MEAN	99.5	120.0	98.9	95.9
	S.D.	45.75	0.00	47.18	33.08
HINDLIMB FOOTSPLAY (mm)	: MEAN	83.4	83.2	65.8	67.8
	S.D.	14.72	3.63	14.62	26.44

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 32 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		5	5	5	5
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	493.4	558.4	551.6	526.8
	S.D.	52.68	76.71	31.14	87.06
	HIND: MEAN	256.6	255.2	300.2	251.6
	S.D.	38.73	53.17	54.92	37.51
ROTAROD PERFORMANCE (seconds)	: MEAN	56.9	98.0	64.3	113.6
	S.D.	58.13	49.28	51.13	14.40
HINDLIMB FOOTSPLAY (mm)	: MEAN	48.8	57.4	54.0	51.0
	S.D.	12.76	23.49	15.41	24.19

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 33 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		100.	100.	100.	100.
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	535.0	608.2	633.4	573.4
	S.D.	56.03	108.04	62.47	101.77
	HIND: MEAN	268.4	263.4	251.6	283.4
	S.D.	52.56	40.13	32.24	52.65
ROTAROD PERFORMANCE (seconds)	: MEAN	99.5	120.0	98.9	95.9
	S.D.	45.75	0.00	47.18	33.08
HINDLIMB FOOTSPLAY (mm)	: MEAN	83.4	83.2	65.8	67.8
	S.D.	14.72	3.63	14.62	26.44

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 33 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		100.	100.	100.	100.
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	493.4	558.4	551.6	526.8
	S.D.	52.68	76.71	31.14	87.06
	HIND: MEAN	256.6	255.2	300.2	251.6
	S.D.	38.73	53.17	54.92	37.51
ROTAROD PERFORMANCE (seconds)	: MEAN	56.9	98.0	64.3	113.6
	S.D.	58.13	49.28	51.13	14.40
HINDLIMB FOOTSPLAY (mm)	: MEAN	48.8	57.4	54.0	51.0
	S.D.	12.76	23.49	15.41	24.19

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 34 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		5	5	5	5
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	1268.4	1041.6	1211.8	1293.2
	S.D.	413.04	418.44	266.63	256.21
	HIND: MEAN	1005.0	798.2	965.0	965.0
	S.D.	309.85	91.26	149.44	181.53
ROTAROD PERFORMANCE (seconds)	: MEAN	71.9	44.1	53.1	62.9
	S.D.	47.77	49.37	40.37	48.79
HINDLIMB FOOTSPLAY (mm)	: MEAN	102.0	82.0	64.6	84.4
	S.D.	16.69	22.77	21.27	16.46

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 34 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		5	5	5	5
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	791.8	923.4	954.8	938.2
	S.D.	252.36	419.23	213.82	294.20
	HIND: MEAN	671.6	728.2	810.0	719.8
	S.D.	142.97	159.10	120.68	110.12
ROTAROD PERFORMANCE (seconds)	: MEAN	54.4	47.5	73.1	81.2
	S.D.	40.34	41.21	50.11	53.34
HINDLIMB FOOTSPLAY (mm)	: MEAN	69.8	71.2	73.4	82.4
	S.D.	9.98	26.99	14.88	30.74

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 35 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH HINDLIMB RESISTANCE PRESENT		100.	100.	100.	100.
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	1268.4	1041.6	1211.8	1293.2
	S.D.	413.04	418.44	266.63	256.21
	HIND: MEAN	1005.0	798.2	965.0	965.0
	S.D.	309.85	91.26	149.44	181.53
ROTAROD PERFORMANCE (seconds)	: MEAN	71.9	44.1	53.1	62.9
	S.D.	47.77	49.37	40.37	48.79
HINDLIMB FOOTSPLAY (mm)	: MEAN	102.0	82.0	64.6	84.4
	S.D.	16.69	22.77	21.27	16.46

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 35 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		100.	100.	100.	100.
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	791.8	923.4	954.8	938.2
	S.D.	252.36	419.23	213.82	294.20
	HIND: MEAN	671.6	728.2	810.0	719.8
	S.D.	142.97	159.10	120.68	110.12
ROTAROD PERFORMANCE (seconds)	: MEAN	54.4	47.5	73.1	81.2
	S.D.	40.34	41.21	50.11	53.34
HINDLIMB FOOTSPLAY (mm)	: MEAN	69.8	71.2	73.4	82.4
	S.D.	9.98	26.99	14.88	30.74

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 36 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
MALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH HINDLIMB RESISTANCE PRESENT		5	5	5	5
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	1058.4	686.6	961.6	906.6
	S.D.	174.06	256.20	373.04	427.64
	HIND: MEAN	505.0	453.2	445.0	520.0
	S.D.	120.70	144.70	120.42	251.70
ROTAROD PERFORMANCE (seconds)	: MEAN	51.5	50.9	55.7	34.7
	S.D.	62.54	53.52	19.88	48.06
HINDLIMB FOOTSPLAY (mm)	: MEAN	77.0	59.6	55.2	50.2
	S.D.	24.42	17.44	21.37	17.46

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 36 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
FEMALES
NUMBER OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		5	5	5	5
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	681.6	655.0	699.8	761.6
	S.D.	354.49	377.59	277.97	299.92
	HIND: MEAN	370.0	343.4	401.6	445.0
	S.D.	43.95	140.86	112.25	117.48
ROTAROD PERFORMANCE (seconds)	: MEAN	104.6	69.4	96.6	102.1
	S.D.	34.35	55.11	52.32	39.94
HINDLIMB FOOTSPLAY (mm)	: MEAN	45.6	36.4	45.6	43.4
	S.D.	12.72	22.19	12.40	10.81

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 37 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
MALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		100.	100.	100.	100.
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	1058.4	686.6	961.6	906.6
	S.D.	174.06	256.20	373.04	427.64
	HIND: MEAN	505.0	453.2	445.0	520.0
	S.D.	120.70	144.70	120.42	251.70
ROTAROD PERFORMANCE (seconds)	: MEAN	51.5	50.9	55.7	34.7
	S.D.	62.54	53.52	19.88	48.06
HINDLIMB FOOTSPLAY (mm)	: MEAN	77.0	59.6	55.2	50.2
	S.D.	24.42	17.44	21.37	17.46

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 37 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

NEUROMUSCULAR OBSERVATIONS
FEMALES
PERCENTAGE OF ANIMALS SHOWING EACH OBSERVATION

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
HINDLIMB EXTENSOR STRENGTH					
HINDLIMB RESISTANCE PRESENT		100.	100.	100.	100.
GRIP STRENGTH (g) - FORE/HINDLIMB	FORE: MEAN	681.6	655.0	699.8	761.6
	S.D.	354.49	377.59	277.97	299.92
	HIND: MEAN	370.0	343.4	401.6	445.0
	S.D.	43.95	140.86	112.25	117.48
ROTAROD PERFORMANCE (seconds)	: MEAN	104.6	69.4	96.6	102.1
	S.D.	34.35	55.11	52.32	39.94
HINDLIMB FOOTSPLAY (mm)	: MEAN	45.6	36.4	45.6	43.4
	S.D.	12.72	22.19	12.40	10.81

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 38 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

PHYSIOLOGICAL OBSERVATIONS
MALES

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
CATALEPSY (seconds)	: MEAN	0.6	0.6	0.6	0.6
	S.D.	0.13	0.25	0.15	0.17
	N	5	5	5	5
BODY TEMPERATURE (degrees C)	: MEAN	38.2	38.3	38.2	38.1
	S.D.	0.19	0.47	0.33	0.33
	N	5	5	5	5
BODY WEIGHT (g)	: MEAN	226.2	224.1	238.2	221.9
	S.D.	15.97	23.90	24.93	14.78
	N	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 38 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

PHYSIOLOGICAL OBSERVATIONS
FEMALES

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
CATALEPSY (seconds)	: MEAN	0.6	0.6	0.6	0.6
	S.D.	0.11	0.11	0.10	0.10
	N	5	5	5	5
BODY TEMPERATURE (degrees C)	: MEAN	38.2	38.5	38.6	38.5
	S.D.	0.29	0.22	0.18	0.33
	N	5	5	5	5
BODY WEIGHT (g)	: MEAN	172.2	170.5	170.4	178.4
	S.D.	13.26	11.14	19.51	20.34
	N	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 39 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

PHYSIOLOGICAL OBSERVATIONS
MALES

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
CATALEPSY (seconds)	: MEAN	0.4	0.5	0.3	0.8
	S.D.	0.13	0.22	0.11	1.00
	N	5	4	5	5
BODY TEMPERATURE (degrees C)	: MEAN	38.5	38.4	38.0	38.3
	S.D.	0.56	0.75	0.90	0.58
	N	5	5	5	5
BODY WEIGHT (g)	: MEAN	547.2	515.4	559.0	514.2
	S.D.	39.01	92.19	55.64	63.76
	N	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 39 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

PHYSIOLOGICAL OBSERVATIONS
FEMALES

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
CATALEPSY (seconds)	: MEAN	0.4	0.4	0.4	0.4
	S.D.	0.12	0.18	0.14	0.09
	N	5	5	4	5
BODY TEMPERATURE (degrees C)	: MEAN	38.8	39.0	38.8	39.1
	S.D.	0.19	0.25	0.60	0.68
	N	5	5	5	5
BODY WEIGHT (g)	: MEAN	297.4	289.7	290.0	317.3
	S.D.	33.72	37.67	42.93	45.05
	N	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 40 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

PHYSIOLOGICAL OBSERVATIONS
MALES

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
CATALEPSY (seconds)	: MEAN	1.4	0.5	0.5	0.7
	S.D.	1.39	0.15	0.13	0.41
	N	5	5	5	5
BODY TEMPERATURE (degrees C)	: MEAN	38.3	38.4	38.4	38.2
	S.D.	0.56	0.55	0.50	0.34
	N	5	5	5	5
BODY WEIGHT (g)	: MEAN	571.7	528.0	563.2	526.4
	S.D.	31.06	89.30	53.63	72.55
	N	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 40 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
FUNCTIONAL OBSERVATIONAL BATTERY SUMMARY INCIDENCE

PHYSIOLOGICAL OBSERVATIONS
FEMALES

GROUP:		1	2	3	4
NUMBER TESTED:		5	5	5	5
CATALEPSY (seconds)	: MEAN	0.5	0.6	0.8	0.7
	S.D.	0.19	0.15	0.89	0.21
	N	5	5	5	5
BODY TEMPERATURE (degrees C)	: MEAN	38.4	37.9	38.5	38.3
	S.D.	0.67	0.47	0.33	0.41
	N	4	5	5	5
BODY WEIGHT (g)	: MEAN	301.8	296.2	296.5	306.4
	S.D.	33.45	28.25	42.49	39.19
	N	5	5	5	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PFOBSUv4.11
10/27/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 41
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
GROUP MEAN MOTOR ACTIVITY COUNTS

GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
	----- M A L E -----			
PRETEST				
TOTAL				
MEAN	944.	684.	683.	547.
S.D.	412.6	486.2	130.5	298.1
N	5	5	5	5
AMBULATORY				
MEAN	326.	218.	187.	162.
S.D.	128.9	182.3	59.0	125.3
N	5	5	5	5
WEEK 12				
TOTAL				
MEAN	834.	937.	1054.	1164.
S.D.	209.1	460.4	248.5	121.8
N	5	5	5	5
AMBULATORY				
MEAN	168.	164.	253.	236.
S.D.	70.1	111.7	98.1	57.9
N	5	5	5	5
WEEK 16				
TOTAL				
MEAN	750.	830.	556.	778.
S.D.	262.6	262.9	62.8	132.5
N	5	5	5	5
AMBULATORY				
MEAN	154.	160.	103.	170.
S.D.	55.6	76.0	21.1	56.8
N	5	5	5	5

TABLE 41
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
GROUP MEAN MOTOR ACTIVITY COUNTS

GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
	----- F E M A L E -----			
PRETEST				
TOTAL				
MEAN	961.	852.	996.	934.
S.D.	383.5	446.4	254.7	378.4
N	5	5	5	5
AMBULATORY				
MEAN	349.	295.	341.	339.
S.D.	167.7	156.4	91.8	165.1
N	5	5	5	5
WEEK 12				
TOTAL				
MEAN	792.	700.	1004.	1137.
S.D.	339.8	529.8	271.6	337.2
N	5	5	5	5
AMBULATORY				
MEAN	255.	201.	321.	339.
S.D.	112.9	175.9	158.2	114.8
N	5	5	5	5
WEEK 16				
TOTAL				
MEAN	1006.	869.	1047.	1164.
S.D.	415.6	517.7	430.4	424.2
N	5	5	5	5
AMBULATORY				
MEAN	353.	291.	340.	379.
S.D.	183.7	219.4	173.3	163.0
N	5	5	5	5

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10/27/2000
R:07/18/2001

TABLE 42
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
WHITE CELL (thous/uL)					
WEEK 3	MEAN	16.7	13.1	13.0	14.0
	S.D.	4.00	2.10	3.41	3.21
	N	5	5	5	5
WEEK 13	MEAN	14.2	12.9	11.4	12.7
	S.D.	3.62	2.76	2.70	2.96
	N	10	10	10	9
WEEK 17	MEAN	14.9	14.0	14.6	13.0
	S.D.	2.88	3.32	2.83	2.73
	N	5	5	5	5
RED CELLS (mil/uL)					
WEEK 3	MEAN	7.16	7.38	7.35	7.23
	S.D.	0.229	0.125	0.217	0.384
	N	5	5	5	5
WEEK 13	MEAN	8.01	8.18	8.07	7.72
	S.D.	0.515	0.240	0.628	0.576
	N	10	10	10	9
WEEK 17	MEAN	8.57	8.73	8.54	8.80
	S.D.	0.655	0.417	0.479	0.571
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

None significantly different from control group

TABLE 42
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
HEMOGLOBIN (g/dL)					
WEEK 3	MEAN	14.2	14.7	14.9**	14.4
	S.D.	0.37	0.31	0.19	0.28
	N	5	5	5	5
WEEK 13	MEAN	14.6	14.9	14.9	14.4
	S.D.	0.80	0.38	0.84	0.80
	N	10	10	10	9
WEEK 17	MEAN	15.5	15.4	15.7	16.1
	S.D.	0.82	0.81	0.62	0.36
	N	5	5	5	5
HEMATOCRIT (%)					
WEEK 3	MEAN	40.9	42.5*	42.7*	41.9
	S.D.	1.03	0.74	0.84	1.17
	N	5	5	5	5
WEEK 13	MEAN	41.3	41.8	42.2	41.0
	S.D.	2.61	1.31	2.71	2.66
	N	10	10	10	9
WEEK 17	MEAN	42.2	42.2	42.9	43.7
	S.D.	2.20	1.86	1.43	1.11
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 42
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
MCV (fL)					
WEEK 3	MEAN	57.1	57.5	58.1	57.9
	S.D.	1.15	1.18	1.35	2.08
	N	5	5	5	5
WEEK 13	MEAN	51.6	51.2	52.4	53.1
	S.D.	1.29	1.27	1.81	2.31
	N	10	10	10	9
WEEK 17	MEAN	49.4	48.3	50.3	49.8
	S.D.	3.05	1.13	1.23	2.29
	N	5	5	5	5
MCH (uug)					
WEEK 3	MEAN	19.8	19.9	20.3	20.0
	S.D.	0.48	0.46	0.45	0.90
	N	5	5	5	5
WEEK 13	MEAN	18.2	18.2	18.6	18.7
	S.D.	0.59	0.49	0.91	0.77
	N	10	10	10	9
WEEK 17	MEAN	18.1	17.7	18.4	18.4
	S.D.	0.98	0.51	0.53	0.85
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

None significantly different from control group

TABLE 42
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	----- M A L E ----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
MCHC (g/dL)					
WEEK 3	MEAN	34.8	34.6	34.9	34.5
	S.D.	0.21	0.40	0.34	0.36
	N	5	5	5	5
WEEK 13	MEAN	35.4	35.7	35.4	35.2
	S.D.	0.56	0.53	0.74	0.51
	N	10	10	10	9
WEEK 17	MEAN	36.6	36.6	36.6	36.9
	S.D.	0.70	0.36	0.81	0.29
	N	5	5	5	5
PLATELET (thous/uL)					
WEEK 3	MEAN	973.	1109.	999.	1046.
	S.D.	174.3	148.8	96.2	116.8
	N	5	5	5	5
WEEK 13	MEAN	1298.	1342.	1327.	1035.
	S.D.	261.7	196.9	299.3	144.7
	N	10	10	10	9
WEEK 17	MEAN	1353.	1534.	1439.	1447.
	S.D.	75.7	101.1	130.7	202.3
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

None significantly different from control group

TABLE 42

PROJECT NO.:WIL-186012 A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS PAGE 5

SPONSOR:CMA-BFRIP HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
PROTIME (seconds)					
WEEK 3	MEAN	NA	NA	NA	NA
	S.D.				
	N				
WEEK 13	MEAN	13.5	15.6*	15.7*	15.4*
	S.D.	0.37	2.10	2.06	1.42
	N	10	10	10	9
WEEK 17	MEAN	14.2	13.3	13.3	14.0
	S.D.	1.23	0.98	0.85	0.76
	N	5	5	5	5
APTT (seconds)					
WEEK 3	MEAN	NA	NA	NA	NA
	S.D.				
	N				
WEEK 13	MEAN	19.9	23.2	24.5	24.0
	S.D.	2.10	2.75	3.99	6.14
	N	10	10	10	9
WEEK 17	MEAN	18.5	19.2	18.3	20.4
	S.D.	0.54	1.71	1.09	1.00
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS, fL = FEMTOLITERS

* = Significantly different from the control group at 0.05 using Dunnett's test

NA = NOT APPLICABLE

TABLE 42
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
WHITE CELL (thous/uL)					
WEEK 3	MEAN	9.9	9.8	13.2	11.5
	S.D.	1.61	2.99	3.96	1.44
	N	5	5	5	5
WEEK 13	MEAN	8.2	8.8	9.6	9.0
	S.D.	2.87	2.08	1.66	3.47
	N	10	10	10	10
WEEK 17	MEAN	8.2	10.2	7.8	8.8
	S.D.	2.60	3.48	1.64	3.12
	N	5	5	5	5
RED CELLS (mil/uL)					
WEEK 3	MEAN	6.88	6.89	7.01	7.13
	S.D.	0.264	0.442	0.281	0.339
	N	5	5	5	5
WEEK 13	MEAN	7.01	7.14	6.64	7.12
	S.D.	0.653	0.635	0.964	0.624
	N	10	10	10	10
WEEK 17	MEAN	7.61	7.61	7.60	7.49
	S.D.	0.267	0.819	0.242	0.122
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

None significantly different from control group

TABLE 42
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
HEMOGLOBIN (g/dL)					
WEEK 3	MEAN	13.7	13.9	14.1	14.3
	S.D.	0.41	1.08	0.45	0.52
	N	5	5	5	5
WEEK 13	MEAN	13.8	13.6	12.9	13.6
	S.D.	1.29	1.05	1.43	1.01
	N	10	10	10	10
WEEK 17	MEAN	14.8	14.7	14.6	14.9
	S.D.	0.38	1.01	0.25	0.19
	N	5	5	5	5
HEMATOCRIT (%)					
WEEK 3	MEAN	39.9	40.5	41.6	42.2
	S.D.	0.77	3.30	1.25	1.77
	N	5	5	5	5
WEEK 13	MEAN	38.4	38.1	36.3	38.3
	S.D.	3.70	2.98	4.49	2.84
	N	10	10	10	10
WEEK 17	MEAN	39.9	40.1	40.0	40.6
	S.D.	1.20	3.06	1.11	0.51
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

None significantly different from control group

TABLE 42
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E -----			
MCV (fL)					
WEEK 3	MEAN	58.1	58.7	59.4	59.2
	S.D.	1.85	1.37	0.98	1.98
	N	5	5	5	5
WEEK 13	MEAN	54.7	53.5	54.9	53.8
	S.D.	1.20	1.04	2.47	1.71
	N	10	10	10	10
WEEK 17	MEAN	52.5	53.0	52.7	54.1
	S.D.	1.24	2.11	1.29	0.55
	N	5	5	5	5
MCH (uug)					
WEEK 3	MEAN	19.9	20.2	20.1	20.1
	S.D.	0.73	0.57	0.19	0.67
	N	5	5	5	5
WEEK 13	MEAN	19.7	19.1	19.6	19.1
	S.D.	0.48	0.65	1.29	0.70
	N	10	10	10	10
WEEK 17	MEAN	19.4	19.5	19.1	19.9
	S.D.	0.54	0.99	0.30	0.31
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

None significantly different from control group

TABLE 42
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
MCHC (g/dL)					
WEEK 3	MEAN	34.3	34.3	33.9	34.0
	S.D.	0.63	0.48	0.41	0.38
	N	5	5	5	5
WEEK 13	MEAN	35.9	35.7	35.7	35.4
	S.D.	0.29	0.68	0.92	0.47
	N	10	10	10	10
WEEK 17	MEAN	37.0	36.8	36.3	36.7
	S.D.	0.41	0.41	0.60	0.52
	N	5	5	5	5
PLATELET (thous/uL)					
WEEK 3	MEAN	1213.	980.	1097.	1121.
	S.D.	181.5	176.0	94.1	134.4
	N	5	5	5	5
WEEK 13	MEAN	1296.	1199.	1153.	1172.
	S.D.	350.5	518.8	159.2	491.3
	N	10	10	10	10
WEEK 17	MEAN	1300.	1423.	1310.	1346.
	S.D.	183.5	59.2	147.2	89.6
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

None significantly different from control group

TABLE 42
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HEMATOLOGY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E -----			
PROTIME (seconds)					
WEEK 3	MEAN	NA	NA	NA	NA
	S.D.				
	N				
WEEK 13	MEAN	13.3	12.6*	12.6*	12.9
	S.D.	0.48	0.44	0.54	0.79
	N	10	10	10	10
WEEK 17	MEAN	12.3	12.0	12.2	12.6
	S.D.	0.78	0.41	0.58	1.47
	N	5	5	5	5
APTT (seconds)					
WEEK 3	MEAN	NA	NA	NA	NA
	S.D.				
	N				
WEEK 13	MEAN	16.4	17.7	16.6	16.0
	S.D.	2.35	4.31	3.92	4.37
	N	10	10	10	10
WEEK 17	MEAN	15.4	13.7	17.3	17.6
	S.D.	0.76	1.80	1.28	6.06
	N	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

* = Significantly different from the control group at 0.05 using Dunnett's test
NA = NOT APPLICABLE

TABLE 43
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE DIFFERENTIAL COUNT (%) -- SUMMARY OF MEANS

ANALYSIS	GROUP:	----- M A L E ----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
NEUTROPHIL					
WEEK 3	MEAN	15	16	12	12
	S.D.	4.8	8.9	4.3	2.9
	N	5	5	5	5
WEEK 13	MEAN	23	23	19	20
	S.D.	9.2	9.8	7.7	7.2
	N	10	10	10	9
WEEK 17	MEAN	12	12	15	13
	S.D.	4.3	1.9	7.3	6.0
	N	5	5	5	5
LYMPHOCYTE					
WEEK 3	MEAN	77	75	79	81
	S.D.	6.8	9.8	4.2	2.9
	N	5	5	5	5
WEEK 13	MEAN	63	63	68	66
	S.D.	8.0	11.3	8.5	6.3
	N	10	10	10	9
WEEK 17	MEAN	73	74	72	74
	S.D.	4.2	3.6	11.7	8.8
	N	5	5	5	5

None significantly different from control group

TABLE 43
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE DIFFERENTIAL COUNT (%) -- SUMMARY OF MEANS

ANALYSIS	GROUP:	----- M A L E ----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
MONOCYTE					
WEEK 3	MEAN	7	8	7	7
	S.D.	2.2	1.6	1.1	1.5
	N	5	5	5	5
WEEK 13	MEAN	12	12	11	11
	S.D.	2.7	2.7	1.9	3.4
	N	10	10	10	9
WEEK 17	MEAN	12	12	10	10
	S.D.	1.9	1.5	4.4	3.8
	N	5	5	5	5
EOSINOPHIL					
WEEK 3	MEAN	1	1	1	1
	S.D.	0.7	0.4	0.4	0.4
	N	5	5	5	5
WEEK 13	MEAN	2	2	1	2
	S.D.	0.6	0.5	0.5	0.5
	N	10	10	10	9
WEEK 17	MEAN	2	2	2	2
	S.D.	0.5	1.3	0.7	0.4
	N	5	5	5	5

TABLE 43
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE DIFFERENTIAL COUNT (%) -- SUMMARY OF MEANS

ANALYSIS	GROUP:	----- M A L E ----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BASOPHIL					
WEEK 3	MEAN	0	0	0	0
	S.D.	0.0	0.0	0.0	0.0
	N	5	5	5	5
WEEK 13	MEAN	2	1	1	1
	S.D.	0.7	0.7	0.6	1.4
	N	10	10	10	9
WEEK 17	MEAN	1	1	0	1
	S.D.	0.7	0.8	0.5	0.0
	N	5	5	5	5

TABLE 43
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE DIFFERENTIAL COUNT (%) -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
NEUTROPHIL					
WEEK 3	MEAN	12	20	10	10
	S.D.	5.3	10.5	2.5	1.1
	N	5	5	5	5
WEEK 13	MEAN	16	19	19	21
	S.D.	7.9	9.7	6.1	9.4
	N	10	10	10	10
WEEK 17	MEAN	14	12	17	12
	S.D.	6.7	8.8	5.3	2.9
	N	5	5	5	5
LYMPHOCYTE					
WEEK 3	MEAN	81	73	83	84
	S.D.	5.7	9.4	3.6	1.8
	N	5	5	5	5
WEEK 13	MEAN	73	69	69	66
	S.D.	9.4	11.4	5.0	10.8
	N	10	10	10	10
WEEK 17	MEAN	76	77	71	76
	S.D.	6.9	10.9	9.3	5.1
	N	5	5	5	5

None significantly different from control group

TABLE 43
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE DIFFERENTIAL COUNT (%) -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
MONOCYTE					
WEEK 3	MEAN	7	5	6	6
	S.D.	3.3	1.8	1.5	1.6
	N	5	5	5	5
WEEK 13	MEAN	9	9	10	11
	S.D.	3.2	1.9	2.8	2.4
	N	10	10	10	10
WEEK 17	MEAN	8	9	9	9
	S.D.	1.1	3.3	3.7	2.3
	N	5	5	5	5
EOSINOPHIL					
WEEK 3	MEAN	0	1	1	1
	S.D.	0.5	0.5	0.8	0.7
	N	5	5	5	5
WEEK 13	MEAN	2	2	2	2
	S.D.	0.7	0.7	0.9	0.8
	N	10	10	10	10
WEEK 17	MEAN	2	2	2	2
	S.D.	0.9	0.7	0.9	0.8
	N	5	5	5	5

TABLE 43
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE DIFFERENTIAL COUNT (%) -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BASOPHIL					
WEEK 3	MEAN	0	0	0	0
	S.D.	0.0	0.0	0.0	0.0
	N	5	5	5	5
WEEK 13	MEAN	1	1	1	1
	S.D.	0.6	0.7	0.6	0.8
	N	10	10	10	10
WEEK 17	MEAN	0	1	0	1
	S.D.	0.5	0.5	0.5	0.4
	N	5	5	5	5

TABLE 44
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE COUNTS - SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
NEUTROPHIL (thous/uL)					
WEEK 3	MEAN	2.4	2.1	1.5	1.6
	S.D.	0.35	1.23	0.38	0.44
	N	5	5	5	5
WEEK 13	MEAN	3.1	2.8	2.1	2.6
	S.D.	1.00	1.38	0.79	1.29
	N	10	10	10	9
WEEK 17	MEAN	1.9	1.6	2.3	1.6
	S.D.	0.75	0.23	1.31	0.52
	N	5	5	5	5
LYMPHOCYTE (thous/uL)					
WEEK 3	MEAN	13.0	9.8	10.4	11.3
	S.D.	4.10	1.72	3.07	2.87
	N	5	5	5	5
WEEK 13	MEAN	8.9	8.2	7.8	8.3
	S.D.	2.72	2.73	2.55	1.68
	N	10	10	10	9
WEEK 17	MEAN	10.8	10.3	10.5	9.7
	S.D.	2.08	2.68	2.67	2.97
	N	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

None significantly different from control group

TABLE 44
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE COUNTS - SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
MONOCYTE (thous/uL)					
WEEK 3	MEAN	1.1	1.1	1.0	0.9
	S.D.	0.21	0.33	0.31	0.16
	N	5	5	5	5
WEEK 13	MEAN	1.7	1.5	1.2	1.4
	S.D.	0.67	0.42	0.22	0.52
	N	10	10	10	9
WEEK 17	MEAN	1.7	1.6	1.5	1.3
	S.D.	0.46	0.47	0.75	0.40
	N	5	5	5	5
EOSINOPHIL (thous/uL)					
WEEK 3	MEAN	0.2	0.1	0.1	0.1
	S.D.	0.09	0.06	0.07	0.07
	N	5	5	5	5
WEEK 13	MEAN	0.3	0.2	0.1	0.2
	S.D.	0.12	0.08	0.04	0.08
	N	10	10	10	9
WEEK 17	MEAN	0.4	0.3	0.3	0.3
	S.D.	0.13	0.15	0.06	0.10
	N	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 44
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE COUNTS - SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
BASOPHIL (thous/uL)					
WEEK 3	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5
WEEK 13	MEAN	0.2	0.1	0.1	0.1
	S.D.	0.14	0.09	0.06	0.23
	N	10	10	10	9
WEEK 17	MEAN	0.2	0.1	0.1	0.1
	S.D.	0.13	0.15	0.08	0.03
	N	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 44
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE COUNTS - SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E -----			
NEUTROPHIL (thous/uL)					
WEEK 3	MEAN	1.1	1.9	1.3	1.1
	S.D.	0.49	0.86	0.42	0.13
	N	5	5	5	5
WEEK 13	MEAN	1.2	1.5	1.8	2.0
	S.D.	0.41	0.57	0.76	1.85
	N	10	10	10	10
WEEK 17	MEAN	1.1	1.3	1.3	1.0
	S.D.	0.72	1.53	0.29	0.33
	N	5	5	5	5
LYMPHOCYTE (thous/uL)					
WEEK 3	MEAN	8.1	7.3	11.0	9.6
	S.D.	1.91	2.85	3.32	1.12
	N	5	5	5	5
WEEK 13	MEAN	6.1	6.2	6.6	5.8
	S.D.	2.50	2.18	1.51	1.89
	N	10	10	10	10
WEEK 17	MEAN	6.2	7.7	5.6	6.8
	S.D.	2.12	2.34	1.66	2.87
	N	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

None significantly different from control group

TABLE 44
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE COUNTS - SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E -----			
MONOCYTE (thous/uL)					
WEEK 3	MEAN	0.6	0.5	0.9	0.7
	S.D.	0.25	0.21	0.39	0.25
	N	5	5	5	5
WEEK 13	MEAN	0.7	0.8	0.9	1.0
	S.D.	0.33	0.22	0.16	0.43
	N	10	10	10	10
WEEK 17	MEAN	0.7	0.9	0.7	0.7
	S.D.	0.26	0.52	0.28	0.18
	N	5	5	5	5
EOSINOPHIL (thous/uL)					
WEEK 3	MEAN	0.0	0.1	0.1	0.1
	S.D.	0.05	0.07	0.13	0.10
	N	5	5	5	5
WEEK 13	MEAN	0.1	0.2	0.2	0.1
	S.D.	0.05	0.06	0.08	0.06
	N	10	10	10	10
WEEK 17	MEAN	0.2	0.2	0.2	0.2
	S.D.	0.04	0.04	0.03	0.03
	N	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 44
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
LEUKOCYTE COUNTS - SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E -----			
BASOPHIL (thous/uL)					
WEEK 3	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5
WEEK 13	MEAN	0.1	0.1	0.1	0.1
	S.D.	0.05	0.06	0.06	0.10
	N	10	10	10	10
WEEK 17	MEAN	0.0	0.1	0.0	0.1
	S.D.	0.05	0.06	0.04	0.04
	N	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

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TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
ALBUMIN (g/dL)					
WEEK 3	MEAN	4.2	4.4*	4.4	4.5**
	S.D.	0.08	0.18	0.12	0.09
	N	5	5	5	5
WEEK 13	MEAN	4.3	4.6*	4.7**	4.9**
	S.D.	0.14	0.15	0.25	0.19
	N	10	10	10	9
WEEK 17	MEAN	4.3	4.4	4.6*	4.4
	S.D.	0.22	0.07	0.16	0.09
	N	5	5	5	5
TOTAL PROTEIN (g/dL)					
WEEK 3	MEAN	6.4	6.5	6.5	6.7
	S.D.	0.31	0.19	0.40	0.13
	N	5	5	5	5
WEEK 13	MEAN	7.0	7.2	7.2	7.6**
	S.D.	0.30	0.28	0.42	0.32
	N	10	10	10	9
WEEK 17	MEAN	7.0	7.1	7.5	7.2
	S.D.	0.40	0.30	0.40	0.23
	N	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER,
mEq/L = milliEquivalents/Liter

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
GLOBULIN (g/dL)					
WEEK 3	MEAN	2.2	2.1	2.1	2.1
	S.D.	0.23	0.15	0.41	0.11
	N	5	5	5	5
WEEK 13	MEAN	2.6	2.6	2.5	2.7
	S.D.	0.27	0.20	0.29	0.22
	N	10	10	10	9
WEEK 17	MEAN	2.6	2.7	2.9	2.7
	S.D.	0.32	0.36	0.25	0.22
	N	5	5	5	5
A/G RATIO					
WEEK 3	MEAN	1.93	2.15	2.19	2.13
	S.D.	0.167	0.202	0.462	0.124
	N	5	5	5	5
WEEK 13	MEAN	1.67	1.74	1.89	1.84
	S.D.	0.197	0.123	0.268	0.152
	N	10	10	10	9
WEEK 17	MEAN	1.65	1.68	1.62	1.63
	S.D.	0.204	0.239	0.097	0.139
	N	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER,
mEq/L = milliEquivalents/Liter

None significantly different from control group

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
TOTAL BILI (mg/dL)					
WEEK 3	MEAN	0.2	0.1**	0.1**	0.1**
	S.D.	0.04	0.00	0.00	0.00
	N	5	5	5	5
WEEK 13	MEAN	0.2	0.2	0.2	0.2
	S.D.	0.05	0.07	0.05	0.07
	N	10	10	10	9
WEEK 17	MEAN	0.2	0.2	0.2	0.1
	S.D.	0.04	0.05	0.00	0.04
	N	5	5	5	5
UREA NITROGEN (mg/dL)					
WEEK 3	MEAN	13.0	12.1	11.4	12.4
	S.D.	2.39	1.61	1.39	2.77
	N	5	5	5	5
WEEK 13	MEAN	12.6	13.1	12.7	12.6
	S.D.	1.31	0.81	1.28	1.55
	N	10	10	10	9
WEEK 17	MEAN	15.7	14.7	13.4	14.3
	S.D.	2.06	2.09	1.57	1.46
	N	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER,
mEq/L = milliEquivalents/Liter

** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
CREATININE (mg/dL)					
WEEK 3	MEAN	0.2	0.2	0.2	0.2
	S.D.	0.09	0.00	0.04	0.12
	N	5	5	5	5
WEEK 13	MEAN	0.3	0.3	0.3	0.3
	S.D.	0.08	0.05	0.05	0.09
	N	10	10	10	9
WEEK 17	MEAN	0.4	0.4	0.3	0.4
	S.D.	0.09	0.05	0.09	0.11
	N	5	5	5	5
ALKALINEPHOS'TSE (U/L)					
WEEK 3	MEAN	202.	185.	204.	172.
	S.D.	16.1	44.9	45.5	21.7
	N	5	5	5	5
WEEK 13	MEAN	103.	87.	97.	87.
	S.D.	21.5	11.3	20.1	17.6
	N	10	10	10	9
WEEK 17	MEAN	81.	83.	85.	86.
	S.D.	26.2	14.6	13.1	5.8
	N	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER,
mEq/L = milliEquivalents/Liter

None significantly different from control group

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
ALANINE TRANSFER (U/L)					
WEEK 3	MEAN	31.	25.	28.	26.
	S.D.	5.6	4.5	3.0	4.9
	N	5	5	5	5
WEEK 13	MEAN	40.	31.	40.	33.
	S.D.	12.8	4.8	12.0	6.0
	N	10	10	10	9
WEEK 17	MEAN	94.	46.	36.	37.
	S.D.	113.1	12.4	12.1	4.2
	N	5	5	5	5
ASPARTATTRANSFER (U/L)					
WEEK 3	MEAN	80.	83.	85.	74.
	S.D.	16.8	14.1	18.6	6.1
	N	5	5	5	5
WEEK 13	MEAN	89.	74.	75.	67.
	S.D.	21.9	16.4	16.9	10.9
	N	10	10	10	9
WEEK 17	MEAN	209.	126.	105.	107.
	S.D.	174.3	44.4	22.5	25.5
	N	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER,
mEq/L = milliEquivalents/Liter

None significantly different from control group

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
GLUTAMYLTRANSFER (U/L)					
WEEK 3	MEAN	0.	0.	0.	1.
	S.D.	0.4	0.5	0.4	0.9
	N	5	5	5	5
WEEK 13	MEAN	0.	0.	0.	1.**
	S.D.	0.0	0.4	0.7	1.2
	N	10	10	10	9
WEEK 17	MEAN	0.	0.	0.	0.
	S.D.	0.0	0.0	0.0	0.0
	N	5	5	5	5
GLUCOSE (mg/dL)					
WEEK 3	MEAN	130.	114.	100.**	114.
	S.D.	15.5	11.3	18.3	6.9
	N	5	5	5	5
WEEK 13	MEAN	131.	133.	137.	130.
	S.D.	27.6	22.1	9.9	14.5
	N	10	10	10	9
WEEK 17	MEAN	156.	137.	142.	149.
	S.D.	27.0	6.7	8.7	9.5
	N	5	5	5	5

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mEq/L = milliEquivalents/Liter

** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
CHOLESTEROL (mg/dL)					
WEEK 3	MEAN	46.	50.	51.	49.
	S.D.	8.0	5.3	23.3	7.4
	N	5	5	5	5
WEEK 13	MEAN	56.	50.	48.	47.
	S.D.	8.1	7.1	15.1	11.5
	N	10	10	10	9
WEEK 17	MEAN	77.	66.	88.	74.
	S.D.	6.3	5.5	20.4	13.5
	N	5	5	5	5
CALCIUM (mg/dL)					
WEEK 3	MEAN	9.7	10.1	9.8	10.2
	S.D.	0.48	0.26	0.19	0.17
	N	5	5	5	5
WEEK 13	MEAN	9.6	9.9	10.0	10.1
	S.D.	0.50	0.40	0.56	0.50
	N	10	10	10	9
WEEK 17	MEAN	9.8	9.8	10.2	9.8
	S.D.	0.21	0.14	0.43	0.40
	N	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER,
mEq/L = milliEquivalents/Liter

None significantly different from control group

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
CHLORIDE (mEq/L)					
WEEK 3	MEAN	99.	101.	102.	110.**
	S.D.	2.2	0.8	1.7	1.3
	N	5	5	5	5
WEEK 13	MEAN	99.	104.**	107.**	114.**
	S.D.	3.2	2.7	2.8	2.3
	N	10	10	10	9
WEEK 17	MEAN	100.	101.	101.	102.
	S.D.	1.8	1.3	1.2	1.0
	N	5	5	5	5
PHOSPHORUS (mg/dL)					
WEEK 3	MEAN	8.9	9.2	8.9	9.2
	S.D.	0.25	0.36	0.29	0.29
	N	5	5	5	5
WEEK 13	MEAN	6.5	6.5	6.3	6.5
	S.D.	0.76	0.42	0.77	0.64
	N	10	10	10	9
WEEK 17	MEAN	7.2	7.2	7.3	6.9
	S.D.	0.72	0.54	0.51	0.48
	N	5	5	5	5

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TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
POTASSIUM (mEq/L)					
WEEK 3	MEAN	5.39	5.65	5.51	5.85
	S.D.	0.431	0.227	0.177	0.766
	N	5	5	5	5
WEEK 13	MEAN	5.40	5.19	5.08	5.28
	S.D.	0.483	0.581	0.344	0.496
	N	10	10	10	9
WEEK 17	MEAN	5.62	5.88	5.85	5.42
	S.D.	0.065	0.331	0.344	0.402
	N	5	5	5	5
SODIUM (mEq/L)					
WEEK 3	MEAN	141.	141.	142.	142.
	S.D.	0.5	0.4	0.8	1.6
	N	5	5	5	5
WEEK 13	MEAN	142.	142.	143.	143.
	S.D.	1.2	1.5	1.9	1.5
	N	10	10	10	9
WEEK 17	MEAN	143.	143.	144.	143.
	S.D.	1.2	2.1	1.1	1.3
	N	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER,
mEq/L = milliEquivalents/Liter

None significantly different from control group

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
ALBUMIN (g/dL)					
WEEK 3	MEAN	4.8	5.1	4.8	5.2
	S.D.	0.22	0.29	0.38	0.62
	N	5	5	5	5
WEEK 13	MEAN	5.2	5.6	5.6	5.7
	S.D.	0.56	0.45	0.59	0.29
	N	10	10	10	10
WEEK 17	MEAN	5.2	4.8	5.0	5.2
	S.D.	0.36	0.55	0.38	0.34
	N	5	5	5	5
TOTAL PROTEIN (g/dL)					
WEEK 3	MEAN	6.7	7.2	6.9	7.4
	S.D.	0.45	0.24	0.22	0.74
	N	5	5	5	5
WEEK 13	MEAN	7.3	7.9*	8.1**	8.3**
	S.D.	0.46	0.62	0.55	0.48
	N	10	10	10	10
WEEK 17	MEAN	7.7	7.4	7.8	7.8
	S.D.	0.37	0.34	0.81	0.32
	N	5	5	5	5

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** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E ----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
GLOBULIN (g/dL)					
WEEK 3	MEAN	1.8	2.2	2.1	2.2
	S.D.	0.30	0.21	0.23	0.21
	N	5	5	5	5
WEEK 13	MEAN	2.1	2.3	2.4*	2.5**
	S.D.	0.23	0.31	0.18	0.39
	N	10	10	10	10
WEEK 17	MEAN	2.5	2.6	2.9	2.6
	S.D.	0.30	0.30	0.44	0.19
	N	5	5	5	5
A/G RATIO					
WEEK 3	MEAN	2.68	2.37	2.33	2.42
	S.D.	0.381	0.334	0.409	0.264
	N	5	5	5	5
WEEK 13	MEAN	2.55	2.51	2.34	2.32
	S.D.	0.588	0.317	0.338	0.353
	N	10	10	10	10
WEEK 17	MEAN	2.14	1.87	1.74	2.05
	S.D.	0.326	0.376	0.144	0.240
	N	5	5	5	5

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TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
TOTAL BILI (mg/dL)					
WEEK 3	MEAN	0.2	0.1	0.1	0.1
	S.D.	0.04	0.00	0.09	0.00
	N	5	5	5	5
WEEK 13	MEAN	0.2	0.2	0.2	0.2
	S.D.	0.06	0.21	0.05	0.16
	N	10	10	10	10
WEEK 17	MEAN	0.2	0.2	0.1	0.1
	S.D.	0.04	0.12	0.05	0.05
	N	5	5	5	5
UREA NITROGEN (mg/dL)					
WEEK 3	MEAN	15.3	14.9	13.1	12.1*
	S.D.	1.68	1.53	1.94	1.19
	N	5	5	5	5
WEEK 13	MEAN	16.6	15.6	14.1	15.5
	S.D.	2.34	2.78	3.49	3.16
	N	10	10	10	10
WEEK 17	MEAN	16.3	16.0	17.1	16.5
	S.D.	2.33	4.53	2.34	2.83
	N	5	5	5	5

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TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E -----			
CREATININE (mg/dL)					
WEEK 3	MEAN	0.2	0.3	0.2	0.2
	S.D.	0.05	0.00	0.05	0.04
	N	5	5	5	5
WEEK 13	MEAN	0.3	0.4	0.3	0.4
	S.D.	0.07	0.07	0.05	0.13
	N	10	10	10	10
WEEK 17	MEAN	0.4	0.4	0.4	0.4
	S.D.	0.05	0.13	0.09	0.05
	N	5	5	5	5
ALKALINEPHOS'TSE (U/L)					
WEEK 3	MEAN	118.	105.	107.	99.
	S.D.	25.8	15.2	21.5	20.0
	N	5	5	5	5
WEEK 13	MEAN	58.	38.**	39.**	34.**
	S.D.	19.4	10.7	10.7	11.1
	N	10	10	10	10
WEEK 17	MEAN	43.	35.	41.	36.
	S.D.	15.4	7.5	10.2	6.2
	N	5	5	5	5

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TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E -----			
ALANINE TRANSFER (U/L)					
WEEK 3	MEAN	26.	25.	27.	26.
	S.D.	3.6	1.7	5.0	3.3
	N	5	5	5	5
WEEK 13	MEAN	28.	30.	31.	35.
	S.D.	4.9	5.5	11.7	10.2
	N	10	10	10	10
WEEK 17	MEAN	41.	56.	134.	39.
	S.D.	12.7	33.5	201.6	19.0
	N	5	5	5	5
ASPARTATTRANSFER (U/L)					
WEEK 3	MEAN	109.	74.**	104.	72.**
	S.D.	13.0	8.0	14.4	12.2
	N	5	5	5	5
WEEK 13	MEAN	83.	86.	72.	77.
	S.D.	17.6	25.5	19.1	30.8
	N	10	10	10	10
WEEK 17	MEAN	101.	131.	239.	102.
	S.D.	21.7	68.1	274.0	37.7
	N	5	5	5	5

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TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
GLUTAMYLTRANSFER (U/L)					
WEEK 3	MEAN	0.	0.	0.	2.**
	S.D.	0.4	0.4	0.0	0.8
	N	5	5	5	5
WEEK 13	MEAN	0.	0.	0.	2.**
	S.D.	0.0	0.4	0.7	1.7
	N	10	10	10	10
WEEK 17	MEAN	0.	0.	0.	0.
	S.D.	0.0	0.4	0.0	0.4
	N	5	5	5	5
GLUCOSE (mg/dL)					
WEEK 3	MEAN	110.	125.**	103.	121.
	S.D.	6.4	8.2	6.1	7.3
	N	5	5	5	5
WEEK 13	MEAN	127.	126.	122.	124.
	S.D.	12.4	10.3	7.9	17.8
	N	10	10	10	10
WEEK 17	MEAN	127.	113.	122.	130.
	S.D.	7.3	8.5	12.2	12.2
	N	5	5	5	5

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TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E-----			
CHOLESTEROL (mg/dL)					
WEEK 3	MEAN	57.	63.	62.	67.
	S.D.	20.8	15.4	15.4	14.4
	N	5	5	5	5
WEEK 13	MEAN	63.	77.	76.	68.
	S.D.	17.8	16.1	17.6	15.3
	N	10	10	10	10
WEEK 17	MEAN	81.	75.	86.	92.
	S.D.	8.3	13.9	36.2	24.1
	N	5	5	5	5
CALCIUM (mg/dL)					
WEEK 3	MEAN	9.5	10.1**	9.8	10.3**
	S.D.	0.16	0.23	0.15	0.52
	N	5	5	5	5
WEEK 13	MEAN	9.8	10.2	10.5*	10.4*
	S.D.	0.37	0.54	0.70	0.47
	N	10	10	10	10
WEEK 17	MEAN	10.2	9.9	10.0	10.4
	S.D.	0.23	0.37	0.35	0.55
	N	5	5	5	5

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TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
CHLORIDE (mEq/L)					
WEEK 3	MEAN	99.	102.	103.*	109.**
	S.D.	1.0	1.1	1.0	4.5
	N	5	5	5	5
WEEK 13	MEAN	101.	104.**	105.**	111.**
	S.D.	2.2	2.5	2.7	3.1
	N	10	10	10	10
WEEK 17	MEAN	103.	103.	103.	103.
	S.D.	2.6	1.7	2.2	1.5
	N	5	5	5	5
PHOSPHORUS (mg/dL)					
WEEK 3	MEAN	7.5	7.2	7.6	8.1
	S.D.	0.85	0.43	0.31	0.81
	N	5	5	5	5
WEEK 13	MEAN	5.6	5.4	5.4	5.5
	S.D.	0.87	0.57	0.79	0.55
	N	10	10	10	10
WEEK 17	MEAN	5.1	6.3	5.7	5.7
	S.D.	0.81	1.64	0.40	0.38
	N	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER,
mEq/L = milliEquivalents/Liter

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 45
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM CHEMISTRY VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E-----			
POTASSIUM (mEq/L)					
WEEK 3	MEAN	5.40	4.81	5.64	5.47
	S.D.	0.689	0.365	0.630	0.597
	N	5	5	5	5
WEEK 13	MEAN	5.05	5.16	5.14	5.16
	S.D.	0.410	0.838	0.452	0.579
	N	10	10	10	10
WEEK 17	MEAN	4.99	5.71	5.23	5.16
	S.D.	0.405	0.662	0.690	0.317
	N	5	5	5	5
SODIUM (mEq/L)					
WEEK 3	MEAN	140.	140.	140.	141.
	S.D.	1.5	1.5	1.6	1.9
	N	5	5	5	5
WEEK 13	MEAN	142.	141.	140.	141.
	S.D.	1.5	1.8	2.3	2.0
	N	10	10	10	10
WEEK 17	MEAN	143.	142.	142.	143.
	S.D.	1.9	1.3	0.8	1.3
	N	5	5	5	5

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mEq/L = milliEquivalents/Liter

None significantly different from control group

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TABLE 46
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
URINE QUANTITATIVE PARAMETERS - SUMMARY OF MEANS

ANALYSIS	GROUP:	----- M A L E ----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
SPECIFIC GRAVITY					
WEEK 3	MEAN	1.029	1.023	1.026	1.028
	S.D.	0.0092	0.0070	0.0091	0.0159
	N	5	5	5	5
WEEK 13	MEAN	1.047	1.043	1.027	1.038
	S.D.	0.0190	0.0247	0.0189	0.0227
	N	10	10	10	9
WEEK 17	MEAN	1.047	1.056	1.058	1.032
	S.D.	0.0177	0.0182	0.0273	0.0214
	N	5	5	5	5
pH					
WEEK 3	MEAN	5.8	6.2	6.2	6.1
	S.D.	0.27	0.27	0.27	0.42
	N	5	5	5	5
WEEK 13	MEAN	6.1	6.2	6.4	5.9
	S.D.	0.55	0.48	0.52	0.63
	N	10	10	10	9
WEEK 17	MEAN	6.3	6.0	6.0	6.1
	S.D.	0.27	0.35	0.50	0.42
	N	5	5	5	5

None significantly different from control group

TABLE 46
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
URINE QUANTITATIVE PARAMETERS - SUMMARY OF MEANS

ANALYSIS	GROUP:	----- M A L E ----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
UROBILINOGEN (mg/dL)					
WEEK 3	MEAN	0.2	0.2	0.2	0.2
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5
WEEK 13	MEAN	0.3	0.3	0.2	0.2
	S.D.	0.25	0.25	0.00	0.00
	N	10	10	10	9
WEEK 17	MEAN	0.2	0.2	0.5	0.2
	S.D.	0.00	0.00	0.44	0.00
	N	5	5	5	5
TOTAL VOLUME (mL)					
WEEK 3	MEAN	8.7	11.6	12.7	14.8
	S.D.	4.24	6.19	8.11	9.73
	N	5	5	5	5
WEEK 13	MEAN	5.5	6.6	16.2*	11.3
	S.D.	2.90	3.49	12.05	9.08
	N	10	10	10	9
WEEK 17	MEAN	5.9	5.3	5.5	14.3
	S.D.	2.13	2.73	3.39	12.50
	N	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

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TABLE 46
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
URINE QUANTITATIVE PARAMETERS - SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	-----F E M A L E ----- 100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
SPECIFIC GRAVITY					
WEEK 3	MEAN	1.033	1.029	1.030	1.035
	S.D.	0.0100	0.0160	0.0030	0.0255
	N	5	5	5	5
WEEK 13	MEAN	1.035	1.040	1.036	1.031
	S.D.	0.0175	0.0177	0.0126	0.0211
	N	10	10	10	10
WEEK 17	MEAN	1.039	1.037	1.046	1.047
	S.D.	0.0238	0.0158	0.0253	0.0199
	N	5	5	5	5
pH					
WEEK 3	MEAN	5.8	5.5	5.6	5.6
	S.D.	0.57	0.50	0.42	0.42
	N	5	5	5	5
WEEK 13	MEAN	5.8	5.5	5.5	5.8
	S.D.	0.42	0.44	0.55	0.68
	N	10	10	10	10
WEEK 17	MEAN	5.2	5.8	5.7	5.4
	S.D.	0.27	0.45	0.27	0.42
	N	5	5	5	5

None significantly different from control group

TABLE 46
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
URINE QUANTITATIVE PARAMETERS - SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
UROBILINOGEN (mg/dL)					
WEEK 3	MEAN	0.2	0.4	0.2	0.4
	S.D.	0.00	0.36	0.00	0.36
	N	5	5	5	5
WEEK 13	MEAN	0.2	0.2	0.2	0.2
	S.D.	0.00	0.00	0.00	0.00
	N	10	10	10	10
WEEK 17	MEAN	0.2	0.2	0.4	0.2
	S.D.	0.00	0.00	0.36	0.00
	N	5	5	5	5
TOTAL VOLUME (mL)					
WEEK 3	MEAN	6.4	8.4	6.2	9.1
	S.D.	3.15	6.11	2.95	7.27
	N	5	5	5	5
WEEK 13	MEAN	5.9	5.6	6.7	12.2
	S.D.	2.95	2.68	4.50	9.94
	N	10	10	10	10
WEEK 17	MEAN	8.8	4.6	5.5	4.6
	S.D.	11.93	1.29	4.83	2.04
	N	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

None significantly different from control group

PCPSv4.04
11/17/2000
R:07/18/2001

TABLE 47
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM HORMONE VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
TSH (ng/ml)					
WEEK 3	MEAN	1.91	4.53	4.17	2.85
	S.D.	1.444	4.328	1.352	1.932
	N	4	5	3	5
WEEK 13	MEAN	0.46	3.29	2.65	3.88
	S.D.	0.420	3.859	2.098	2.981
	N	5	8	10	9
WEEK 17	MEAN	1.50	0.47	0.64	1.27
	S.D.	0.915	0.458	0.583	0.780
	N	5	4	5	5
TOTAL T3 (ng/dL)					
WEEK 3	MEAN	70.28	90.28	65.40	75.16
	S.D.	8.474	21.783	14.954	16.259
	N	5	5	5	5
WEEK 13	MEAN	64.36	58.78	58.96	64.23
	S.D.	9.554	13.007	13.172	9.549
	N	10	10	10	9
WEEK 17	MEAN	64.46	78.68	71.56	82.44
	S.D.	16.745	13.310	10.472	23.868
	N	5	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

None significantly different from control group

TABLE 47
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM HORMONE VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		----- M A L E -----			
TOTAL T4 (uG/dL)					
WEEK 3	MEAN	7.84	7.42	7.02	6.32
	S.D.	2.429	1.165	1.698	1.354
	N	5	5	5	5
WEEK 13	MEAN	7.87	6.34**	6.28**	4.97**
	S.D.	1.223	1.222	1.033	0.755
	N	10	10	10	9
WEEK 17	MEAN	6.42	6.56	7.04	5.50
	S.D.	1.139	1.305	1.307	0.354
	N	5	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 47
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM HORMONE VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	-----F E M A L E----- 0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
TSH (ng/ml)					
WEEK 3	MEAN	1.08	1.31	1.87	1.83
	S.D.	0.000	0.535	2.511	0.333
	N	1	3	4	4
WEEK 13	MEAN	0.46	1.42	3.96	2.43
	S.D.	0.311	1.110	5.145	1.735
	N	5	8	9	10
WEEK 17	MEAN	0.38	0.37	0.26	0.47
	S.D.	0.438	0.137	0.121	0.222
	N	5	5	5	5
TOTAL T3 (ng/dL)					
WEEK 3	MEAN	76.28	71.40	77.24	80.94
	S.D.	14.358	11.807	4.895	11.968
	N	5	5	5	5
WEEK 13	MEAN	73.40	70.78	67.02	70.31
	S.D.	14.967	19.176	17.215	16.783
	N	10	10	10	9
WEEK 17	MEAN	73.54	73.00	77.74	86.36
	S.D.	8.486	9.605	24.400	26.527
	N	5	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

None significantly different from control group

TABLE 47
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SERUM HORMONE VALUES -- SUMMARY OF MEANS

ANALYSIS	GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
		-----F E M A L E -----			
TOTAL T4 (uG/dL)					
WEEK 3	MEAN	5.95	6.06	5.76	5.62
	S.D.	1.462	1.210	1.305	0.817
	N	4	5	5	5
WEEK 13	MEAN	5.43	4.96	4.53*	4.31*
	S.D.	0.860	0.624	0.876	0.762
	N	10	10	10	9
WEEK 17	MEAN	3.20	3.64	3.64	4.00
	S.D.	1.049	0.581	0.467	0.970
	N	5	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

* = Significantly different from the control group at 0.05 using Dunnett's test

PCPSv4.04
11/17/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 48 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
OPHTHALMOLOGICAL EXAMINATION FINDINGS - SUMMARY INCIDENCE

	MALE				FEMALE			
GROUP:	1	2	3	4	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15	15	15	15	15
NUMBER OF ANIMALS EXAMINED EXAM 1(WEEK -1)	15	15	15	15	15	15	15	15
-NO OCULAR LESIONS - BILATERAL	10	9	9	6	7	10	4	9
-CORNEAL CRYSTALS - BILATERAL	5	6	6	9	8	5	11	6

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

POPSIv4.0
10/27/2000
R:07/18/2001

PROJECT NO.:WIL-186012
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TABLE 49 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
OPHTHALMOLOGICAL EXAMINATION FINDINGS - SUMMARY INCIDENCE

	MALE				FEMALE			
GROUP:	1	2	3	4	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15	15	15	15	15
NUMBER OF ANIMALS EXAMINED EXAM 2(WEEK 12)	15	15	15	14	15	15	15	15
-NO OCULAR LESIONS - BILATERAL	10	12	11	7	15	15	14	14
-CORNEAL CRYSTALS - BILATERAL	5	3	4	7	0	0	1	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

POPSIv4.0
10/27/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 50 (WEEK 15 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
OPHTHALMOLOGICAL EXAMINATION FINDINGS - SUMMARY INCIDENCE

GROUP:	MALE 1	MALE 2	MALE 3	MALE 4	FEMALE 1	FEMALE 2	FEMALE 3	FEMALE 4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15	15	15	15	15
NUMBER OF ANIMALS EXAMINED EXAM 3(WEEK 15)	5	5	5	5	5	5	5	5
-NO OCULAR LESIONS - BILATERAL	3	5	5	5	5	5	3	5
-CORNEAL CRYSTALS - BILATERAL	2	0	0	0	0	0	2	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

POPSIv4.0
11/16/2000
R:07/18/2001

TABLE 51
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ESTROUS CYCLE DATA - SUMMARY OF MEANS

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
MEAN LENGTH OF ESTROUS CYCLE (IN DAYS)				
MEAN	4.5	4.7	5.3	5.2
S.D.	0.57	1.47	1.95	1.08
N	13	13	13	11

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP USING DUNNETT'S TEST

MANUALv1.0
08/01/2000
R:07/18/2001

TABLE 52 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
GROSS NECROPSY OBSERVATIONS INCIDENCE SUMMARY

FOUND DEAD OR EUTHANIZED MORIBUND OR IN EXTREMIS

	MALE				FEMALE			
GROUP:	1	2	3	4	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15	15	15	15	15
NUMBER OF ANIMALS EXAMINED	0	0	0	1	0	0	0	0
KIDNEYS								
-DILATED PELVIS	0	0	0	1	0	0	0	0
LUNGS								
-DARK RED AREA(S)	0	0	0	1	0	0	0	0
SKIN								
-RED MATTING	0	0	0	1	0	0	0	0
STOMACH								
-DARK RED CONTENTS	0	0	0	1	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

PROJECT NO.:WIL-186012
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TABLE 53 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
GROSS NECROPSY OBSERVATIONS INCIDENCE SUMMARY

SCHEDULED NECROPSY

	MALE				FEMALE			
GROUP:	1	2	3	4	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9	10	10	10	10
EPIDIDYMIDES								
-SMALL	1	0	0	0	NA	NA	NA	NA
HARDERIAN GLANDS								
-DARK RED AREA(S)	0	0	0	0	1	0	1	0
KIDNEYS								
-WHITE AREA(S)	0	0	0	0	0	0	1	1
-DEPRESSED AREA(S)	0	0	1	1	1	0	0	2
-DARK RED AREA(S)	0	0	0	0	1	0	0	0
LIVER								
-MASS	0	0	0	1	0	0	0	0
LUNGS								
-DARK RED AREA(S)	0	0	0	1	0	0	0	1
-DARK RED	1	0	0	1	0	0	0	0
-MOTTLED	0	0	0	1	0	0	0	0
-WHITE AREA(S)	0	1	1	0	0	0	0	2
OVARIES								
-WHITE AREA(S)	NA	NA	NA	NA	0	0	1	0
SKIN								
-RED MATTING	1	0	0	0	0	0	1	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
NA = NOT APPLICABLE

TABLE 53 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
GROSS NECROPSY OBSERVATIONS INCIDENCE SUMMARY

SCHEDULED NECROPSY

GROUP:	MALE 1	MALE 2	MALE 3	MALE 4	FEMALE 1	FEMALE 2	FEMALE 3	FEMALE 4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9	10	10	10	10
SKIN - CONTINUED								
-MASS	0	2	0	2	0	0	0	1
-BROWN MATTING	0	0	0	1	0	0	0	0
-CLEAR MATTING	0	0	0	1	0	0	0	0
LYMPH NODE, MAND								
-ENLARGED	3	0	0	0	0	0	0	0
-REDDENED	1	0	0	0	0	0	0	0
TESTES								
-SOFT	1	0	0	0	NA	NA	NA	NA
-SMALL	1	0	0	0	NA	NA	NA	NA
UTERUS								
-CLEAR FLUID CONTENTS	NA	NA	NA	NA	1	0	0	0
TAIL								
-BROWN MATTING	1	0	0	0	0	0	0	0
EAR(S)								
-SWOLLEN	0	0	0	0	0	0	2	0
TEETH								
-MALALIGNED	1	0	0	0	0	0	0	0
NO SIGNIFICANT CHANGES OBSERVED - ALL EXAMINED TISSUES	5	8	9	4	7	10	6	6

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
NA = NOT APPLICABLE

TABLE 54 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
GROSS NECROPSY OBSERVATIONS INCIDENCE SUMMARY

SCHEDULED NECROPSY

	MALE				FEMALE			
GROUP:	1	2	3	4	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5	5	5	5	5
KIDNEYS								
-WHITE AREA(S)	0	0	1	0	0	0	0	0
-DEPRESSED AREA(S)	1	0	0	1	0	0	1	0
-DARK RED AREA(S)	0	0	0	1	1	0	0	0
-PALE	0	0	0	0	0	0	1	0
LIVER								
-WHITE AREA(S)	0	0	0	0	0	0	1	0
LUNGS								
-DARK RED AREA(S)	2	0	1	1	0	0	0	0
-WHITE AREA(S)	0	0	0	1	1	0	0	0
SEMINAL VESICLES								
-SMALL	0	1	0	0	NA	NA	NA	NA
SKIN								
-RED MATTING	0	0	0	0	0	1	0	0
-MASS	0	0	0	1	0	0	0	0
RT TESTIS								
-SMALL	0	1	0	0	NA	NA	NA	NA
UTERUS								
-CLEAR FLUID CONTENTS	NA	NA	NA	NA	1	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
NA = NOT APPLICABLE

TABLE 54 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
GROSS NECROPSY OBSERVATIONS INCIDENCE SUMMARY

SCHEDULED NECROPSY

	MALE				FEMALE			
GROUP:	1	2	3	4	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5	5	5	5	5
TEETH								
-MALALIGNED	0	0	1	0	0	0	0	0
-BROKEN	0	0	1	0	0	0	0	0
COAGULATING GL								
-SMALL	0	1	0	0	0	0	0	0
NO SIGNIFICANT CHANGES OBSERVED - ALL EXAMINED TISSUES	3	4	3	1	4	4	2	5

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 55 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BRAIN					
	MEAN	2.05	2.07	2.02	1.99
	S.D.	0.098	0.058	0.079	0.072
	N	10	10	10	9
LIVER					
	MEAN	14.33	17.01*	17.17*	19.02**
	S.D.	1.205	2.313	3.079	2.770
	N	10	10	10	9
KIDNEYS					
	MEAN	3.50	3.58	3.61	3.38
	S.D.	0.375	0.323	0.482	0.273
	N	10	10	10	9
HEART					
	MEAN	1.63	1.57	1.62	1.48
	S.D.	0.134	0.100	0.156	0.157
	N	10	10	10	9
SPLEEN					
	MEAN	0.81	0.76	0.72	0.76
	S.D.	0.144	0.124	0.157	0.126
	N	10	10	10	9

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 55 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
PROSTATE					
	MEAN	0.95	0.99	1.12	1.25*
	S.D.	0.185	0.223	0.204	0.231
	N	10	10	10	9
RT TESTIS					
	MEAN	1.61	1.63	1.64	1.58
	S.D.	0.380	0.182	0.153	0.201
	N	10	10	10	9
LT TESTIS					
	MEAN	1.60	1.66	1.64	1.58
	S.D.	0.391	0.156	0.149	0.179
	N	10	10	10	9
RT EPIDIDYMIS					
	MEAN	0.65	0.70	0.67	0.69
	S.D.	0.201	0.034	0.069	0.057
	N	10	10	10	9
LT EPIDIDYMIS					
	MEAN	0.63	0.69	0.66	0.66
	S.D.	0.128	0.057	0.101	0.054
	N	10	10	10	9

* = Significantly different from the control group at 0.05 using Dunnett's test

TABLE 55 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
RT CAUDA EPID				
MEAN	0.2864	0.3018	0.3014	0.3064
S.D.	0.07200	0.03272	0.04045	0.04989
N	10	10	10	9
LT CAUDA EPID				
MEAN	0.2840	0.3085	0.2967	0.2972
S.D.	0.06490	0.02720	0.04545	0.02992
N	10	10	10	9
THYMUS GLAND				
MEAN	0.3104	0.3049	0.2820	0.2588
S.D.	0.05002	0.05959	0.06160	0.04466
N	10	10	10	9
ADRENAL GLANDS				
MEAN	0.0556	0.0586	0.0536	0.0560
S.D.	0.00963	0.00442	0.00933	0.00684
N	10	10	10	9
THYROIDS/PARA				
MEAN	0.0232	0.0278	0.0260	0.0234
S.D.	0.00527	0.00864	0.00625	0.00560
N	10	10	10	9

None significantly different from control group

TABLE 55 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- F E M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BRAIN					
	MEAN	1.86	1.84	1.86	1.83
	S.D.	0.101	0.055	0.097	0.080
	N	10	10	10	10
LIVER					
	MEAN	8.12	9.92*	10.60**	12.42**
	S.D.	0.942	1.261	1.405	1.638
	N	10	10	10	10
KIDNEYS					
	MEAN	2.09	1.99	2.07	2.05
	S.D.	0.258	0.223	0.240	0.239
	N	10	10	10	10
HEART					
	MEAN	1.10	1.06	1.08	1.07
	S.D.	0.180	0.134	0.118	0.130
	N	10	10	10	10
SPLEEN					
	MEAN	0.51	0.49	0.56	0.53
	S.D.	0.085	0.056	0.135	0.126
	N	10	10	10	10

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 55 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
UTERUS/CX				
MEAN	0.81	0.64	0.67	0.62
S.D.	0.248	0.164	0.141	0.171
N	10	10	10	10
OVARIES/OVIDUCTS				
MEAN	0.1435	0.1297	0.1302	0.1478
S.D.	0.02798	0.02638	0.02946	0.01940
N	10	10	10	10
THYMUS GLAND				
MEAN	0.2491	0.2743	0.2701	0.2257
S.D.	0.06446	0.03999	0.08724	0.05134
N	10	10	10	10
ADRENAL GLANDS				
MEAN	0.0710	0.0721	0.0753	0.0698
S.D.	0.00854	0.00988	0.01056	0.01147
N	10	10	10	10
THYROIDS/PARA				
MEAN	0.0172	0.0196	0.0182	0.0197
S.D.	0.00329	0.00475	0.00246	0.00379
N	10	10	10	10

None significantly different from control group

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 56 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BRAIN					
	MEAN	1.97	2.07	2.05	1.97
	S.D.	0.135	0.084	0.076	0.121
	N	5	5	5	5
LIVER					
	MEAN	14.39	14.72	15.66	14.09
	S.D.	1.115	2.389	1.884	2.609
	N	5	5	5	5
KIDNEYS					
	MEAN	3.46	3.63	3.95	3.62
	S.D.	0.461	0.544	0.576	0.452
	N	5	5	5	5
HEART					
	MEAN	1.64	1.60	1.68	1.58
	S.D.	0.138	0.150	0.150	0.212
	N	5	5	5	5
SPLEEN					
	MEAN	0.64	0.75	0.81*	0.66
	S.D.	0.057	0.077	0.106	0.120
	N	5	5	5	5

* = Significantly different from the control group at 0.05 using Dunnett's test

TABLE 56 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
PROSTATE					
	MEAN	1.21	0.85	1.07	1.08
	S.D.	0.206	0.134	0.347	0.282
	N	5	5	5	5
RT TESTIS					
	MEAN	1.63	1.31	1.64	1.57
	S.D.	0.141	0.629	0.167	0.128
	N	5	5	5	5
LT TESTIS					
	MEAN	1.56	1.50	1.66	1.57
	S.D.	0.175	0.286	0.189	0.126
	N	5	5	5	5
RT EPIDIDYMIS					
	MEAN	0.71	0.59	0.73	0.69
	S.D.	0.054	0.306	0.068	0.038
	N	5	5	5	5
LT EPIDIDYMIS					
	MEAN	0.69	0.69	0.72	0.69
	S.D.	0.096	0.116	0.073	0.033
	N	5	5	5	5

None significantly different from control group

TABLE 56 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
RT CAUDA EPID				
MEAN	0.3022	0.3133	0.3244	0.2874
S.D.	0.04267	0.04563	0.05561	0.04110
N	5	4	5	5
LT CAUDA EPID				
MEAN	0.3084	0.3221	0.3346	0.3079
S.D.	0.04791	0.07734	0.05715	0.03408
N	5	5	5	5
THYMUS GLAND				
MEAN	0.3090	0.2260	0.3012	0.2717
S.D.	0.07824	0.06157	0.07609	0.06518
N	5	5	5	5
ADRENAL GLANDS				
MEAN	0.0656	0.0645	0.0569	0.0544
S.D.	0.01148	0.00775	0.00647	0.01490
N	5	5	5	5
THYROIDS/PARA				
MEAN	0.0288	0.0307	0.0281	0.0280
S.D.	0.00306	0.00639	0.00579	0.00536
N	5	5	5	5

None significantly different from control group

TABLE 56 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

		----- F E M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BRAIN					
	MEAN	1.88	1.91	1.89	1.88
	S.D.	0.055	0.047	0.102	0.083
	N	5	5	5	5
LIVER					
	MEAN	8.09	7.57	8.82	9.12
	S.D.	0.852	0.501	1.906	1.485
	N	5	5	5	5
KIDNEYS					
	MEAN	1.96	1.82	2.11	2.10
	S.D.	0.175	0.170	0.351	0.348
	N	5	5	5	5
HEART					
	MEAN	1.05	0.99	1.04	1.14
	S.D.	0.158	0.084	0.168	0.154
	N	5	5	5	5
SPLEEN					
	MEAN	0.48	0.54	0.55	0.54
	S.D.	0.025	0.078	0.113	0.080
	N	5	5	5	5

None significantly different from control group

TABLE 56 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS (GRAMS) - SUMMARY OF MEANS

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
UTERUS/CX				
MEAN	0.78	0.56	0.73	0.72
S.D.	0.322	0.133	0.168	0.220
N	5	5	5	5
OVARIES/OVIDUCTS				
MEAN	0.1248	0.1396	0.1419	0.1410
S.D.	0.02616	0.01084	0.02952	0.01788
N	5	5	5	5
THYMUS GLAND				
MEAN	0.2618	0.2608	0.1857	0.2403
S.D.	0.04894	0.03826	0.05552	0.07359
N	5	5	5	5
ADRENAL GLANDS				
MEAN	0.0659	0.0633	0.0700	0.0715
S.D.	0.00635	0.01351	0.01464	0.00905
N	5	5	5	5
THYROIDS/PARA				
MEAN	0.0163	0.0204	0.0222*	0.0224*
S.D.	0.00298	0.00398	0.00387	0.00214
N	5	5	5	5

* = Significantly different from the control group at 0.05 using Dunnett's test

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TABLE 57 (WEEK 13 PRIMARY NECROPSY)

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SPONSOR:CMA-BFRIP — ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS) — WEEK 13

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
FINAL BODY WT(G)				
MEAN	529.	535.	537.	492.
S.D.	37.3	47.1	55.2	53.6
N	10	10	10	9
BRAIN				
MEAN	0.389	0.389	0.380	0.409
S.D.	0.0376	0.0289	0.0393	0.0395
N	10	10	10	9
LIVER				
MEAN	2.709	3.175**	3.183**	3.855**
S.D.	0.1193	0.2293	0.2653	0.1557
N	10	10	10	9
KIDNEYS				
MEAN	0.663	0.672	0.674	0.690
S.D.	0.0704	0.0518	0.0547	0.0526
N	10	10	10	9
HEART				
MEAN	0.309	0.295	0.303	0.301
S.D.	0.0247	0.0192	0.0199	0.0187
N	10	10	10	9

** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 57 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
SPLEEN					
	MEAN	0.152	0.142	0.135	0.154
	S.D.	0.0230	0.0241	0.0268	0.0183
	N	10	10	10	9
PROSTATE					
	MEAN	0.180	0.185	0.210	0.255**
	S.D.	0.0304	0.0342	0.0367	0.0452
	N	10	10	10	9
RT TESTIS					
	MEAN	0.305	0.306	0.308	0.323
	S.D.	0.0736	0.0402	0.0374	0.0486
	N	10	10	10	9
LT TESTIS					
	MEAN	0.302	0.313	0.308	0.324
	S.D.	0.0754	0.0351	0.0360	0.0421
	N	10	10	10	9
RT EPIDIDYMIS					
	MEAN	0.122	0.132	0.126	0.142
	S.D.	0.0394	0.0105	0.0126	0.0185
	N	10	10	10	9

** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 57 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
LT EPIDIDYMIS				
MEAN	0.120	0.130	0.124	0.135
S.D.	0.0244	0.0135	0.0195	0.0137
N	10	10	10	9
RT CAUDA EPID				
MEAN	0.054	0.057	0.056	0.063
S.D.	0.0135	0.0074	0.0069	0.0133
N	10	10	10	9
LT CAUDA EPID				
MEAN	0.053	0.058	0.056	0.061
S.D.	0.0107	0.0066	0.0077	0.0068
N	10	10	10	9
THYMUS GLAND				
MEAN	0.059	0.057	0.053	0.053
S.D.	0.0105	0.0120	0.0129	0.0093
N	10	10	10	9
ADRENAL GLANDS				
MEAN	0.011	0.011	0.010	0.011
S.D.	0.0016	0.0007	0.0014	0.0010
N	10	10	10	9

None significantly different from control group

TABLE 57 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
THYROIDS/PARA				
MEAN	0.005	0.005	0.005	0.005
S.D.	0.0012	0.0016	0.0016	0.0013
N	10	10	10	9

None significantly different from control group

TABLE 57 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
FINAL BODY WT(G)				
MEAN	281.	277.	297.	289.
S.D.	24.4	29.4	30.8	44.1
N	10	10	10	10
BRAIN				
MEAN	0.663	0.670	0.633	0.646
S.D.	0.0450	0.0662	0.0613	0.0963
N	10	10	10	10
LIVER				
MEAN	2.887	3.583**	3.578**	4.314**
S.D.	0.2062	0.2734	0.3454	0.2869
N	10	10	10	10
KIDNEYS				
MEAN	0.744	0.719	0.701	0.715
S.D.	0.0704	0.0570	0.0751	0.0709
N	10	10	10	10
HEART				
MEAN	0.390	0.383	0.364	0.372
S.D.	0.0518	0.0371	0.0282	0.0304
N	10	10	10	10

** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 57 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
SPLEEN				
MEAN	0.181	0.178	0.189	0.184
S.D.	0.0224	0.0156	0.0437	0.0477
N	10	10	10	10
UTERUS/CX				
MEAN	0.285	0.228	0.224	0.219
S.D.	0.0745	0.0462	0.0424	0.0679
N	10	10	10	10
OVARIES/OVIDUCTS				
MEAN	0.051	0.047	0.045	0.052
S.D.	0.0089	0.0091	0.0118	0.0108
N	10	10	10	10
THYMUS GLAND				
MEAN	0.088	0.100	0.091	0.079
S.D.	0.0180	0.0203	0.0270	0.0182
N	10	10	10	10
ADRENAL GLANDS				
MEAN	0.025	0.026	0.026	0.025
S.D.	0.0033	0.0027	0.0041	0.0063
N	10	10	10	10

None significantly different from control group

TABLE 57 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
THYROIDS/PARA				
MEAN	0.006	0.007	0.006	0.007
S.D.	0.0012	0.0018	0.0012	0.0014
N	10	10	10	10

None significantly different from control group

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SPONSOR:CMA-BFRIP

TABLE 58 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
FINAL BODY WT(G)					
	MEAN	542.	499.	537.	496.
	S.D.	29.9	89.1	55.8	71.8
	N	5	5	5	5
BRAIN					
	MEAN	0.365	0.424	0.385	0.402
	S.D.	0.0340	0.0719	0.0482	0.0533
	N	5	5	5	5
LIVER					
	MEAN	2.652	2.959**	2.913*	2.830
	S.D.	0.0609	0.1526	0.1494	0.1722
	N	5	5	5	5
KIDNEYS					
	MEAN	0.637	0.732*	0.732*	0.733*
	S.D.	0.0561	0.0496	0.0473	0.0643
	N	5	5	5	5
HEART					
	MEAN	0.303	0.326	0.313	0.320
	S.D.	0.0201	0.0389	0.0110	0.0248
	N	5	5	5	5

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 58 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
SPLEEN					
	MEAN	0.119	0.152*	0.152*	0.133
	S.D.	0.0116	0.0204	0.0166	0.0245
	N	5	5	5	5
PROSTATE					
	MEAN	0.224	0.174	0.195	0.218
	S.D.	0.0361	0.0399	0.0522	0.0538
	N	5	5	5	5
RT TESTIS					
	MEAN	0.301	0.252	0.306	0.321
	S.D.	0.0304	0.1157	0.0276	0.0598
	N	5	5	5	5
LT TESTIS					
	MEAN	0.289	0.300	0.309	0.322
	S.D.	0.0305	0.0327	0.0301	0.0517
	N	5	5	5	5
RT EPIDIDYMIS					
	MEAN	0.132	0.113	0.137	0.142
	S.D.	0.0064	0.0585	0.0119	0.0172
	N	5	5	5	5

* = Significantly different from the control group at 0.05 using Dunnett's test

TABLE 58 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
LT EPIDIDYMIS				
MEAN	0.128	0.140	0.135	0.141
S.D.	0.0153	0.0147	0.0200	0.0146
N	5	5	5	5
RT CAUDA EPID				
MEAN	0.056	0.060	0.061	0.058
S.D.	0.0059	0.0104	0.0086	0.0080
N	5	4	5	5
LT CAUDA EPID				
MEAN	0.057	0.064	0.063	0.063
S.D.	0.0071	0.0079	0.0124	0.0094
N	5	5	5	5
THYMUS GLAND				
MEAN	0.058	0.045	0.056	0.055
S.D.	0.0167	0.0092	0.0140	0.0117
N	5	5	5	5
ADRENAL GLANDS				
MEAN	0.012	0.013	0.011	0.011
S.D.	0.0027	0.0035	0.0026	0.0026
N	5	5	5	5

None significantly different from control group

TABLE 58 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
THYROIDS/PARA				
MEAN	0.005	0.006	0.005	0.006
S.D.	0.0008	0.0008	0.0011	0.0013
N	5	5	5	5

None significantly different from control group

TABLE 58 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
FINAL BODY WT(G)				
MEAN	281.	273.	273.	283.
S.D.	32.4	31.6	40.9	35.2
N	5	5	5	5
BRAIN				
MEAN	0.676	0.705	0.701	0.673
S.D.	0.0707	0.0684	0.0879	0.0820
N	5	5	5	5
LIVER				
MEAN	2.888	2.808	3.209	3.213
S.D.	0.2220	0.3940	0.2806	0.1839
N	5	5	5	5
KIDNEYS				
MEAN	0.702	0.676	0.775	0.741
S.D.	0.0659	0.1213	0.0614	0.0522
N	5	5	5	5
HEART				
MEAN	0.372	0.364	0.382	0.402
S.D.	0.0301	0.0266	0.0217	0.0148
N	5	5	5	5

None significantly different from control group

TABLE 58 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
SPLEEN				
MEAN	0.173	0.198	0.202	0.192
S.D.	0.0224	0.0276	0.0240	0.0284
N	5	5	5	5
UTERUS/CX				
MEAN	0.288	0.204	0.276	0.255
S.D.	0.1485	0.0314	0.0937	0.0729
N	5	5	5	5
OVARIES/OVIDUCTS				
MEAN	0.044	0.052	0.054	0.051
S.D.	0.0085	0.0086	0.0165	0.0110
N	5	5	5	5
THYMUS GLAND				
MEAN	0.094	0.097	0.070	0.085
S.D.	0.0228	0.0186	0.0244	0.0232
N	5	5	5	5
ADRENAL GLANDS				
MEAN	0.024	0.023	0.026	0.025
S.D.	0.0040	0.0040	0.0054	0.0017
N	5	5	5	5

None significantly different from control group

TABLE 58 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
THYROIDS/PARA				
MEAN	0.006	0.007	0.008*	0.008*
S.D.	0.0008	0.0015	0.0015	0.0010
N	5	5	5	5

* = Significantly different from the control group at 0.05 using Dunnett's test

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SPONSOR:CMA-BFRIP

TABLE 59 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BRAIN WT (GRAMS)				
MEAN	2.05	2.07	2.02	1.99
S.D.	0.098	0.058	0.079	0.072
N	10	10	10	9
LIVER				
MEAN	701.896	821.310*	846.326*	952.909**
S.D.	72.2640	99.4764	125.9337	123.1632
N	10	10	10	9
KIDNEYS				
MEAN	171.531	173.040	178.222	169.487
S.D.	22.0467	13.3601	17.7815	14.5157
N	10	10	10	9
HEART				
MEAN	79.876	76.060	80.154	74.208
S.D.	6.7680	4.8868	8.5239	8.4144
N	10	10	10	9
SPLEEN				
MEAN	39.358	36.539	35.547	38.110
S.D.	6.7474	5.5071	7.0463	7.1132
N	10	10	10	9

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 59 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
PROSTATE					
	MEAN	46.384	47.829	55.486	62.728**
	S.D.	8.4173	10.0155	10.1167	11.0055
	N	10	10	10	9
RT TESTIS					
	MEAN	78.483	78.473	81.318	79.131
	S.D.	17.9475	8.1704	8.8541	10.5988
	N	10	10	10	9
LT TESTIS					
	MEAN	77.638	80.365	81.283	79.533
	S.D.	18.7816	7.2233	8.3092	9.6558
	N	10	10	10	9
RT EPIDIDYMIS					
	MEAN	31.348	33.873	33.221	34.677
	S.D.	9.5888	1.1361	3.7338	3.4207
	N	10	10	10	9
LT EPIDIDYMIS					
	MEAN	30.734	33.432	32.770	33.260
	S.D.	5.9093	2.4588	5.1808	2.9945
	N	10	10	10	9

** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 59 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
RT CAUDA EPID				
MEAN	13.963	14.575	14.917	15.427
S.D.	3.5418	1.3879	2.0887	2.8405
N	10	10	10	9
LT CAUDA EPID				
MEAN	13.848	14.906	14.700	14.927
S.D.	3.1614	1.2099	2.4043	1.5912
N	10	10	10	9
THYMUS GLAND				
MEAN	15.109	14.718	13.985	12.991
S.D.	1.9956	2.7546	3.2124	2.2613
N	10	10	10	9
ADRENAL GLANDS				
MEAN	2.724	2.832	2.651	2.812
S.D.	0.4843	0.2256	0.4485	0.3282
N	10	10	10	9
THYROIDS/PARA				
MEAN	1.136	1.345	1.282	1.174
S.D.	0.2689	0.4094	0.2883	0.2776
N	10	10	10	9

None significantly different from control group

TABLE 59 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BRAIN WT (GRAMS)				
MEAN	1.86	1.84	1.86	1.83
S.D.	0.101	0.055	0.097	0.080
N	10	10	10	10
LIVER				
MEAN	437.081	540.096**	569.302**	679.164**
S.D.	43.1075	70.0643	71.2531	93.3866
N	10	10	10	10
KIDNEYS				
MEAN	112.434	108.146	111.437	112.010
S.D.	10.1439	12.0548	13.7678	12.6328
N	10	10	10	10
HEART				
MEAN	59.174	57.602	57.787	58.387
S.D.	10.3910	6.8685	4.9801	7.1083
N	10	10	10	10
SPLEEN				
MEAN	27.361	26.778	29.817	28.628
S.D.	3.9034	3.0097	6.5355	6.6758
N	10	10	10	10

** = Significantly different from the control group at 0.01 using Dunnett's test

TABLE 59 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
UTERUS/CX				
MEAN	43.385	34.548	35.851	33.980
S.D.	12.5658	8.8610	8.3508	9.6386
N	10	10	10	10
OVARIES/OVIDUCTS				
MEAN	7.722	7.051	6.996	8.085
S.D.	1.4211	1.3622	1.5114	1.1273
N	10	10	10	10
THYMUS GLAND				
MEAN	13.361	14.951	14.446	12.420
S.D.	3.0866	2.3536	4.5044	3.2333
N	10	10	10	10
ADRENAL GLANDS				
MEAN	3.831	3.924	4.052	3.825
S.D.	0.4801	0.5418	0.6028	0.6896
N	10	10	10	10
THYROIDS/PARA				
MEAN	0.922	1.063	0.977	1.083
S.D.	0.1620	0.2437	0.1294	0.2363
N	10	10	10	10

None significantly different from control group

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TABLE 60 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BRAIN WT (GRAMS)				
MEAN	1.97	2.07	2.05	1.97
S.D.	0.135	0.084	0.076	0.121
N	5	5	5	5
LIVER				
MEAN	732.937	710.078	765.219	715.014
S.D.	72.5662	97.1514	100.0316	121.0028
N	5	5	5	5
KIDNEYS				
MEAN	175.781	175.470	192.897	183.809
S.D.	22.0290	23.0192	30.3680	20.0476
N	5	5	5	5
HEART				
MEAN	83.796	77.488	82.163	80.597
S.D.	10.0979	5.2430	8.2863	11.0313
N	5	5	5	5
SPLEEN				
MEAN	32.696	36.010	39.712	33.260
S.D.	2.0529	2.4779	5.0817	5.2398
N	5	5	5	5

None significantly different from control group

TABLE 60 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
PROSTATE				
MEAN	62.220	41.113	52.104	55.058
S.D.	13.3448	7.1900	17.5574	15.2088
N	5	5	5	5
RT TESTIS				
MEAN	82.576	62.735	80.003	79.931
S.D.	5.2942	29.7383	7.6873	9.4043
N	5	5	5	5
LT TESTIS				
MEAN	79.358	72.225	80.803	80.223
S.D.	6.7285	12.1905	9.0401	9.1515
N	5	5	5	5
RT EPIDIDYMIS				
MEAN	36.194	28.188	35.730	35.405
S.D.	2.5130	14.3767	3.3907	3.3221
N	5	5	5	5
LT EPIDIDYMIS				
MEAN	35.164	33.449	34.988	35.211
S.D.	3.7673	4.5521	2.8350	1.6331
N	5	5	5	5

None significantly different from control group

TABLE 60 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

	----- M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
RT CAUDA EPID				
MEAN	15.357	14.995	15.816	14.574
S.D.	2.1024	1.6278	2.6146	1.5795
N	5	4	5	5
LT CAUDA EPID				
MEAN	15.658	15.510	16.286	15.612
S.D.	2.2824	3.3436	2.4418	0.7419
N	5	5	5	5
THYMUS GLAND				
MEAN	15.630	10.853	14.691	13.757
S.D.	3.3474	2.6465	3.7282	2.9484
N	5	5	5	5
ADRENAL GLANDS				
MEAN	3.333	3.117	2.774	2.741
S.D.	0.5331	0.3423	0.2928	0.5747
N	5	5	5	5
THYROIDS/PARA				
MEAN	1.468	1.484	1.374	1.422
S.D.	0.1994	0.2967	0.2980	0.2480
N	5	5	5	5

None significantly different from control group

TABLE 60 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
BRAIN WT (GRAMS)				
MEAN	1.88	1.91	1.89	1.88
S.D.	0.055	0.047	0.102	0.083
N	5	5	5	5
LIVER				
MEAN	429.261	397.033	465.529	484.292
S.D.	38.2944	23.6652	85.1351	75.7676
N	5	5	5	5
KIDNEYS				
MEAN	104.161	95.326	111.812	111.759
S.D.	9.2009	9.2942	15.0320	18.9965
N	5	5	5	5
HEART				
MEAN	55.551	51.791	55.169	60.468
S.D.	7.5305	3.4171	7.6394	8.0557
N	5	5	5	5
SPLEEN				
MEAN	25.475	28.179	29.355	28.655
S.D.	1.0584	3.5375	5.7752	3.8024
N	5	5	5	5

None significantly different from control group

TABLE 60 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
UTERUS/CX				
MEAN	41.457	29.174	38.962	38.435
S.D.	17.7765	6.1696	9.8704	12.1446
N	5	5	5	5
OVARIES/OVIDUCTS				
MEAN	6.607	7.327	7.548	7.490
S.D.	1.2769	0.5684	1.6201	0.8712
N	5	5	5	5
THYMUS GLAND				
MEAN	13.930	13.694	9.954	12.886
S.D.	2.7837	2.0835	3.1686	4.3003
N	5	5	5	5
ADRENAL GLANDS				
MEAN	3.499	3.321	3.724	3.802
S.D.	0.3553	0.6895	0.7955	0.5151
N	5	5	5	5
THYROIDS/PARA				
MEAN	0.866	1.071	1.176*	1.192*
S.D.	0.1554	0.2061	0.1897	0.1211
N	5	5	5	5

* = Significantly different from the control group at 0.05 using Dunnett's test

TABLE 61 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HISTOMORPHOLOGICAL DIAGNOSIS -- SUMMARY INCIDENCE

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED	0	0	0	1
AORTA				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
STERNEBRAE				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
BRAIN				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
CECUM				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
COLON				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
DUODENUM				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 61 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HISTOMORPHOLOGICAL DIAGNOSIS -- SUMMARY INCIDENCE

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED	0	0	0	1
ESOPHAGUS				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
EYES/OPTIC N.				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
HEART				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
ILEUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
TOO AUTOLYZED TO EXAMINE	0	0	0	1
JEJUNUM				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
KIDNEYS				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	0
-INFLAMMATION, SUBACUTE	0	0	0	1
MINIMAL	NONE	NONE	NONE	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 61 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HISTOMORPHOLOGICAL DIAGNOSIS -- SUMMARY INCIDENCE

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED	0	0	0	1
KIDNEYS - CONTINUED				
-BASOPHILIC TUBULES	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
-HYDRONEPHROSIS	0	0	0	1
MILD	NONE	NONE	NONE	1
LIVER				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	0
-INFLAMMATION, SUBACUTE	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
-PAS STAIN, POSITIVE	0	0	0	1
MODERATE	NONE	NONE	NONE	1
-OIL RED O, POSITIVE	0	0	0	1
MILD	NONE	NONE	NONE	1
LYMPH NODE, MES				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
ADRENAL CORTEX				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 61 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HISTOMORPHOLOGICAL DIAGNOSIS -- SUMMARY INCIDENCE

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED	0	0	0	1
LUNGS				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	0
-HEMORRHAGE	0	0	0	1
MODERATE	NONE	NONE	NONE	1
ADRENAL MEDULLA				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
NERVE,SCIATIC				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
STOMACH, GLD				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
STOMACH, NONGLD				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 61 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HISTOMORPHOLOGICAL DIAGNOSIS -- SUMMARY INCIDENCE

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED	0	0	0	1
MARROW, STERN				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
PANCREAS				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
PARATHYROID				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
RT EPIDIDYMIS				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
RECTUM				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
PITUITARY				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 61 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HISTOMORPHOLOGICAL DIAGNOSIS -- SUMMARY INCIDENCE

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED	0	0	0	1
PROSTATE				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
SAL. GLAND MAND				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
SEMINAL VESICLES				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
SKELETAL MUSCLE				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
SKIN				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
SPINAL CORD				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 61 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HISTOMORPHOLOGICAL DIAGNOSIS -- SUMMARY INCIDENCE

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED	0	0	0	1
SPLEEN				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	0
-HEMATOPOIESIS, EXTRAMEDULLARY	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
LYMPH NODE, MAND				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
THYMUS GLAND				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	0
-HEMORRHAGE	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
THYROID GLANDS				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
RT TESTIS				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 61 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
HISTOMORPHOLOGICAL DIAGNOSIS -- SUMMARY INCIDENCE

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED	0	0	0	1
TRACHEA				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
VAS DEFERENS				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1
URINARY BLADDER				
TOTAL NUMBER EXAMINED	0	0	0	1
EXAMINED, UNREMARKABLE	0	0	0	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

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SPONSOR:CMA-BFRIP

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
AORTA				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
STERNEBRAE				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
BRAIN				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
CECUM				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	9	0	0	9
-INFLAMMATION, SUBACUTE	1	0	0	0
MILD	1	NONE	NONE	NONE
COLON				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	8
-HYPERPLASIA, LYMPHOID	0	0	0	1
MILD	NONE	NONE	NONE	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
DUODENUM				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
ESOPHAGUS				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	8
-DEGENERATION	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
EYES/OPTIC N.				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
HEART				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	5	0	0	6
-CARDIOMYOPATHY	5	0	0	3
MINIMAL	5	NONE	NONE	3
ILEUM				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
JEJUNUM				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
KIDNEYS				
TOTAL NUMBER EXAMINED	10	0	1	9
EXAMINED, UNREMARKABLE	4	0	0	4
-INFLAMMATION, SUBACUTE	3	0	0	3
MINIMAL	1	NONE	NONE	2
MILD	2	NONE	NONE	1
-BASOPHILIC TUBULES	4	0	1	5
MINIMAL	2	NONE	1	4
MILD	2	NONE	NONE	1
-CYST, CORTICAL	1	0	0	0
MILD	1	NONE	NONE	NONE
LIVER				
TOTAL NUMBER EXAMINED	10	10	10	9
EXAMINED, UNREMARKABLE	0	0	0	0
-INFLAMMATION, SUBACUTE	9	8	10	6
MINIMAL	9	8	10	3
MILD	NONE	NONE	NONE	3
-VACUOLATION, HEPATOCELLULAR	2	6	5	6
MINIMAL	1	5	4	5
MILD	1	1	1	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
LIVER - CONTINUED				
-HEMATOPOIESIS, EXTRAMEDULLARY	1	0	0	1
MINIMAL	1	NONE	NONE	1
-NECROSIS	0	0	1	1
MINIMAL	NONE	NONE	1	1
-PAS STAIN, POSITIVE	2	0	0	3
MINIMAL	2	NONE	NONE	1
MILD	NONE	NONE	NONE	2
-OIL RED O, POSITIVE	5	0	0	4
MILD	2	NONE	NONE	1
MODERATE	3	NONE	NONE	3
-PAS STAIN, NEGATIVE	3	0	0	1
PRESENT	3	NONE	NONE	1
LYMPH NODE, MES				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
ADRENAL CORTEX				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	9	0	0	6
-VACUOLATION	1	0	0	3
MINIMAL	NONE	NONE	NONE	3
MILD	1	NONE	NONE	NONE

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
LUNGS				
TOTAL NUMBER EXAMINED	10	10	10	9
EXAMINED, UNREMARKABLE	2	5	1	2
-MINERALIZATION, VASCULAR	5	2	5	6
MINIMAL	5	2	5	6
-HEMORRHAGE	0	0	0	2
MINIMAL	NONE	NONE	NONE	2
-INFLAMMATION, CHRONIC	2	1	2	3
MINIMAL	NONE	NONE	2	2
MILD	2	1	NONE	1
-HISTIOCYTOSIS, ALVEOLAR	5	3	2	0
MINIMAL	3	2	1	NONE
MILD	2	1	1	NONE
-INFLAMMATION, SUBACUTE	1	0	0	1
MINIMAL	1	NONE	NONE	1
-INFLAMMATION, GRANULOMATOUS	0	2	4	3
MINIMAL	NONE	1	4	2
MILD	NONE	1	NONE	1
-INFLAMMATION, ACUTE	0	0	1	0
MINIMAL	NONE	NONE	1	NONE
ADRENAL MEDULLA				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
NERVE,SCIATIC				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
STOMACH, GLD				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
STOMACH, NONGLD				
TOTAL NUMBER EXAMINED	10	0	0	8
EXAMINED, UNREMARKABLE	10	0	0	7
NOT EXAMINED	0	0	0	1
-CYST, KERATIN	0	0	0	1
MILD	NONE	NONE	NONE	1
MARROW, STERN				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
PANCREAS				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	9	0	0	7
-INFILTRATE, FATTY	1	0	0	1
MINIMAL	1	NONE	NONE	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
PANCREAS - CONTINUED				
-HYPERPLASIA, DUCTAL	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
PARATHYROID				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
RT EPIDIDYMIS				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	9	0	0	8
-LUMINAL DEBRIS, CELLULAR	1	0	0	0
MODERATE	1	NONE	NONE	NONE
-HYPOSPERMIA	1	0	0	0
SEVERE	1	NONE	NONE	NONE
-INFILTRATE, MONONUCLEAR	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
RECTUM				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	9	0	0	9
-PARASITES, NEMATODES	1	0	0	0
PRESENT	1	NONE	NONE	NONE

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
PITUITARY				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
PROSTATE				
TOTAL NUMBER EXAMINED	10	10	10	9
EXAMINED, UNREMARKABLE	3	5	3	5
-INFLAMMATION, SUBACUTE	6	1	5	2
MINIMAL	2	1	4	2
MILD	4	NONE	1	NONE
-INFLAMMATION, CHRONIC ACTIVE	1	4	2	0
MINIMAL	NONE	4	2	NONE
MILD	1	NONE	NONE	NONE
-INFLAMMATION, ACUTE	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
-HYPERTROPHY, EPITHELIAL	0	0	0	1
MILD	NONE	NONE	NONE	1
SAL. GLAND MAND				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
SEMINAL VESICLES				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
SKELETAL MUSCLE				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	7	0	0	7
-DEGENERATION	3	0	0	1
MINIMAL	3	NONE	NONE	1
-INFLAMMATION, SUBACUTE	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
SKIN				
TOTAL NUMBER EXAMINED	10	2	0	9
EXAMINED, UNREMARKABLE	10	0	0	7
-INFLAMMATION, CHRONIC ACTIVE	0	2	0	1
MODERATE	NONE	2	NONE	1
-INFLAMMATION, CHRONIC	0	0	0	1
MODERATE	NONE	NONE	NONE	1
SPINAL CORD				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	9	0	0	9
-HEMORRHAGE	1	0	0	0
MINIMAL	1	NONE	NONE	NONE

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
SPLEEN				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	8	0	0	7
-VACUOLATION	1	0	0	1
MINIMAL	1	NONE	NONE	1
-HEMATOPOIESIS, EXTRAMEDULLARY	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
-DEPLETION, LYMPHOID	1	0	0	0
MINIMAL	1	NONE	NONE	NONE
LYMPH NODE, MAND				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	6	0	0	8
-HEMORRHAGE	2	0	0	0
MILD	2	NONE	NONE	NONE
-PLASMACYTOSIS, MEDULLARY	3	0	0	0
MINIMAL	1	NONE	NONE	NONE
MILD	1	NONE	NONE	NONE
MODERATE	1	NONE	NONE	NONE
-HYPERPLASIA, LYMPHOID	0	0	0	1
MINIMAL	NONE	NONE	NONE	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
THYMUS GLAND				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	0	0	0	0
-HEMORRHAGE	8	0	0	6
MINIMAL	4	NONE	NONE	5
MILD	4	NONE	NONE	1
-ATROPHY	8	0	0	7
MINIMAL	8	NONE	NONE	7
THYROID GLANDS				
TOTAL NUMBER EXAMINED	10	10	10	9
EXAMINED, UNREMARKABLE	6	6	4	0
-CYST, ULTIMOBRANCHIAL	2	3	4	3
MINIMAL	NONE	2	2	2
MILD	2	1	2	1
-HYPERTROPHY, FOLLICULAR CELL	1	1	5	8
MINIMAL	1	1	5	7
MILD	NONE	NONE	NONE	1
-INFLAMMATION, SUBACUTE	1	0	0	0
MILD	1	NONE	NONE	NONE
RT TESTIS				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	9	0	0	9
-DEGENERATION, SEMINIFEROUS TUBULES	1	0	0	0
MODERATE	1	NONE	NONE	NONE

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	9
TRACHEA				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	9	0	0	8
-DILATATION, GLANDULAR	1	0	0	1
MINIMAL	1	NONE	NONE	NONE
MILD	NONE	NONE	NONE	1
VAS DEFERENS				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9
URINARY BLADDER				
TOTAL NUMBER EXAMINED	10	0	0	9
EXAMINED, UNREMARKABLE	10	0	0	9

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
ADRENAL GLANDS				
TOTAL NUMBER EXAMINED	1	NA	NA	NA
EXAMINED, UNREMARKABLE	1	NA	NA	NA
AORTA				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
STERNEBRAE				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
OVIDUCTS				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
BRAIN				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
CECUM				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
NA = NOT APPLICABLE

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
COLON				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
DUODENUM				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
ESOPHAGUS				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	8	0	0	9
-DEGENERATION	2	0	0	1
MINIMAL	1	NONE	NONE	NONE
MILD	1	NONE	NONE	1
EYES/OPTIC N.				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
HARDERIAN GLANDS				
TOTAL NUMBER EXAMINED	NA	NA	1	NA
EXAMINED, UNREMARKABLE	NA	NA	0	NA
-PIGMENT	NA	NA	1	NA
MINIMAL	NA	NA	1	NA

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
NA = NOT APPLICABLE

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
HEART				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	8	0	0	8
-CARDIOMYOPATHY	1	0	0	2
MINIMAL	1	NONE	NONE	1
MILD	NONE	NONE	NONE	1
-INFLAMMATION	1	0	0	0
MILD	1	NONE	NONE	NONE
ILEUM				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
JEJUNUM				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
KIDNEYS				
TOTAL NUMBER EXAMINED	10	0	1	10
EXAMINED, UNREMARKABLE	7	0	0	3
-INFLAMMATION, SUBACUTE	1	0	1	3
MINIMAL	1	NONE	1	3
-BASOPHILIC TUBULES	1	0	0	1
MINIMAL	1	NONE	NONE	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
KIDNEYS - CONTINUED				
-MINERALIZATION, PELVIC	1	0	0	4
MINIMAL	1	NONE	NONE	4
-MULTILAMELLAR BODY	1	0	0	0
MINIMAL	1	NONE	NONE	NONE
-MINERALIZATION, PAPILLARY TUBULAR	2	0	0	1
MINIMAL	1	NONE	NONE	1
MODERATE	1	NONE	NONE	NONE
LIVER				
TOTAL NUMBER EXAMINED	10	10	10	10
EXAMINED, UNREMARKABLE	1	1	0	0
-INFLAMMATION, SUBACUTE	9	9	9	10
MINIMAL	8	9	9	8
MILD	1	NONE	NONE	2
-VACUOLATION, HEPATOCELLULAR	3	6	5	9
MINIMAL	3	6	3	5
MILD	NONE	NONE	1	2
MODERATE	NONE	NONE	1	2
-HYPERTROPHY, HEPATOCELLULAR, CENTRILOBULAR	0	0	0	5
MINIMAL	NONE	NONE	NONE	2
MILD	NONE	NONE	NONE	3
-PAS STAIN, POSITIVE	1	0	0	2
MINIMAL	1	NONE	NONE	2

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
LIVER - CONTINUED				
-OIL RED O, POSITIVE	4	0	0	5
MINIMAL	1	NONE	NONE	NONE
MILD	3	NONE	NONE	3
MODERATE	NONE	NONE	NONE	2
-PAS STAIN, NEGATIVE	4	0	0	3
PRESENT	4	NONE	NONE	3
-OIL RED O, NEGATIVE	1	0	0	0
PRESENT	1	NONE	NONE	NONE
LYMPH NODE, MES				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
ADRENAL CORTEX				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
LUNGS				
TOTAL NUMBER EXAMINED	10	10	10	10
EXAMINED, UNREMARKABLE	2	5	4	0
-MINERALIZATION, VASCULAR	4	3	1	4
MINIMAL	4	3	1	4
-INFLAMMATION, CHRONIC	5	3	1	7
MINIMAL	4	3	1	5
MILD	1	NONE	NONE	2

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
LUNGS - CONTINUED				
-HISTIOCYTOSIS, ALVEOLAR	5	3	3	8
MINIMAL	5	2	3	8
MILD	NONE	1	NONE	NONE
-INFLAMMATION, SUBACUTE	1	0	0	0
MINIMAL	1	NONE	NONE	NONE
-INFLAMMATION, GRANULOMATOUS	1	0	2	7
MINIMAL	1	NONE	2	7
-INFLAMMATION, CHRONIC ACTIVE	0	0	1	0
MODERATE	NONE	NONE	1	NONE
MAMMARY GLAND				
TOTAL NUMBER EXAMINED	9	0	0	10
EXAMINED, UNREMARKABLE	9	0	0	8
NOT EXAMINED	1	0	0	0
-HYPERPLASIA, LOBULAR	0	0	0	2
MINIMAL	NONE	NONE	NONE	1
MILD	NONE	NONE	NONE	1
ADRENAL MEDULLA				
TOTAL NUMBER EXAMINED	9	0	0	10
EXAMINED, UNREMARKABLE	9	0	0	10
NOT EXAMINED	1	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
NERVE,SCIATIC				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
STOMACH, GLD				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
STOMACH, NONGLD				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
MARROW, STERN				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
OVARIES				
TOTAL NUMBER EXAMINED	10	0	1	10
EXAMINED, UNREMARKABLE	9	0	0	10
-CYST	1	0	0	0
MINIMAL	1	NONE	NONE	NONE
-ATROPHY	0	0	1	0
MINIMAL	NONE	NONE	1	NONE

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
PANCREAS				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	9
-INFLAMMATION, SUBACUTE	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
PARATHYROID				
TOTAL NUMBER EXAMINED	7	0	0	10
EXAMINED, UNREMARKABLE	7	0	0	10
NOT EXAMINED	3	0	0	0
RECTUM				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
PITUITARY				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
SAL. GLAND MAND				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
SKELETAL MUSCLE				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	9	0	0	9
-DEGENERATION	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
-INFLAMMATION, SUBACUTE	1	0	0	0
MINIMAL	1	NONE	NONE	NONE
SKIN				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	9
-INFLAMMATION, CHRONIC ACTIVE	0	0	0	1
MODERATE	NONE	NONE	NONE	1
SPINAL CORD				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
SPLEEN				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	9	0	0	5
-HEMATOPOIESIS, EXTRAMEDULLARY	0	0	0	2
MINIMAL	NONE	NONE	NONE	2
-PIGMENT, BROWN	0	0	0	2
MINIMAL	NONE	NONE	NONE	2

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
SPLEEN - CONTINUED				
-HYPERPLASIA, LYMPHOID	1	0	0	1
MINIMAL	1	NONE	NONE	1
LYMPH NODE, MAND				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	8	0	0	6
-HYPERPLASIA, LYMPHOID	2	0	0	4
MINIMAL	2	NONE	NONE	4
THYMUS GLAND				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	1	0	0	0
-HEMORRHAGE	5	0	0	5
MINIMAL	5	NONE	NONE	5
-ATROPHY	8	0	0	10
MINIMAL	7	NONE	NONE	10
MILD	1	NONE	NONE	NONE
THYROID GLANDS				
TOTAL NUMBER EXAMINED	10	10	10	10
EXAMINED, UNREMARKABLE	8	6	5	0
-CYST, ULTIMOBRANCHIAL	2	4	3	5
MINIMAL	NONE	4	3	4
MILD	2	NONE	NONE	1

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
THYROID GLANDS - CONTINUED				
-HYPERTROPHY, FOLLICULAR CELL	0	0	4	7
MINIMAL	NONE	NONE	4	3
MILD	NONE	NONE	NONE	4
TRACHEA				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	8
-DILATATION, GLANDULAR	0	0	0	2
MINIMAL	NONE	NONE	NONE	2
URINARY BLADDER				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	10
UTERUS				
TOTAL NUMBER EXAMINED	10	0	1	10
EXAMINED, UNREMARKABLE	8	0	0	7
-DILATATION, LUMEN	2	0	0	3
MINIMAL	1	NONE	NONE	3
MILD	1	NONE	NONE	NONE
-METAPLASIA, SQUAMOUS	0	0	1	0
MINIMAL	NONE	NONE	1	NONE

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 62 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 13	10	10	10	10
VAGINA				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	7
-INFLAMMATION, CHRONIC ACTIVE	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
-INFLAMMATION, SUBACUTE	0	0	0	2
MINIMAL	NONE	NONE	NONE	2
CERVIX				
TOTAL NUMBER EXAMINED	10	0	0	10
EXAMINED, UNREMARKABLE	10	0	0	9
-INFLAMMATION, ACUTE	0	0	0	1
MINIMAL	NONE	NONE	NONE	1
EAR(S)				
TOTAL NUMBER EXAMINED	NA	NA	2	NA
EXAMINED, UNREMARKABLE	NA	NA	0	NA
-CHONDROPATHY, AURICULAR	NA	NA	2	NA
MILD	NA	NA	2	NA

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY
NA = NOT APPLICABLE

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
AORTA				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
STERNEBRAE				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
BRAIN				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
CECUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
COLON				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
DUODENUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
ESOPHAGUS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
EYES/OPTIC N.				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
HEART				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
ILEUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
JEJUNUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
KIDNEYS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
LIVER				
TOTAL NUMBER EXAMINED	5	5	5	4
EXAMINED, UNREMARKABLE	0	0	0	0
-INFLAMMATION, SUBACUTE	5	5	5	4
MINIMAL	5	5	5	4
-VACUOLATION, HEPATOCELLULAR	3	0	2	1
MINIMAL	3	NONE	2	1
LYMPH NODE, MES				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
ADRENAL CORTEX				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
LUNGS				
TOTAL NUMBER EXAMINED	5	5	5	5
EXAMINED, UNREMARKABLE	2	5	1	0
-MINERALIZATION, VASCULAR	3	0	2	3
MINIMAL	3	NONE	2	3
-INFLAMMATION, CHRONIC	1	0	1	0
MINIMAL	1	NONE	1	NONE
-HISTIOCYTOSIS, ALVEOLAR	1	0	2	2
MINIMAL	1	NONE	1	2
MILD	NONE	NONE	1	NONE

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
LUNGS - CONTINUED				
-INFLAMMATION, SUBACUTE	0	0	1	0
MINIMAL	NONE	NONE	1	NONE
-INFLAMMATION, GRANULOMATOUS	0	0	0	3
MINIMAL	NONE	NONE	NONE	3
ADRENAL MEDULLA				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
NERVE,SCIATIC				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
STOMACH, GLD				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
STOMACH, NONGLD				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
MARROW, STERN				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
PANCREAS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
PARATHYROID				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
RT EPIDIDYMIS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
RECTUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
PITUITARY				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
PROSTATE				
TOTAL NUMBER EXAMINED	5	5	5	5
EXAMINED, UNREMARKABLE	3	4	3	3
-INFLAMMATION, SUBACUTE	0	0	1	2
MINIMAL	NONE	NONE	1	2
-INFLAMMATION, CHRONIC ACTIVE	2	0	0	0
MINIMAL	2	NONE	NONE	NONE
-INFLAMMATION, ACUTE	0	0	1	0
MINIMAL	NONE	NONE	1	NONE
-HYPERTROPHY, EPITHELIAL	0	1	0	0
MINIMAL	NONE	1	NONE	NONE
SAL. GLAND MAND				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
SEMINAL VESICLES				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
SKELETAL MUSCLE				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
SKIN				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
SPINAL CORD				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
SPLEEN				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
LYMPH NODE, MAND				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
THYMUS GLAND				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
THYROID GLANDS				
TOTAL NUMBER EXAMINED	5	5	5	5
EXAMINED, UNREMARKABLE	3	3	1	2
-CYST, ULTIMOBRANCHIAL	1	2	2	0
MINIMAL	1	NONE	NONE	NONE
MILD	NONE	2	2	NONE

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
THYROID GLANDS - CONTINUED				
-HYPERTROPHY, FOLLICULAR CELL	2	0	3	3
MINIMAL	2	NONE	3	3
-INFLAMMATION, SUBACUTE	0	0	1	0
MINIMAL	NONE	NONE	1	NONE
RT TESTIS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
TRACHEA				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
VAS DEFERENS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
URINARY BLADDER				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
AORTA				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
STERNEBRAE				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
OVIDUCTS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
BRAIN				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
CECUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
COLON				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
DUODENUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
ESOPHAGUS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
EYES/OPTIC N.				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
HEART				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
ILEUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
JEJUNUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
KIDNEYS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
LIVER				
TOTAL NUMBER EXAMINED	5	5	5	5
EXAMINED, UNREMARKABLE	0	2	1	0
-INFLAMMATION, SUBACUTE	5	3	4	5
MINIMAL	5	3	4	5
-VACUOLATION, HEPATOCELLULAR	0	0	1	2
MINIMAL	NONE	NONE	1	1
MILD	NONE	NONE	NONE	1
-NECROSIS	1	0	0	0
MILD	1	NONE	NONE	NONE
LYMPH NODE, MES				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
ADRENAL CORTEX				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
LUNGS				
TOTAL NUMBER EXAMINED	5	5	5	5
EXAMINED, UNREMARKABLE	2	5	4	2
-MINERALIZATION, VASCULAR	2	0	0	2
MINIMAL	2	NONE	NONE	2
-INFLAMMATION, CHRONIC	1	0	0	1
MINIMAL	1	NONE	NONE	1
-HISTIOCYTOSIS, ALVEOLAR	1	0	0	0
MINIMAL	1	NONE	NONE	NONE
-INFLAMMATION, GRANULOMATOUS	0	0	1	2
MINIMAL	NONE	NONE	1	2
MAMMARY GLAND				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
ADRENAL MEDULLA				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
NERVE,SCIATIC				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
STOMACH, GLD				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
STOMACH, NONGLD				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
MARROW, STERN				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
OVARIES				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
PANCREAS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
PARATHYROID				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
RECTUM				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
PITUITARY				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
SAL. GLAND MAND				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
SKELETAL MUSCLE				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
SKIN				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
SPINAL CORD				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
SPLEEN				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
LYMPH NODE, MAND				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
THYMUS GLAND				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
THYROID GLANDS				
TOTAL NUMBER EXAMINED	5	5	5	5
EXAMINED, UNREMARKABLE	3	3	3	2
-CYST, ULTIMOBRANCHIAL	2	2	2	1
MINIMAL	2	2	1	1
MILD	NONE	NONE	1	NONE
-HYPERTROPHY, FOLLICULAR CELL	0	0	0	3
MINIMAL	NONE	NONE	NONE	3
TRACHEA				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 63 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----

GROUP:	1	2	3	4
NUMBER OF ANIMALS IN DOSE GROUP	15	15	15	15
NUMBER OF ANIMALS EXAMINED WEEK 17	5	5	5	5
URINARY BLADDER				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
UTERUS				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
VAGINA				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0
CERVIX				
TOTAL NUMBER EXAMINED	0	0	0	0
EXAMINED, UNREMARKABLE	0	0	0	0

1- 0 MG/KG/DAY 2- 100 MG/KG/DAY 3- 300 MG/KG/DAY 4- 1000 MG/KG/DAY

TABLE 64
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
TESTICULAR AND EPIDIDYMAL SPERM NUMBERS
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE) - SUMMARY OF MEANS
HTM-IVOS

		GROUP:	0 MG/KG/DAY	100 MG/KG/DAY-SZ	300 MG/KG/DAY-SZ	1000 MG/KG/DAY-RZ
			----- M A L E -----			
LEFT TESTIS						
WEEK	13	MEAN	109.5	97.4	103.5	97.2
		S.D.	28.14	13.96	45.08	23.02
		N	9	10	10	9
WEEK	17	MEAN	94.1	111.4	78.2	88.6
		S.D.	23.61	58.55	12.08	16.90
		N	5	4	5	5
LEFT EPIDIDYMIS						
WEEK	13	MEAN	658.0	648.9	778.2	640.6
		S.D.	101.83	122.61	177.63	93.78
		N	9	10	10	9
WEEK	17	MEAN	362.7	405.1	410.2	393.6
		S.D.	34.84	51.68	31.56	74.89
		N	5	4	5	5

None significantly different from the control group using Dunnett's test

TABLE 65
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SPERM PRODUCTION RATE - A
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE/DAY) - SUMMARY OF MEANS
HTM-IVOS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
LEFT TESTIS					
WEEK 13	MEAN	18.0	16.0	17.0	15.9
	S.D.	4.60	2.29	7.38	3.75
	N	9	10	10	9
LEFT TESTIS					
WEEK 17	MEAN	15.4	18.3	12.8	14.5
	S.D.	3.85	9.59	1.97	2.75
	N	5	4	5	5

None significantly different from the control group using Dunnett's test

$$\text{A: SPERM PRODUCTION RATE} = \frac{\text{NUMBER OF SPERM PER GRAM OF TISSUE}}{\text{6.1 DAYS}}$$

6.1 DAYS = THE RATE OF TURNOVER OF THE GERMINAL EPITHELIUM

PROJECT NO.:WIL-186012
SPONSOR: CMA-BFRIP

TABLE 66
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SPERM MOTILITY ASSESSMENT (PERCENTAGE)
SUMMARY OF MEANS
HTM-IVOS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY-SZ	300 MG/KG/DAY-SZ	1000 MG/KG/DAY-SZ
MOTILE SPERM					
WEEK 13	MEAN	88.0	89.9	89.6	86.2
	S.D.	2.96	3.04	3.20	3.19
	N	9	10	10	9
MOTILE SPERM					
WEEK 17	MEAN	75.2	76.8	73.8	77.2
	S.D.	11.65	13.90	13.48	9.34
	N	5	5	5	5

None significantly different from the control group using Kruskal-Wallis test

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TABLE 67
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)
SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
NORMAL					
WEEK 13	MEAN	99.4	99.4	99.4	99.6
	S.D.	0.68	0.75	0.97	0.49
	N	9	10	10	9
WEEK 17	MEAN	98.7	99.0	99.6	99.5
	S.D.	1.15	0.94	0.65	0.50
	N	5	5	5	5
NORMALLY SHAPED HEAD SEPARATED FROM FLAGELLUM					
WEEK 13	MEAN	0.6	0.7	0.4	0.3
	S.D.	0.68	0.75	0.52	0.36
	N	9	10	10	9
WEEK 17	MEAN	0.9	0.4	0.3	0.1
	S.D.	0.82	0.42	0.67	0.22
	N	5	5	5	5
HEAD ABSENT WITH NORMAL FLAGELLUM					
WEEK 13	MEAN	0.0	0.0	0.2	0.1
	S.D.	0.00	0.00	0.48	0.22
	N	9	10	10	9
WEEK 17	MEAN	0.4	0.6	0.1	0.4
	S.D.	0.55	0.65	0.22	0.42
	N	5	5	5	5

Normal morphology not significantly different from the control group using Kruskal-Wallis test

TABLE 67
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)
SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
HEAD ABSENT WITH ABNORMAL FLAGELLUM					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5
MISSHAPEN HEAD WITH NORMAL FLAGELLUM					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5
MISSHAPEN HEAD WITH ABNORMAL FLAGELLUM					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5

TABLE 67
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)
SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
DEGENERATIVE FLAGELLAR DEFECTS WITH NORMAL HEAD					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5
OTHER FLAGELLAR DEFECTS WITH NORMAL HEAD					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5

TABLE 68
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER) - SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
NORMAL					
WEEK 13	MEAN	198.9	198.7	198.8	199.2
	S.D.	1.58	1.49	1.93	0.97
	N	9	10	10	9
WEEK 17	MEAN	197.4	198.0	199.2	199.0
	S.D.	2.30	1.87	1.30	1.00
	N	5	5	5	5
NORMALLY SHAPED HEAD SEPARATED FROM FLAGELLUM					
WEEK 13	MEAN	1.1	1.3	0.8	0.6
	S.D.	1.36	1.49	1.03	0.73
	N	9	10	10	9
WEEK 17	MEAN	1.8	0.8	0.6	0.2
	S.D.	1.64	0.84	1.34	0.45
	N	5	5	5	5
HEAD ABSENT WITH NORMAL FLAGELLUM					
WEEK 13	MEAN	0.0	0.0	0.4	0.2
	S.D.	0.00	0.00	0.97	0.44
	N	9	10	10	9
WEEK 17	MEAN	0.8	1.2	0.2	0.8
	S.D.	1.10	1.30	0.45	0.84
	N	5	5	5	5

TABLE 68
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER) - SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
HEAD ABSENT WITH ABNORMAL FLAGELLUM					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5
MISSHAPEN HEAD WITH NORMAL FLAGELLUM					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5
MISSHAPEN HEAD WITH ABNORMAL FLAGELLUM					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5

TABLE 68
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER) - SUMMARY OF MEANS

		----- M A L E -----			
GROUP:		0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	1000 MG/KG/DAY
DEGENERATIVE FLAGELLAR DEFECTS WITH NORMAL HEAD					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5
OTHER FLAGELLAR DEFECTS WITH NORMAL HEAD					
WEEK 13	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	9	10	10	9
WEEK 17	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
	N	5	5	5	5

FINAL REPORT

Volume 2 of 4
(Individual Tables 69-93)

STUDY TITLE

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

STUDY DIRECTOR

Christopher P. Chengelis, Ph.D., D.A.B.T.

STUDY INITIATED ON

March 2, 2000

STUDY COMPLETION DATE

December 14, 2001

PERFORMING LABORATORY

WIL Research Laboratories, Inc.
1407 George Road
Ashland, Ohio 44805-9281

LABORATORY STUDY NUMBER

WIL-186012

SPONSOR

Chemical Manufacturers Association
Brominated Flame Retardant Industry Panel (BFRIP)
1300 Wilson Blvd.
Arlington, VA 22209

TABLE 69
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
43289	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43295	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43308	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43316	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43326	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43332	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43334	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43336	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43339	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43349	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43365	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43368	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43369	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43379	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43391	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43285	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43293	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43311	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43320	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43340	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43342	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43350	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43351	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43354	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43364	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43371	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43380	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43382	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43384	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (7)

TABLE 69
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
43386	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43290	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43307	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43309	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43318	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43322	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43323	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43331	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43341	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43355	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43361	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43363	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43383	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43385	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43388	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43392	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43277	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43278	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43280	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43281	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43282	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43297	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43325	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43328	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43346	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43359	M	1000 MG/KG/DAY	FOUND DEAD	8	07-MAY-00	11
43362	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43372	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (7)

TABLE 69
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
43373	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43377	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43397	M	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (7)

TABLE 69
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
43398	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43405	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43409	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43423	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43432	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43433	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43435	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43436	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43438	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43449	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43467	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43474	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43483	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43497	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43501	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43400	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43407	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43413	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43416	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43419	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43420	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43439	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43458	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43462	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43468	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43486	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43489	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43502	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43511	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (7)

TABLE 69
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
43515	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43402	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43426	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43442	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43446	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43461	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43463	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43475	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43478	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43491	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43495	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43496	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43508	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43513	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43516	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43517	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43401	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43410	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43421	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43429	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43430	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	24	23-AUG-00	119
43440	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43456	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43460	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43466	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43477	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43479	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	27-JUL-00	92
43481	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (7)

TABLE 69
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
43484	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	26-JUL-00	91
43492	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93
43503	F	1000 MG/KG/DAY	SCHEDULED EUTHANASIA	20	28-JUL-00	93

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (7)

PDEADv4.02
01/03/2001
R:07/18/2001

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43289	202.	236.	291.	337.	365.	400.	431.	461.
43295	226.	255.	312.	349.	388.	429.	452.	471.
43308	183.	227.	272.	313.	344.	384.	417.	442.
43316	203.	230.	263.	289.	320.	349.	370.	402.
43326	176.	213.	256.	294.	322.	347.	372.	407.
43332	233.	272.	329.	367.	406.	439.	463.	487.
43334	209.	243.	301.	340.	369.	406.	435.	456.
43336	201.	232.	284.	319.	346.	366.	388.	408.
43339	208.	243.	288.	330.	360.	391.	418.	447.
43349	198.	239.	292.	335.	370.	405.	426.	453.
43365	211.	248.	301.	336.	362.	379.	401.	429.
43368	225.	269.	328.	375.	420.	445.	481.	513.
43369	216.	256.	313.	354.	379.	393.	417.	437.
43379	209.	246.	303.	346.	380.	404.	434.	454.
43391	192.	234.	287.	290.	336.	371.	403.	427.
MEAN	206.	243.	295.	332.	364.	394.	421.	446.
S.D.	15.5	15.7	21.3	26.4	28.3	29.4	31.2	30.3
N	15	15	15	15	15	15	15	15

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43285	228.	253.	304.	344.	382.	424.	455.	482.
43293	209.	247.	303.	357.	401.	428.	454.	481.
43311	200.	236.	288.	323.	356.	386.	409.	433.
43320	203.	237.	275.	303.	333.	362.	387.	414.
43340	173.	218.	218.	243.	265.	281.	303.	319.
43342	199.	237.	288.	326.	362.	389.	424.	448.
43350	222.	257.	306.	342.	366.	398.	435.	456.
43351	206.	240.	289.	330.	352.	383.	410.	435.
43354	196.	236.	291.	308.	348.	379.	399.	424.
43364	183.	218.	263.	308.	340.	369.	393.	423.
43371	209.	250.	310.	360.	397.	424.	447.	477.
43380	213.	250.	305.	350.	386.	415.	445.	473.
43382	215.	250.	304.	335.	362.	380.	416.	441.
43384	244.	289.	351.	404.	439.	464.	496.	524.
43386	201.	233.	285.	326.	356.	372.	394.	419.
MEAN	207.	243.	292.	331.	363.	390.	418.	443.
S.D.	17.2	17.1	28.4	35.1	38.5	41.1	43.5	45.9
N	15	15	15	15	15	15	15	15

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43290	193.	215.	271.	294.	330.	370.	379.	403.
43307	201.	237.	300.	350.	390.	418.	447.	479.
43309	238.	280.	336.	387.	434.	471.	499.	534.
43318	215.	257.	316.	369.	393.	430.	464.	489.
43322	199.	232.	281.	315.	337.	360.	385.	412.
43323	180.	213.	262.	291.	323.	342.	366.	381.
43331	209.	243.	298.	340.	377.	414.	434.	463.
43341	209.	246.	303.	344.	383.	417.	442.	469.
43355	202.	239.	284.	321.	347.	390.	422.	456.
43361	229.	273.	337.	387.	425.	452.	490.	525.
43363	186.	222.	271.	311.	345.	360.	384.	414.
43383	203.	239.	290.	334.	361.	379.	407.	434.
43385	207.	236.	288.	326.	362.	388.	413.	451.
43388	223.	264.	321.	358.	402.	420.	455.	481.
43392	211.	247.	303.	342.	362.	388.	418.	448.
MEAN	207.	243.	297.	338.	371.	400.	427.	456.
S.D.	15.3	19.4	22.8	29.5	33.3	36.0	39.9	43.1
N	15	15	15	15	15	15	15	15

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43277	187.	213.	267.	315.	359.	394.	429.	450.
43278	203.	236.	293.	341.	371.	409.	431.	468.
43280	211.	248.	312.	367.	408.	445.	477.	512.
43281	198.	243.	287.	321.	354.	385.	416.	444.
43282	180.	212.	255.	286.	309.	332.	351.	369.
43297	209.	244.	295.	346.	382.	420.	445.	461.
43325	200.	236.	292.	334.	354.	383.	402.	428.
43328	230.	243.	295.	332.	364.	393.	418.	442.
43346	204.	238.	291.	328.	342.	373.	392.	411.
43359	217.	254.	316.	FOUND DEAD WEEK 1				
43362	201.	243.	292.	337.	368.	385.	412.	435.
43372	222.	264.	328.	378.	422.	447.	486.	519.
43373	186.	218.	269.	313.	333.	352.	376.	397.
43377	211.	248.	297.	325.	355.	371.	400.	423.
43397	231.	269.	336.	379.	411.	433.	451.	478.
MEAN	206.	241.	295.	336.	367.	394.	420.	446.
S.D.	15.1	16.5	21.8	25.7	31.1	33.6	36.9	41.1
N	15	15	15	14	14	14	14	14

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43289	489.	510.	524.	540.	553.	566.	569.	571.
43295	496.	514.	528.	551.	561.	581.	586.	590.
43308	461.	484.	509.	528.	540.	564.	561.	570.
43316	426.	447.	463.	478.	492.	499.	506.	512.
43326	424.	447.	457.	474.	480.	497.	504.	496.
43332	500.	522.	529.	554.	558.	562.	567.	SCHEDULED EUTH WEEK 13
43334	471.	484.	499.	515.	534.	546.	550.	SCHEDULED EUTH WEEK 13
43336	421.	431.	441.	451.	458.	472.	472.	SCHEDULED EUTH WEEK 13
43339	468.	482.	502.	517.	536.	559.	565.	SCHEDULED EUTH WEEK 13
43349	468.	479.	500.	516.	531.	540.	560.	SCHEDULED EUTH WEEK 13
43365	449.	463.	483.	489.	503.	514.	522.	SCHEDULED EUTH WEEK 13
43368	538.	559.	577.	588.	601.	612.	628.	SCHEDULED EUTH WEEK 13
43369	456.	472.	484.	497.	508.	524.	531.	SCHEDULED EUTH WEEK 13
43379	470.	478.	504.	512.	526.	539.	542.	SCHEDULED EUTH WEEK 13
43391	449.	464.	475.	491.	509.	527.	540.	SCHEDULED EUTH WEEK 13
MEAN	466.	482.	498.	513.	526.	540.	547.	548.
S.D.	31.5	33.0	33.9	35.5	35.9	36.1	37.6	41.2
N	15	15	15	15	15	15	15	5

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43285	493.	519.	536.	556.	576.	610.	620.	620.
43293	496.	512.	535.	559.	574.	598.	598.	590.
43311	445.	461.	474.	477.	484.	498.	493.	489.
43320	430.	441.	450.	458.	468.	484.	473.	486.
43340	330.	347.	355.	368.	379.	395.	382.	387.
43342	465.	485.	500.	514.	524.	538.	542.	SCHEDULED EUTH WEEK 13
43350	475.	503.	522.	548.	561.	581.	584.	SCHEDULED EUTH WEEK 13
43351	455.	474.	490.	497.	508.	521.	530.	SCHEDULED EUTH WEEK 13
43354	436.	454.	467.	477.	488.	492.	496.	SCHEDULED EUTH WEEK 13
43364	436.	463.	476.	494.	510.	526.	528.	SCHEDULED EUTH WEEK 13
43371	493.	510.	527.	545.	550.	564.	571.	SCHEDULED EUTH WEEK 13
43380	494.	515.	529.	545.	560.	579.	574.	SCHEDULED EUTH WEEK 13
43382	471.	490.	505.	522.	526.	546.	556.	SCHEDULED EUTH WEEK 13
43384	546.	569.	582.	604.	616.	642.	650.	SCHEDULED EUTH WEEK 13
43386	432.	451.	462.	475.	491.	498.	501.	SCHEDULED EUTH WEEK 13
MEAN	460.	480.	494.	509.	521.	538.	540.	514.
S.D.	48.1	49.8	52.2	56.1	57.0	61.5	66.3	92.9
N	15	15	15	15	15	15	15	5

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43290	422.	440.	451.	474.	488.	505.	501.	496.
43307	498.	514.	529.	547.	564.	562.	566.	560.
43309	556.	572.	596.	603.	623.	636.	633.	627.
43318	506.	515.	532.	555.	570.	584.	582.	587.
43322	422.	437.	450.	461.	478.	506.	501.	502.
43323	393.	409.	417.	424.	432.	442.	453.	SCHEDULED EUTH WEEK 13
43331	481.	493.	505.	515.	527.	541.	550.	SCHEDULED EUTH WEEK 13
43341	485.	490.	509.	522.	535.	545.	557.	SCHEDULED EUTH WEEK 13
43355	471.	501.	520.	535.	549.	572.	587.	SCHEDULED EUTH WEEK 13
43361	549.	571.	583.	607.	643.	654.	670.	SCHEDULED EUTH WEEK 13
43363	435.	445.	462.	475.	493.	510.	507.	SCHEDULED EUTH WEEK 13
43383	446.	476.	487.	499.	516.	527.	539.	SCHEDULED EUTH WEEK 13
43385	455.	479.	508.	521.	539.	553.	562.	SCHEDULED EUTH WEEK 13
43388	502.	523.	545.	559.	581.	599.	596.	SCHEDULED EUTH WEEK 13
43392	455.	470.	485.	500.	508.	519.	529.	SCHEDULED EUTH WEEK 13
MEAN	472.	489.	505.	520.	536.	550.	556.	554.
S.D.	46.2	46.5	49.1	50.6	55.3	54.3	55.0	55.9
N	15	15	15	15	15	15	15	5

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43277	469.	483.	492.	497.	512.	523.	515.	515.
43278	480.	490.	502.	500.	514.	528.	510.	497.
43280	523.	540.	560.	572.	584.	591.	594.	590.
43281	461.	478.	496.	509.	515.	528.	518.	530.
43282	375.	382.	385.	397.	401.	418.	418.	410.
43297	477.	492.	508.	517.	522.	538.	540.	SCHEDULED EUTH WEEK 13
43325	441.	448.	460.	463.	466.	476.	481.	SCHEDULED EUTH WEEK 13
43328	455.	464.	479.	495.	509.	518.	523.	SCHEDULED EUTH WEEK 13
43346	420.	427.	438.	437.	442.	452.	451.	SCHEDULED EUTH WEEK 13
43362	455.	470.	486.	497.	496.	511.	517.	SCHEDULED EUTH WEEK 13
43372	539.	557.	573.	592.	603.	623.	617.	SCHEDULED EUTH WEEK 13
43373	406.	410.	414.	425.	435.	449.	431.	SCHEDULED EUTH WEEK 13
43377	434.	446.	463.	469.	480.	495.	494.	SCHEDULED EUTH WEEK 13
43397	489.	505.	514.	529.	533.	549.	557.	SCHEDULED EUTH WEEK 13
MEAN	459.	471.	484.	493.	501.	514.	512.	508.
S.D.	43.5	47.3	50.8	53.1	54.7	54.9	56.3	65.2
N	14	14	14	14	14	14	14	5

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43289	589.	593.	596.	SCHEDULED EUTH WEEK 17
43295	591.	597.	603.	SCHEDULED EUTH WEEK 17
43308	577.	584.	596.	SCHEDULED EUTH WEEK 17
43316	521.	533.	548.	SCHEDULED EUTH WEEK 17
43326	523.	534.	547.	SCHEDULED EUTH WEEK 17
MEAN	560.	568.	578.	
S.D.	35.3	32.0	28.0	
N	5	5	5	

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43285	621.	627.	639.	SCHEDULED EUTH WEEK 17
43293	586.	595.	605.	SCHEDULED EUTH WEEK 17
43311	495.	499.	510.	SCHEDULED EUTH WEEK 17
43320	496.	495.	508.	SCHEDULED EUTH WEEK 17
43340	396.	400.	411.	SCHEDULED EUTH WEEK 17
MEAN	519.	523.	535.	
S.D.	88.2	90.1	90.1	
N	5	5	5	

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43290	501.	501.	504.	SCHEDULED EUTH WEEK 17
43307	559.	568.	575.	SCHEDULED EUTH WEEK 17
43309	626.	625.	638.	SCHEDULED EUTH WEEK 17
43318	601.	609.	604.	SCHEDULED EUTH WEEK 17
43322	510.	514.	529.	SCHEDULED EUTH WEEK 17
MEAN	559.	563.	570.	
S.D.	54.8	55.3	54.4	
N	5	5	5	

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43277	519.	521.	526.	SCHEDULED EUTH WEEK 17
43278	506.	511.	509.	SCHEDULED EUTH WEEK 17
43280	608.	616.	630.	SCHEDULED EUTH WEEK 17
43281	541.	539.	556.	SCHEDULED EUTH WEEK 17
43282	411.	422.	438.	SCHEDULED EUTH WEEK 17
MEAN	517.	522.	532.	
S.D.	71.1	69.4	70.0	
N	5	5	5	

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43398	138.	161.	183.	203.	220.	231.	231.	243.
43405	178.	196.	237.	243.	274.	291.	298.	316.
43409	156.	168.	195.	202.	230.	243.	249.	252.
43423	152.	171.	194.	208.	225.	238.	243.	252.
43432	163.	190.	224.	226.	250.	262.	286.	291.
43433	168.	182.	218.	245.	241.	267.	272.	279.
43435	159.	182.	212.	244.	255.	271.	281.	294.
43436	172.	193.	217.	229.	247.	262.	271.	277.
43438	165.	187.	208.	225.	235.	257.	260.	266.
43449	147.	165.	192.	206.	225.	237.	243.	253.
43467	192.	203.	226.	245.	259.	271.	283.	287.
43474	136.	157.	176.	187.	201.	208.	213.	217.
43483	139.	161.	189.	192.	203.	216.	233.	246.
43497	159.	173.	200.	215.	235.	241.	259.	267.
43501	160.	185.	205.	229.	240.	251.	262.	279.
MEAN	159.	178.	205.	220.	236.	250.	259.	268.
S.D.	15.4	14.2	17.3	19.7	19.9	22.2	23.6	24.8
N	15	15	15	15	15	15	15	15

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43400	179.	200.	224.	257.	261.	269.	290.	291.
43407	157.	168.	191.	206.	214.	229.	232.	238.
43413	153.	169.	178.	209.	228.	241.	264.	295.
43416	155.	168.	193.	217.	234.	244.	265.	274.
43419	149.	164.	183.	205.	209.	222.	230.	236.
43420	161.	173.	196.	214.	224.	227.	238.	249.
43439	134.	152.	192.	203.	210.	224.	238.	254.
43458	145.	154.	180.	192.	199.	217.	223.	236.
43462	138.	156.	178.	187.	195.	206.	208.	211.
43468	171.	184.	220.	239.	249.	255.	272.	281.
43486	164.	180.	216.	236.	247.	255.	268.	267.
43489	188.	205.	233.	240.	252.	268.	273.	280.
43502	159.	178.	204.	214.	228.	238.	247.	257.
43511	167.	193.	211.	233.	244.	257.	265.	282.
43515	165.	190.	220.	242.	262.	267.	278.	287.
MEAN	159.	176.	201.	220.	230.	241.	253.	263.
S.D.	14.5	16.4	18.3	20.4	21.8	20.1	23.6	24.8
N	15	15	15	15	15	15	15	15

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43402	189.	201.	224.	242.	255.	267.	269.	296.
43426	145.	155.	172.	193.	202.	203.	225.	231.
43442	158.	181.	213.	218.	242.	246.	261.	266.
43446	138.	153.	177.	185.	190.	206.	208.	218.
43461	168.	185.	213.	230.	242.	252.	262.	279.
43463	136.	154.	179.	189.	205.	219.	223.	233.
43475	154.	172.	210.	235.	248.	266.	264.	287.
43478	159.	181.	230.	240.	265.	290.	296.	319.
43491	161.	184.	212.	231.	254.	271.	288.	290.
43495	150.	174.	192.	221.	220.	241.	255.	267.
43496	174.	192.	224.	251.	268.	269.	285.	298.
43508	152.	177.	193.	222.	235.	245.	252.	268.
43513	164.	190.	213.	246.	258.	261.	270.	285.
43516	169.	196.	216.	241.	253.	259.	271.	282.
43517	162.	180.	206.	224.	231.	247.	255.	262.
MEAN	159.	178.	205.	225.	238.	249.	259.	272.
S.D.	13.8	14.8	18.1	20.8	23.9	24.5	24.5	27.5
N	15	15	15	15	15	15	15	15

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43401	181.	198.	241.	277.	278.	299.	311.	329.
43410	137.	154.	177.	189.	208.	213.	213.	229.
43421	171.	188.	221.	243.	253.	264.	280.	290.
43429	160.	179.	201.	218.	224.	246.	248.	263.
43430	169.	184.	219.	243.	255.	258.	271.	281.
43440	146.	161.	194.	214.	239.	244.	248.	257.
43456	178.	197.	237.	271.	282.	311.	318.	328.
43460	141.	152.	166.	188.	194.	206.	210.	226.
43466	162.	184.	217.	237.	258.	288.	295.	289.
43477	165.	183.	214.	220.	229.	235.	246.	254.
43479	157.	182.	224.	255.	247.	262.	267.	277.
43481	162.	174.	198.	235.	260.	253.	263.	284.
43484	156.	165.	195.	217.	228.	232.	244.	261.
43492	152.	168.	198.	214.	225.	229.	239.	252.
43503	130.	147.	176.	189.	197.	212.	217.	237.
MEAN	158.	174.	205.	227.	238.	250.	258.	270.
S.D.	14.6	16.0	22.1	27.9	26.8	31.4	33.2	31.1
N	15	15	15	15	15	15	15	15

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43398	237.	246.	249.	256.	254.	264.	257.	261.
43405	324.	328.	335.	340.	334.	348.	340.	337.
43409	271.	274.	277.	278.	292.	291.	288.	283.
43423	261.	269.	269.	272.	277.	281.	276.	280.
43432	290.	286.	299.	301.	304.	319.	313.	309.
43433	278.	290.	297.	299.	297.	311.	310.	SCHEDULED EUTH WEEK 13
43435	299.	304.	310.	317.	323.	329.	330.	SCHEDULED EUTH WEEK 13
43436	288.	296.	299.	300.	310.	316.	316.	SCHEDULED EUTH WEEK 13
43438	268.	277.	278.	280.	283.	292.	292.	SCHEDULED EUTH WEEK 13
43449	253.	261.	264.	264.	272.	274.	275.	SCHEDULED EUTH WEEK 13
43467	289.	295.	291.	298.	291.	310.	308.	SCHEDULED EUTH WEEK 13
43474	225.	233.	233.	229.	239.	244.	242.	SCHEDULED EUTH WEEK 13
43483	251.	260.	268.	267.	274.	284.	287.	SCHEDULED EUTH WEEK 13
43497	283.	277.	288.	301.	305.	302.	308.	SCHEDULED EUTH WEEK 13
43501	292.	296.	297.	308.	299.	303.	312.	SCHEDULED EUTH WEEK 13
MEAN	274.	279.	284.	287.	290.	298.	297.	294.
S.D.	25.6	24.0	25.2	27.5	24.9	26.5	26.7	29.5
N	15	15	15	15	15	15	15	5

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43400	299.	307.	303.	321.	325.	337.	339.	328.
43407	239.	247.	246.	249.	256.	261.	255.	242.
43413	289.	292.	297.	293.	304.	306.	300.	295.
43416	280.	288.	297.	304.	304.	309.	302.	305.
43419	238.	239.	242.	246.	251.	247.	244.	255.
43420	252.	255.	264.	264.	268.	272.	266.	SCHEDULED EUTH WEEK 13
43439	266.	259.	270.	274.	277.	286.	284.	SCHEDULED EUTH WEEK 13
43458	240.	236.	241.	245.	246.	254.	253.	SCHEDULED EUTH WEEK 13
43462	220.	224.	220.	227.	233.	236.	238.	SCHEDULED EUTH WEEK 13
43468	282.	284.	291.	285.	291.	305.	311.	SCHEDULED EUTH WEEK 13
43486	277.	287.	284.	297.	308.	314.	308.	SCHEDULED EUTH WEEK 13
43489	288.	298.	299.	297.	308.	312.	314.	SCHEDULED EUTH WEEK 13
43502	271.	278.	281.	280.	281.	290.	289.	SCHEDULED EUTH WEEK 13
43511	287.	293.	297.	311.	310.	321.	324.	SCHEDULED EUTH WEEK 13
43515	299.	300.	308.	308.	315.	325.	331.	SCHEDULED EUTH WEEK 13
MEAN	268.	272.	276.	280.	285.	292.	291.	285.
S.D.	24.8	26.7	27.4	28.3	28.7	31.0	32.6	35.7
N	15	15	15	15	15	15	15	5

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43402	296.	309.	313.	311.	322.	335.	325.	329.
43426	232.	241.	248.	251.	253.	257.	246.	249.
43442	269.	283.	280.	291.	298.	302.	307.	297.
43446	220.	222.	232.	235.	234.	241.	234.	240.
43461	275.	291.	305.	320.	318.	328.	318.	305.
43463	241.	238.	245.	251.	253.	261.	251.	SCHEDULED EUTH WEEK 13
43475	288.	292.	306.	302.	312.	320.	319.	SCHEDULED EUTH WEEK 13
43478	333.	329.	337.	349.	358.	372.	377.	SCHEDULED EUTH WEEK 13
43491	294.	294.	307.	307.	312.	327.	320.	SCHEDULED EUTH WEEK 13
43495	269.	274.	279.	285.	282.	292.	298.	SCHEDULED EUTH WEEK 13
43496	302.	314.	330.	327.	328.	336.	333.	SCHEDULED EUTH WEEK 13
43508	273.	281.	279.	281.	287.	292.	287.	SCHEDULED EUTH WEEK 13
43513	296.	304.	296.	313.	317.	319.	316.	SCHEDULED EUTH WEEK 13
43516	286.	290.	297.	305.	310.	315.	320.	SCHEDULED EUTH WEEK 13
43517	269.	262.	275.	281.	285.	290.	291.	SCHEDULED EUTH WEEK 13
MEAN	276.	282.	289.	294.	298.	306.	303.	284.
S.D.	29.0	29.9	30.3	30.9	32.8	34.6	37.1	38.1
N	15	15	15	15	15	15	15	5

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43401	333.	333.	337.	348.	357.	370.	364.	355.
43410	234.	233.	241.	248.	251.	261.	251.	246.
43421	294.	308.	312.	321.	325.	336.	336.	318.
43429	265.	281.	285.	295.	299.	305.	304.	292.
43430	284.	276.	284.	292.	289.	292.	295.	291.
43440	259.	266.	277.	284.	276.	276.	292.	SCHEDULED EUTH WEEK 13
43456	341.	346.	365.	372.	383.	393.	386.	SCHEDULED EUTH WEEK 13
43460	232.	240.	242.	246.	245.	250.	252.	SCHEDULED EUTH WEEK 13
43466	300.	304.	310.	318.	315.	340.	346.	SCHEDULED EUTH WEEK 13
43477	248.	261.	263.	265.	278.	286.	284.	SCHEDULED EUTH WEEK 13
43479	276.	280.	292.	291.	292.	293.	293.	SCHEDULED EUTH WEEK 13
43481	283.	309.	326.	326.	337.	356.	356.	SCHEDULED EUTH WEEK 13
43484	266.	277.	276.	287.	288.	297.	299.	SCHEDULED EUTH WEEK 13
43492	254.	260.	265.	268.	270.	269.	273.	SCHEDULED EUTH WEEK 13
43503	241.	250.	258.	257.	270.	274.	276.	SCHEDULED EUTH WEEK 13
MEAN	274.	282.	289.	295.	298.	307.	307.	300.
S.D.	32.9	32.8	35.4	36.6	38.7	42.7	41.1	40.0
N	15	15	15	15	15	15	15	5

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43398	258.	260.	263.	SCHEDULED EUTH WEEK 17
43405	348.	346.	353.	SCHEDULED EUTH WEEK 17
43409	284.	288.	290.	SCHEDULED EUTH WEEK 17
43423	284.	287.	297.	SCHEDULED EUTH WEEK 17
43432	314.	318.	326.	SCHEDULED EUTH WEEK 17
MEAN	298.	300.	306.	
S.D.	34.4	33.0	34.6	
N	5	5	5	

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43400	335.	339.	338.	SCHEDULED EUTH WEEK 17
43407	238.	254.	274.	SCHEDULED EUTH WEEK 17
43413	303.	295.	308.	SCHEDULED EUTH WEEK 17
43416	312.	314.	312.	SCHEDULED EUTH WEEK 17
43419	256.	262.	264.	SCHEDULED EUTH WEEK 17
MEAN	289.	293.	299.	
S.D.	40.4	35.5	30.1	
N	5	5	5	

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43402	339.	345.	347.	SCHEDULED EUTH WEEK 17
43426	256.	252.	259.	SCHEDULED EUTH WEEK 17
43442	300.	303.	299.	SCHEDULED EUTH WEEK 17
43446	242.	239.	252.	SCHEDULED EUTH WEEK 17
43461	313.	314.	326.	SCHEDULED EUTH WEEK 17
MEAN	290.	291.	297.	
S.D.	40.3	44.2	41.3	
N	5	5	5	

TABLE 70
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43401	356.	356.	355.	SCHEDULED EUTH WEEK 17
43410	241.	247.	246.	SCHEDULED EUTH WEEK 17
43421	323.	323.	326.	SCHEDULED EUTH WEEK 17
43429	299.	298.	304.	SCHEDULED EUTH WEEK 17
43430	292.	296.	311.	SCHEDULED EUTH WEEK 17
MEAN	302.	304.	308.	
S.D.	42.4	40.0	40.0	
N	5	5	5	

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43289	34.	55.	46.	28.	35.	31.	30.	28.
43295	29.	57.	37.	39.	41.	23.	19.	25.
43308	44.	45.	41.	31.	40.	33.	25.	19.
43316	27.	33.	26.	31.	29.	21.	32.	24.
43326	37.	43.	38.	28.	25.	25.	35.	17.
43332	39.	57.	38.	39.	33.	24.	24.	13.
43334	34.	58.	39.	29.	37.	29.	21.	15.
43336	31.	52.	35.	27.	20.	22.	20.	13.
43339	35.	45.	42.	30.	31.	27.	29.	21.
43349	41.	53.	43.	35.	35.	21.	27.	15.
43365	37.	53.	35.	26.	17.	22.	28.	20.
43368	44.	59.	47.	45.	25.	36.	32.	25.
43369	40.	57.	41.	25.	14.	24.	20.	19.
43379	37.	57.	43.	34.	24.	30.	20.	16.
43391	42.	53.	3.	46.	35.	32.	24.	22.
MEAN	37.	52.	37.	33.	29.	27.	26.	19.
S.D.	5.2	7.3	10.7	6.7	8.3	4.9	5.2	4.7
N	15	15	15	15	15	15	15	15

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43285	25.	51.	40.	38.	42.	31.	27.	11.
43293	38.	56.	54.	44.	27.	26.	27.	15.
43311	36.	52.	35.	33.	30.	23.	24.	12.
43320	34.	38.	28.	30.	29.	25.	27.	16.
43340	45.	0.	25.	22.	16.	22.	16.	11.
43342	38.	51.	38.	36.	27.	35.	24.	17.
43350	35.	49.	36.	24.	32.	37.	21.	19.
43351	34.	49.	41.	22.	31.	27.	25.	20.
43354	40.	55.	17.	40.	31.	20.	25.	12.
43364	35.	45.	45.	32.	29.	24.	30.	13.
43371	41.	60.	50.	37.	27.	23.	30.	16.
43380	37.	55.	45.	36.	29.	30.	28.	21.
43382	35.	54.	31.	27.	18.	36.	25.	30.
43384	45.	62.	53.	35.	25.	32.	28.	22.
43386	32.	52.	41.	30.	16.	22.	25.	13.
MEAN	37.	49.	39.	32.	27.	28.	25.	17.
S.D.	5.0	14.6	10.4	6.6	6.7	5.6	3.5	5.2
N	15	15	15	15	15	15	15	15

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43290	22.	56.	23.	36.	40.	9.	24.	19.
43307	36.	63.	50.	40.	28.	29.	32.	19.
43309	42.	56.	51.	47.	37.	28.	35.	22.
43318	42.	59.	53.	24.	37.	34.	25.	17.
43322	33.	49.	34.	22.	23.	25.	27.	10.
43323	33.	49.	29.	32.	19.	24.	15.	12.
43331	34.	55.	42.	37.	37.	20.	29.	18.
43341	37.	57.	41.	39.	34.	25.	27.	16.
43355	37.	45.	37.	26.	43.	32.	34.	15.
43361	44.	64.	50.	38.	27.	38.	35.	24.
43363	36.	49.	40.	34.	15.	24.	30.	21.
43383	36.	51.	44.	27.	18.	28.	27.	12.
43385	29.	52.	38.	36.	26.	25.	38.	4.
43388	41.	57.	37.	44.	18.	35.	26.	21.
43392	36.	56.	39.	20.	26.	30.	30.	7.
MEAN	36.	55.	41.	33.	29.	27.	29.	16.
S.D.	5.5	5.4	8.3	8.1	9.0	7.0	5.7	5.8
N	15	15	15	15	15	15	15	15

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43277	26.	54.	48.	44.	35.	35.	21.	19.
43278	33.	57.	48.	30.	38.	22.	37.	12.
43280	37.	64.	55.	41.	37.	32.	35.	11.
43281	45.	44.	34.	33.	31.	31.	28.	17.
43282	32.	43.	31.	23.	23.	19.	18.	6.
43297	35.	51.	51.	36.	38.	25.	16.	16.
43325	36.	56.	42.	20.	29.	19.	26.	13.
43328	13.	52.	37.	32.	29.	25.	24.	13.
43346	34.	53.	37.	14.	31.	19.	19.	9.
43359	37.	62.	FOUND DEAD WEEK 1					
43362	42.	49.	45.	31.	17.	27.	23.	20.
43372	42.	64.	50.	44.	25.	39.	33.	20.
43373	32.	51.	44.	20.	19.	24.	21.	9.
43377	37.	49.	28.	30.	16.	29.	23.	11.
43397	38.	67.	43.	32.	22.	18.	27.	11.
MEAN	35.	54.	42.	31.	28.	26.	25.	13.
S.D.	7.6	7.3	8.0	9.1	7.7	6.5	6.4	4.4
N	15	15	14	14	14	14	14	14

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43289	21.	14.	16.	13.	13.	3.	2.	18.
43295	18.	14.	23.	10.	20.	5.	4.	1.
43308	23.	25.	19.	12.	24.	-3.	9.	7.
43316	21.	16.	15.	14.	7.	7.	6.	9.
43326	23.	10.	17.	6.	17.	7.	-8.	27.
43332	22.	7.	25.	4.	4.	5.	SCHEDULED EUTH WEEK 13	
43334	13.	15.	16.	19.	12.	4.	SCHEDULED EUTH WEEK 13	
43336	10.	10.	10.	7.	14.	0.	SCHEDULED EUTH WEEK 13	
43339	14.	20.	15.	19.	23.	6.	SCHEDULED EUTH WEEK 13	
43349	11.	21.	16.	15.	9.	20.	SCHEDULED EUTH WEEK 13	
43365	14.	20.	6.	14.	11.	8.	SCHEDULED EUTH WEEK 13	
43368	21.	18.	11.	13.	11.	16.	SCHEDULED EUTH WEEK 13	
43369	16.	12.	13.	11.	16.	7.	SCHEDULED EUTH WEEK 13	
43379	8.	26.	8.	14.	13.	3.	SCHEDULED EUTH WEEK 13	
43391	15.	11.	16.	18.	18.	13.	SCHEDULED EUTH WEEK 13	
MEAN	17.	16.	15.	13.	14.	7.	3.	12.
S.D.	5.0	5.6	5.1	4.5	5.6	5.9	6.5	10.2
N	15	15	15	15	15	15	5	5

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43285	26.	17.	20.	20.	34.	10.	0.	1.
43293	16.	23.	24.	15.	24.	0.	-8.	-4.
43311	16.	13.	3.	7.	14.	-5.	-4.	6.
43320	11.	9.	8.	10.	16.	-11.	13.	10.
43340	17.	8.	13.	11.	16.	-13.	5.	9.
43342	20.	15.	14.	10.	14.	4.	SCHEDULED EUTH WEEK 13	
43350	28.	19.	26.	13.	20.	3.	SCHEDULED EUTH WEEK 13	
43351	19.	16.	7.	11.	13.	9.	SCHEDULED EUTH WEEK 13	
43354	18.	13.	10.	11.	4.	4.	SCHEDULED EUTH WEEK 13	
43364	27.	13.	18.	16.	16.	2.	SCHEDULED EUTH WEEK 13	
43371	17.	17.	18.	5.	14.	7.	SCHEDULED EUTH WEEK 13	
43380	21.	14.	16.	15.	19.	-5.	SCHEDULED EUTH WEEK 13	
43382	19.	15.	17.	4.	20.	10.	SCHEDULED EUTH WEEK 13	
43384	23.	13.	22.	12.	26.	8.	SCHEDULED EUTH WEEK 13	
43386	19.	11.	13.	16.	7.	3.	SCHEDULED EUTH WEEK 13	
MEAN	20.	14.	15.	12.	17.	2.	1.	4.
S.D.	4.6	3.8	6.5	4.3	7.3	7.3	8.2	5.9
N	15	15	15	15	15	15	5	5

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43290	18.	11.	23.	14.	17.	-4.	-5.	5.
43307	16.	15.	18.	17.	-2.	4.	-6.	-1.
43309	16.	24.	7.	20.	13.	-3.	-6.	-1.
43318	9.	17.	23.	15.	14.	-2.	5.	14.
43322	15.	13.	11.	17.	28.	-5.	1.	8.
43323	16.	8.	7.	8.	10.	11.	SCHEDULED EUTH WEEK 13	
43331	12.	12.	10.	12.	14.	9.	SCHEDULED EUTH WEEK 13	
43341	5.	19.	13.	13.	10.	12.	SCHEDULED EUTH WEEK 13	
43355	30.	19.	15.	14.	23.	15.	SCHEDULED EUTH WEEK 13	
43361	22.	12.	24.	36.	11.	16.	SCHEDULED EUTH WEEK 13	
43363	10.	17.	13.	18.	17.	-3.	SCHEDULED EUTH WEEK 13	
43383	30.	11.	12.	17.	11.	12.	SCHEDULED EUTH WEEK 13	
43385	24.	29.	13.	18.	14.	9.	SCHEDULED EUTH WEEK 13	
43388	21.	22.	14.	22.	18.	-3.	SCHEDULED EUTH WEEK 13	
43392	15.	15.	15.	8.	11.	10.	SCHEDULED EUTH WEEK 13	
MEAN	17.	16.	15.	17.	14.	5.	-2.	5.
S.D.	7.2	5.6	5.4	6.7	6.7	7.7	5.0	6.4
N	15	15	15	15	15	15	5	5

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43277	14.	9.	5.	15.	11.	-8.	0.	4.
43278	10.	12.	-2.	14.	14.	-18.	-13.	9.
43280	17.	20.	12.	12.	7.	3.	-4.	18.
43281	17.	18.	13.	6.	13.	-10.	12.	11.
43282	7.	3.	12.	4.	17.	0.	-8.	1.
43297	15.	16.	9.	5.	16.	2.	SCHEDULED EUTH WEEK 13	
43325	7.	12.	3.	3.	10.	5.	SCHEDULED EUTH WEEK 13	
43328	9.	15.	16.	14.	9.	5.	SCHEDULED EUTH WEEK 13	
43346	7.	11.	-1.	5.	10.	-1.	SCHEDULED EUTH WEEK 13	
43362	15.	16.	11.	-1.	15.	6.	SCHEDULED EUTH WEEK 13	
43372	18.	16.	19.	11.	20.	-6.	SCHEDULED EUTH WEEK 13	
43373	4.	4.	11.	10.	14.	-18.	SCHEDULED EUTH WEEK 13	
43377	12.	17.	6.	11.	15.	-1.	SCHEDULED EUTH WEEK 13	
43397	16.	9.	15.	4.	16.	8.	SCHEDULED EUTH WEEK 13	
MEAN	12.	13.	9.	8.	13.	-2.	-3.	9.
S.D.	4.6	5.1	6.3	5.0	3.6	8.5	9.5	6.6
N	14	14	14	14	14	14	5	5

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43289	4.	3.	SCHEDULED EUTH WEEK 17
43295	6.	6.	SCHEDULED EUTH WEEK 17
43308	7.	12.	SCHEDULED EUTH WEEK 17
43316	12.	15.	SCHEDULED EUTH WEEK 17
43326	11.	13.	SCHEDULED EUTH WEEK 17
MEAN	8.	10.	
S.D.	3.4	5.1	
N	5	5	

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43285	6.	12.	SCHEDULED EUTH WEEK 17
43293	9.	10.	SCHEDULED EUTH WEEK 17
43311	4.	11.	SCHEDULED EUTH WEEK 17
43320	-1.	13.	SCHEDULED EUTH WEEK 17
43340	4.	11.	SCHEDULED EUTH WEEK 17
MEAN	4.	11.	
S.D.	3.6	1.1	
N	5	5	

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43290	0.	3.	SCHEDULED EUTH WEEK 17
43307	9.	7.	SCHEDULED EUTH WEEK 17
43309	-1.	13.	SCHEDULED EUTH WEEK 17
43318	8.	-5.	SCHEDULED EUTH WEEK 17
43322	4.	15.	SCHEDULED EUTH WEEK 17
MEAN	4.	7.	
S.D.	4.5	8.0	
N	5	5	

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43277	2.	5.	SCHEDULED EUTH WEEK 17
43278	5.	-2.	SCHEDULED EUTH WEEK 17
43280	8.	14.	SCHEDULED EUTH WEEK 17
43281	-2.	17.	SCHEDULED EUTH WEEK 17
43282	11.	16.	SCHEDULED EUTH WEEK 17
MEAN	5.	10.	
S.D.	5.1	8.2	
N	5	5	

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43398	23.	22.	20.	17.	11.	0.	12.	-6.
43405	18.	41.	6.	31.	17.	7.	18.	8.
43409	12.	27.	7.	28.	13.	6.	3.	19.
43423	19.	23.	14.	17.	13.	5.	9.	9.
43432	27.	34.	2.	24.	12.	24.	5.	-1.
43433	14.	36.	27.	-4.	26.	5.	7.	-1.
43435	23.	30.	32.	11.	16.	10.	13.	5.
43436	21.	24.	12.	18.	15.	9.	6.	11.
43438	22.	21.	17.	10.	22.	3.	6.	2.
43449	18.	27.	14.	19.	12.	6.	10.	0.
43467	11.	23.	19.	14.	12.	12.	4.	2.
43474	21.	19.	11.	14.	7.	5.	4.	8.
43483	22.	28.	3.	11.	13.	17.	13.	5.
43497	14.	27.	15.	20.	6.	18.	8.	16.
43501	25.	20.	24.	11.	11.	11.	17.	13.
MEAN	19.	27.	15.	16.	14.	9.	9.	6.
S.D.	4.8	6.3	8.6	8.4	5.1	6.4	4.7	6.9
N	15	15	15	15	15	15	15	15

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43400	21.	24.	33.	4.	8.	21.	1.	8.
43407	11.	23.	15.	8.	15.	3.	6.	1.
43413	16.	9.	31.	19.	13.	23.	31.	-6.
43416	13.	25.	24.	17.	10.	21.	9.	6.
43419	15.	19.	22.	4.	13.	8.	6.	2.
43420	12.	23.	18.	10.	3.	11.	11.	3.
43439	18.	40.	11.	7.	14.	14.	16.	12.
43458	9.	26.	12.	7.	18.	6.	13.	4.
43462	18.	22.	9.	8.	11.	2.	3.	9.
43468	13.	36.	19.	10.	6.	17.	9.	1.
43486	16.	36.	20.	11.	8.	13.	-1.	10.
43489	17.	28.	7.	12.	16.	5.	7.	8.
43502	19.	26.	10.	14.	10.	9.	10.	14.
43511	26.	18.	22.	11.	13.	8.	17.	5.
43515	25.	30.	22.	20.	5.	11.	9.	12.
MEAN	17.	26.	18.	11.	11.	11.	10.	6.
S.D.	4.8	7.8	7.8	4.9	4.3	6.6	7.7	5.3
N	15	15	15	15	15	15	15	15

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43402	12.	23.	18.	13.	12.	2.	27.	0.
43426	10.	17.	21.	9.	1.	22.	6.	1.
43442	23.	32.	5.	24.	4.	15.	5.	3.
43446	15.	24.	8.	5.	16.	2.	10.	2.
43461	17.	28.	17.	12.	10.	10.	17.	-4.
43463	18.	25.	10.	16.	14.	4.	10.	8.
43475	18.	38.	25.	13.	18.	-2.	23.	1.
43478	22.	49.	10.	25.	25.	6.	23.	14.
43491	23.	28.	19.	23.	17.	17.	2.	4.
43495	24.	18.	29.	-1.	21.	14.	12.	2.
43496	18.	32.	27.	17.	1.	16.	13.	4.
43508	25.	16.	29.	13.	10.	7.	16.	5.
43513	26.	23.	33.	12.	3.	9.	15.	11.
43516	27.	20.	25.	12.	6.	12.	11.	4.
43517	18.	26.	18.	7.	16.	8.	7.	7.
MEAN	20.	27.	20.	13.	12.	9.	13.	4.
S.D.	5.1	8.7	8.5	7.1	7.4	6.6	7.2	4.5
N	15	15	15	15	15	15	15	15

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43401	17.	43.	36.	1.	21.	12.	18.	4.
43410	17.	23.	12.	19.	5.	0.	16.	5.
43421	17.	33.	22.	10.	11.	16.	10.	4.
43429	19.	22.	17.	6.	22.	2.	15.	2.
43430	15.	35.	24.	12.	3.	13.	10.	3.
43440	15.	33.	20.	25.	5.	4.	9.	2.
43456	19.	40.	34.	11.	29.	7.	10.	13.
43460	11.	14.	22.	6.	12.	4.	16.	6.
43466	22.	33.	20.	21.	30.	7.	-6.	11.
43477	18.	31.	6.	9.	6.	11.	8.	-6.
43479	25.	42.	31.	-8.	15.	5.	10.	-1.
43481	12.	24.	37.	25.	-7.	10.	21.	-1.
43484	9.	30.	22.	11.	4.	12.	17.	5.
43492	16.	30.	16.	11.	4.	10.	13.	2.
43503	17.	29.	13.	8.	15.	5.	20.	4.
MEAN	17.	31.	22.	11.	12.	8.	12.	4.
S.D.	4.0	7.8	9.1	8.8	10.4	4.5	6.6	4.6
N	15	15	15	15	15	15	15	15

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43398	9.	3.	7.	-2.	10.	-7.	4.	-3.
43405	4.	7.	5.	-6.	14.	-8.	-3.	11.
43409	3.	3.	1.	14.	-1.	-3.	-5.	1.
43423	8.	0.	3.	5.	4.	-5.	4.	4.
43432	-4.	13.	2.	3.	15.	-6.	-4.	5.
43433	12.	7.	2.	-2.	14.	-1.	SCHEDULED EUTH WEEK 13	
43435	5.	6.	7.	6.	6.	1.	SCHEDULED EUTH WEEK 13	
43436	8.	3.	1.	10.	6.	0.	SCHEDULED EUTH WEEK 13	
43438	9.	1.	2.	3.	9.	0.	SCHEDULED EUTH WEEK 13	
43449	8.	3.	0.	8.	2.	1.	SCHEDULED EUTH WEEK 13	
43467	6.	-4.	7.	-7.	19.	-2.	SCHEDULED EUTH WEEK 13	
43474	8.	0.	-4.	10.	5.	-2.	SCHEDULED EUTH WEEK 13	
43483	9.	8.	-1.	7.	10.	3.	SCHEDULED EUTH WEEK 13	
43497	-6.	11.	13.	4.	-3.	6.	SCHEDULED EUTH WEEK 13	
43501	4.	1.	11.	-9.	4.	9.	SCHEDULED EUTH WEEK 13	
MEAN	6.	4.	4.	3.	8.	-1.	-1.	4.
S.D.	4.9	4.5	4.6	6.8	6.2	4.7	4.4	5.2
N	15	15	15	15	15	15	5	5

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43400	8.	-4.	18.	4.	12.	2.	-11.	7.
43407	8.	-1.	3.	7.	5.	-6.	-13.	-4.
43413	3.	5.	-4.	11.	2.	-6.	-5.	8.
43416	8.	9.	7.	0.	5.	-7.	3.	7.
43419	1.	3.	4.	5.	-4.	-3.	11.	1.
43420	3.	9.	0.	4.	4.	-6.	SCHEDULED EUTH WEEK 13	
43439	-7.	11.	4.	3.	9.	-2.	SCHEDULED EUTH WEEK 13	
43458	-4.	5.	4.	1.	8.	-1.	SCHEDULED EUTH WEEK 13	
43462	4.	-4.	7.	6.	3.	2.	SCHEDULED EUTH WEEK 13	
43468	2.	7.	-6.	6.	14.	6.	SCHEDULED EUTH WEEK 13	
43486	10.	-3.	13.	11.	6.	-6.	SCHEDULED EUTH WEEK 13	
43489	10.	1.	-2.	11.	4.	2.	SCHEDULED EUTH WEEK 13	
43502	7.	3.	-1.	1.	9.	-1.	SCHEDULED EUTH WEEK 13	
43511	6.	4.	14.	-1.	11.	3.	SCHEDULED EUTH WEEK 13	
43515	1.	8.	0.	7.	10.	6.	SCHEDULED EUTH WEEK 13	
MEAN	4.	4.	4.	5.	7.	-1.	-3.	4.
S.D.	4.9	4.9	6.8	3.9	4.6	4.5	10.0	5.2
N	15	15	15	15	15	15	5	5

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43402	13.	4.	-2.	11.	13.	-10.	4.	10.
43426	9.	7.	3.	2.	4.	-11.	3.	7.
43442	14.	-3.	11.	7.	4.	5.	-10.	3.
43446	2.	10.	3.	-1.	7.	-7.	6.	2.
43461	16.	14.	15.	-2.	10.	-10.	-13.	8.
43463	-3.	7.	6.	2.	8.	-10.	SCHEDULED EUTH WEEK 13	
43475	4.	14.	-4.	10.	8.	-1.	SCHEDULED EUTH WEEK 13	
43478	-4.	8.	12.	9.	14.	5.	SCHEDULED EUTH WEEK 13	
43491	0.	13.	0.	5.	15.	-7.	SCHEDULED EUTH WEEK 13	
43495	5.	5.	6.	-3.	10.	6.	SCHEDULED EUTH WEEK 13	
43496	12.	16.	-3.	1.	8.	-3.	SCHEDULED EUTH WEEK 13	
43508	8.	-2.	2.	6.	5.	-5.	SCHEDULED EUTH WEEK 13	
43513	8.	-8.	17.	4.	2.	-3.	SCHEDULED EUTH WEEK 13	
43516	4.	7.	8.	5.	5.	5.	SCHEDULED EUTH WEEK 13	
43517	-7.	13.	6.	4.	5.	1.	SCHEDULED EUTH WEEK 13	
MEAN	5.	7.	5.	4.	8.	-3.	-2.	6.
S.D.	6.9	7.0	6.4	4.2	3.9	6.2	8.8	3.4
N	15	15	15	15	15	15	5	5

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43401	0.	4.	11.	9.	13.	-6.	-9.	1.
43410	-1.	8.	7.	3.	10.	-10.	-5.	-5.
43421	14.	4.	9.	4.	11.	0.	-18.	5.
43429	16.	4.	10.	4.	6.	-1.	-12.	7.
43430	-8.	8.	8.	-3.	3.	3.	-4.	1.
43440	7.	11.	7.	-8.	0.	16.	SCHEDULED EUTH WEEK 13	
43456	5.	19.	7.	11.	10.	-7.	SCHEDULED EUTH WEEK 13	
43460	8.	2.	4.	-1.	5.	2.	SCHEDULED EUTH WEEK 13	
43466	4.	6.	8.	-3.	25.	6.	SCHEDULED EUTH WEEK 13	
43477	13.	2.	2.	13.	8.	-2.	SCHEDULED EUTH WEEK 13	
43479	4.	12.	-1.	1.	1.	0.	SCHEDULED EUTH WEEK 13	
43481	26.	17.	0.	11.	19.	0.	SCHEDULED EUTH WEEK 13	
43484	11.	-1.	11.	1.	9.	2.	SCHEDULED EUTH WEEK 13	
43492	6.	5.	3.	2.	-1.	4.	SCHEDULED EUTH WEEK 13	
43503	9.	8.	-1.	13.	4.	2.	SCHEDULED EUTH WEEK 13	
MEAN	8.	7.	6.	4.	8.	1.	-10.	2.
S.D.	8.0	5.6	4.2	6.4	7.1	6.1	5.7	4.6
N	15	15	15	15	15	15	5	5

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43398	2.	3.	SCHEDULED EUTH WEEK 17
43405	-2.	7.	SCHEDULED EUTH WEEK 17
43409	4.	2.	SCHEDULED EUTH WEEK 17
43423	3.	10.	SCHEDULED EUTH WEEK 17
43432	4.	8.	SCHEDULED EUTH WEEK 17
MEAN	2.	6.	
S.D.	2.5	3.4	
N	5	5	

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43400	4.	-1.	SCHEDULED EUTH WEEK 17
43407	16.	20.	SCHEDULED EUTH WEEK 17
43413	-8.	13.	SCHEDULED EUTH WEEK 17
43416	2.	-2.	SCHEDULED EUTH WEEK 17
43419	6.	2.	SCHEDULED EUTH WEEK 17
MEAN	4.	6.	
S.D.	8.6	9.7	
N	5	5	

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43402	6.	2.	SCHEDULED EUTH WEEK 17
43426	-4.	7.	SCHEDULED EUTH WEEK 17
43442	3.	-4.	SCHEDULED EUTH WEEK 17
43446	-3.	13.	SCHEDULED EUTH WEEK 17
43461	1.	12.	SCHEDULED EUTH WEEK 17
MEAN	1.	6.	
S.D.	4.2	7.1	
N	5	5	

TABLE 71
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHT GAINS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43401	0.	-1.	SCHEDULED EUTH WEEK 17
43410	6.	-1.	SCHEDULED EUTH WEEK 17
43421	0.	3.	SCHEDULED EUTH WEEK 17
43429	-1.	6.	SCHEDULED EUTH WEEK 17
43430	4.	15.	SCHEDULED EUTH WEEK 17
MEAN	2.	4.	
S.D.	3.0	6.6	
N	5	5	

PBFTSv4.13
11/16/2000
R:07/18/2001

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 0 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43289	22.	22.	21.	36.	NA	23.	22.	21.
43295	20.	20.	18.	20.	21.	20.	18.	19.
43308	21.	19.	18.	19.	19.	20.	19.	19.
43316	21.	20.	19.	20.	19.	20.	19.	20.
43326	22.	20.	20.	22.	20.	22.	22.	22.
43332	29.	22.	20.	24.	21.	23.	24.	23.
43334	22.	22.	20.	21.	20.	21.	19.	18.
43336	21.	21.	20.	20.	18.	19.	18.	18.
43339	22.	20.	19.	19.	19.	19.	20.	19.
43349	22.	21.	21.	23.	21.	20.	20.	19.
43365	23.	21.	20.	20.	15.	19.	19.	19.
43368	23.	24.	23.	24.	20.	23.	22.	22.
43369	22.	22.	20.	21.	17.	19.	19.	18.
43379	23.	21.	21.	22.	18.	22.	20.	19.
43391	23.	21.	15.	20.	18.	21.	20.	20.
MEAN	22.	21.	20.	22.	19.	21.	20.	20.
S.D.	2.0	1.2	1.8	4.2	1.7	1.5	1.7	1.6
N	15	15	15	15	14	15	15	15

NA = NOT APPLICABLE

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 100 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43285	21.	20.	19.	20.	20.	22.	21.	19.
43293	22.	22.	21.	23.	20.	21.	20.	20.
43311	21.	21.	20.	19.	19.	19.	18.	18.
43320	25.	20.	19.	19.	18.	19.	18.	17.
43340	18.	16.	17.	17.	16.	18.	17.	18.
43342	21.	20.	19.	20.	19.	21.	19.	17.
43350	22.	22.	20.	20.	19.	21.	19.	19.
43351	22.	20.	20.	19.	19.	20.	19.	19.
43354	21.	22.	15.	20.	19.	18.	17.	18.
43364	21.	20.	20.	21.	20.	21.	20.	19.
43371	22.	22.	21.	21.	18.	20.	20.	19.
43380	22.	21.	21.	21.	19.	21.	20.	20.
43382	23.	22.	19.	32.	16.	21.	20.	21.
43384	26.	27.	24.	25.	20.	24.	23.	23.
43386	20.	20.	19.	20.	16.	18.	18.	18.
MEAN	22.	21.	20.	21.	19.	20.	19.	19.
S.D.	1.9	2.3	2.0	3.5	1.5	1.7	1.6	1.6
N	15	15	15	15	15	15	15	15

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 300 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43290	19.	19.	17.	18.	19.	17.	16.	17.
43307	21.	22.	23.	22.	21.	21.	21.	20.
43309	24.	22.	22.	24.	21.	22.	22.	22.
43318	23.	23.	24.	21.	23.	23.	21.	22.
43322	22.	20.	19.	20.	18.	21.	21.	20.
43323	12.	18.	18.	19.	17.	17.	15.	16.
43331	20.	21.	21.	21.	20.	20.	20.	20.
43341	23.	22.	22.	22.	22.	21.	21.	20.
43355	23.	20.	19.	20.	19.	22.	22.	21.
43361	24.	24.	25.	24.	23.	24.	25.	24.
43363	20.	19.	18.	19.	14.	17.	18.	17.
43383	21.	21.	21.	20.	18.	21.	20.	19.
43385	21.	19.	19.	20.	17.	19.	19.	18.
43388	24.	23.	22.	22.	18.	23.	21.	21.
43392	23.	22.	22.	20.	18.	22.	21.	20.
MEAN	21.	21.	21.	21.	19.	21.	20.	20.
S.D.	3.0	1.8	2.4	1.7	2.5	2.3	2.5	2.1
N	15	15	15	15	15	15	15	15

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 1000 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43277	20.	20.	20.	22.	20.	21.	19.	19.
43278	23.	21.	22.	23.	21.	22.	22.	21.
43280	23.	24.	25.	26.	24.	26.	25.	24.
43281	23.	19.	19.	21.	20.	21.	21.	20.
43282	20.	19.	19.	19.	18.	18.	17.	18.
43297	22.	22.	22.	24.	23.	22.	22.	21.
43325	16.	20.	19.	18.	18.	18.	18.	19.
43328	21.	21.	21.	22.	20.	23.	21.	21.
43346	21.	20.	19.	18.	18.	18.	17.	17.
43359	23.	22.	FOUND DEAD WEEK 1					
43362	21.	21.	20.	21.	17.	19.	20.	20.
43372	23.	23.	24.	24.	20.	24.	23.	22.
43373	20.	20.	21.	20.	16.	19.	19.	18.
43377	22.	22.	20.	20.	17.	21.	20.	20.
43397	24.	24.	24.	22.	18.	20.	19.	20.
MEAN	21.	21.	21.	21.	19.	21.	20.	20.
S.D.	2.0	1.6	2.1	2.3	2.3	2.4	2.3	1.8
N	15	15	14	14	14	14	14	14

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 0 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43289	20.	20.	18.	19.	17.	18.	24.	25.
43295	19.	19.	19.	18.	18.	19.	22.	24.
43308	21.	20.	20.	19.	19.	19.	22.	25.
43316	20.	21.	19.	20.	18.	19.	23.	25.
43326	23.	20.	21.	19.	20.	21.	21.	NA
43332	23.	22.	22.	20.	20.	22.	SCHEDULED EUTH WEEK 13	
43334	19.	20.	19.	19.	19.	19.	SCHEDULED EUTH WEEK 13	
43336	17.	18.	16.	16.	18.	16.	SCHEDULED EUTH WEEK 13	
43339	20.	20.	18.	19.	20.	19.	SCHEDULED EUTH WEEK 13	
43349	19.	19.	19.	19.	18.	19.	SCHEDULED EUTH WEEK 13	
43365	19.	18.	17.	18.	17.	18.	SCHEDULED EUTH WEEK 13	
43368	22.	21.	19.	20.	19.	20.	SCHEDULED EUTH WEEK 13	
43369	21.	19.	18.	18.	18.	17.	SCHEDULED EUTH WEEK 13	
43379	19.	20.	19.	19.	20.	19.	SCHEDULED EUTH WEEK 13	
43391	21.	20.	18.	19.	20.	20.	SCHEDULED EUTH WEEK 13	
MEAN	20.	20.	19.	19.	19.	19.	22.	25.
S.D.	1.7	1.1	1.5	1.0	1.1	1.5	1.1	0.5
N	15	15	15	15	15	15	5	4

NA = NOT APPLICABLE

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 100 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43285	20.	20.	19.	19.	21.	21.	24.	25.
43293	19.	21.	20.	20.	21.	20.	20.	24.
43311	19.	19.	17.	16.	17.	17.	19.	21.
43320	17.	17.	17.	18.	18.	17.	21.	23.
43340	17.	18.	17.	18.	18.	18.	20.	22.
43342	18.	18.	17.	17.	18.	19.	SCHEDULED EUTH WEEK 13	
43350	21.	21.	20.	20.	19.	18.	SCHEDULED EUTH WEEK 13	
43351	19.	19.	18.	17.	18.	18.	SCHEDULED EUTH WEEK 13	
43354	18.	18.	15.	15.	17.	16.	SCHEDULED EUTH WEEK 13	
43364	21.	20.	20.	20.	19.	18.	SCHEDULED EUTH WEEK 13	
43371	19.	19.	19.	19.	16.	16.	SCHEDULED EUTH WEEK 13	
43380	20.	19.	19.	19.	19.	18.	SCHEDULED EUTH WEEK 13	
43382	20.	20.	20.	18.	20.	20.	SCHEDULED EUTH WEEK 13	
43384	23.	21.	22.	22.	22.	23.	SCHEDULED EUTH WEEK 13	
43386	18.	18.	17.	19.	17.	17.	SCHEDULED EUTH WEEK 13	
MEAN	19.	19.	18.	18.	19.	18.	21.	23.
S.D.	1.6	1.3	1.8	1.8	1.7	1.9	1.9	1.6
N	15	15	15	15	15	15	5	5

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 300 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43290	17.	17.	17.	17.	18.	16.	19.	21.
43307	20.	20.	20.	20.	17.	16.	20.	22.
43309	22.	22.	19.	21.	20.	20.	20.	24.
43318	19.	21.	20.	21.	20.	19.	23.	26.
43322	19.	18.	20.	19.	20.	18.	20.	24.
43323	17.	16.	15.	16.	16.	16.	SCHEDULED EUTH WEEK 13	
43331	19.	20.	19.	20.	20.	19.	SCHEDULED EUTH WEEK 13	
43341	20.	20.	19.	19.	18.	19.	SCHEDULED EUTH WEEK 13	
43355	22.	22.	21.	22.	22.	21.	SCHEDULED EUTH WEEK 13	
43361	23.	22.	23.	24.	23.	24.	SCHEDULED EUTH WEEK 13	
43363	17.	17.	17.	17.	16.	16.	SCHEDULED EUTH WEEK 13	
43383	21.	20.	20.	19.	18.	19.	SCHEDULED EUTH WEEK 13	
43385	18.	19.	18.	20.	20.	19.	SCHEDULED EUTH WEEK 13	
43388	21.	21.	20.	22.	21.	20.	SCHEDULED EUTH WEEK 13	
43392	19.	18.	19.	18.	18.	18.	SCHEDULED EUTH WEEK 13	
MEAN	20.	20.	19.	20.	19.	19.	20.	23.
S.D.	1.9	2.0	1.9	2.2	2.1	2.2	1.5	1.9
N	15	15	15	15	15	15	5	5

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 1000 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43277	19.	18.	17.	18.	16.	15.	17.	21.
43278	20.	20.	19.	20.	19.	15.	18.	22.
43280	24.	23.	21.	22.	20.	20.	23.	27.
43281	20.	21.	20.	20.	20.	19.	22.	27.
43282	18.	16.	18.	18.	18.	17.	18.	21.
43297	21.	21.	20.	20.	21.	20.	SCHEDULED EUTH WEEK 13	
43325	17.	18.	17.	16.	16.	17.	SCHEDULED EUTH WEEK 13	
43328	20.	22.	22.	22.	21.	21.	SCHEDULED EUTH WEEK 13	
43346	16.	15.	15.	16.	15.	14.	SCHEDULED EUTH WEEK 13	
43362	19.	20.	19.	19.	19.	19.	SCHEDULED EUTH WEEK 13	
43372	21.	22.	20.	20.	21.	17.	SCHEDULED EUTH WEEK 13	
43373	17.	16.	16.	17.	17.	15.	SCHEDULED EUTH WEEK 13	
43377	19.	19.	19.	20.	19.	19.	SCHEDULED EUTH WEEK 13	
43397	20.	19.	20.	19.	19.	19.	SCHEDULED EUTH WEEK 13	
MEAN	19.	19.	19.	19.	19.	18.	20.	24.
S.D.	2.0	2.5	2.0	1.9	2.0	2.2	2.7	3.1
N	14	14	14	14	14	14	5	5

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 0 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43289	27.	26.	SCHEDULED EUTH WEEK 17
43295	25.	24.	SCHEDULED EUTH WEEK 17
43308	25.	27.	SCHEDULED EUTH WEEK 17
43316	26.	26.	SCHEDULED EUTH WEEK 17
43326	9.	29.	SCHEDULED EUTH WEEK 17
MEAN	22.	26.	
S.D.	7.5	1.8	
N	5	5	

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 100 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43285	27.	26.	SCHEDULED EUTH WEEK 17
43293	26.	27.	SCHEDULED EUTH WEEK 17
43311	24.	24.	SCHEDULED EUTH WEEK 17
43320	23.	24.	SCHEDULED EUTH WEEK 17
43340	23.	23.	SCHEDULED EUTH WEEK 17
MEAN	25.	25.	
S.D.	1.8	1.6	
N	5	5	

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 300 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43290	21.	23.	SCHEDULED EUTH WEEK 17
43307	24.	24.	SCHEDULED EUTH WEEK 17
43309	26.	27.	SCHEDULED EUTH WEEK 17
43318	28.	26.	SCHEDULED EUTH WEEK 17
43322	25.	26.	SCHEDULED EUTH WEEK 17
MEAN	25.	25.	
S.D.	2.6	1.6	
N	5	5	

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

MALE GROUP: 1000 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43277	23.	23.	SCHEDULED EUTH WEEK 17
43278	24.	23.	SCHEDULED EUTH WEEK 17
43280	29.	28.	SCHEDULED EUTH WEEK 17
43281	25.	26.	SCHEDULED EUTH WEEK 17
43282	22.	22.	SCHEDULED EUTH WEEK 17
MEAN	25.	24.	
S.D.	2.7	2.5	
N	5	5	

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43398	14.	13.	12.	14.	12.	11.	12.	10.
43405	17.	18.	16.	18.	16.	17.	17.	17.
43409	15.	15.	14.	16.	13.	14.	14.	16.
43423	16.	14.	14.	14.	13.	13.	13.	14.
43432	19.	18.	14.	17.	17.	19.	17.	15.
43433	16.	15.	15.	15.	15.	14.	15.	16.
43435	17.	15.	16.	17.	14.	16.	15.	14.
43436	17.	15.	15.	15.	15.	14.	14.	14.
43438	17.	15.	14.	15.	15.	14.	13.	13.
43449	15.	14.	14.	16.	14.	15.	14.	13.
43467	17.	15.	15.	16.	13.	15.	14.	13.
43474	17.	15.	14.	15.	12.	14.	13.	14.
43483	16.	14.	12.	13.	12.	14.	14.	13.
43497	17.	15.	15.	15.	13.	16.	14.	16.
43501	17.	16.	17.	16.	14.	18.	18.	17.
MEAN	16.	15.	14.	15.	14.	15.	14.	14.
S.D.	1.2	1.4	1.4	1.3	1.5	2.0	1.7	1.9
N	15	15	15	15	15	15	15	15

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 100 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43400	16.	16.	15.	15.	13.	15.	13.	13.
43407	15.	13.	13.	13.	17.	12.	17.	11.
43413	23.	18.	15.	15.	14.	17.	19.	17.
43416	15.	14.	14.	15.	14.	16.	16.	15.
43419	15.	14.	13.	16.	12.	13.	11.	12.
43420	15.	13.	13.	13.	12.	14.	14.	12.
43439	13.	14.	12.	12.	12.	14.	13.	14.
43458	14.	13.	12.	12.	13.	13.	12.	13.
43462	16.	13.	13.	15.	12.	12.	12.	12.
43468	16.	16.	15.	13.	14.	15.	14.	13.
43486	17.	17.	16.	18.	14.	17.	16.	16.
43489	18.	15.	15.	15.	13.	15.	15.	13.
43502	17.	15.	13.	14.	13.	14.	14.	15.
43511	18.	15.	15.	15.	13.	15.	15.	14.
43515	20.	18.	18.	18.	14.	18.	17.	17.
MEAN	17.	15.	14.	15.	13.	15.	15.	14.
S.D.	2.5	1.8	1.6	1.8	1.3	1.8	2.2	1.9
N	15	15	15	15	15	15	15	15

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 300 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43402	17.	14.	16.	15.	15.	14.	16.	15.
43426	14.	12.	13.	13.	11.	13.	12.	13.
43442	16.	15.	14.	15.	14.	13.	13.	12.
43446	14.	13.	11.	11.	11.	12.	12.	11.
43461	17.	17.	15.	15.	15.	15.	16.	14.
43463	14.	14.	13.	14.	13.	13.	14.	13.
43475	15.	16.	15.	15.	14.	13.	13.	14.
43478	17.	19.	16.	17.	17.	17.	17.	16.
43491	17.	16.	16.	18.	17.	17.	13.	15.
43495	17.	14.	14.	14.	16.	16.	15.	15.
43496	17.	15.	16.	16.	13.	16.	15.	14.
43508	16.	14.	15.	15.	13.	16.	16.	14.
43513	16.	16.	16.	16.	13.	15.	16.	15.
43516	17.	15.	15.	15.	12.	14.	14.	13.
43517	17.	15.	15.	15.	13.	15.	14.	14.
MEAN	16.	15.	15.	15.	14.	15.	14.	14.
S.D.	1.2	1.7	1.4	1.6	1.9	1.6	1.6	1.3
N	15	15	15	15	15	15	15	15

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	-1 TO 0	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7
ANIMAL								
43401	17.	19.	19.	19.	19.	19.	19.	17.
43410	13.	13.	14.	14.	12.	11.	12.	12.
43421	17.	17.	17.	16.	16.	16.	16.	16.
43429	17.	16.	15.	16.	16.	15.	16.	15.
43430	17.	17.	17.	17.	15.	16.	14.	14.
43440	15.	15.	14.	17.	13.	13.	14.	14.
43456	19.	20.	20.	21.	21.	18.	19.	18.
43460	14.	12.	13.	13.	12.	13.	13.	13.
43466	18.	17.	17.	19.	19.	18.	16.	17.
43477	16.	15.	13.	13.	12.	13.	13.	12.
43479	16.	18.	18.	15.	13.	15.	12.	13.
43481	16.	16.	18.	20.	11.	17.	18.	16.
43484	17.	16.	16.	30.	12.	16.	15.	14.
43492	18.	15.	16.	16.	12.	15.	14.	15.
43503	14.	14.	13.	13.	12.	12.	13.	14.
MEAN	16.	16.	16.	17.	14.	15.	15.	15.
S.D.	1.7	2.1	2.3	4.4	3.2	2.4	2.3	1.8
N	15	15	15	15	15	15	15	15

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43398	11.	11.	12.	9.	11.	11.	11.	14.
43405	15.	16.	13.	12.	14.	13.	15.	19.
43409	14.	15.	15.	13.	12.	13.	21.	25.
43423	13.	12.	12.	12.	11.	11.	16.	18.
43432	15.	17.	14.	15.	17.	14.	16.	19.
43433	16.	13.	15.	16.	17.	13.	SCHEDULED EUTH WEEK 13	
43435	14.	15.	14.	13.	14.	15.	SCHEDULED EUTH WEEK 13	
43436	14.	14.	13.	13.	13.	13.	SCHEDULED EUTH WEEK 13	
43438	13.	13.	13.	13.	13.	13.	SCHEDULED EUTH WEEK 13	
43449	14.	13.	13.	13.	13.	13.	SCHEDULED EUTH WEEK 13	
43467	14.	13.	13.	12.	13.	13.	SCHEDULED EUTH WEEK 13	
43474	13.	12.	12.	13.	13.	12.	SCHEDULED EUTH WEEK 13	
43483	14.	14.	13.	13.	14.	14.	SCHEDULED EUTH WEEK 13	
43497	13.	14.	15.	14.	13.	14.	SCHEDULED EUTH WEEK 13	
43501	16.	17.	17.	12.	13.	17.	SCHEDULED EUTH WEEK 13	
MEAN	14.	14.	14.	13.	13.	13.	16.	19.
S.D.	1.3	1.8	1.4	1.6	1.7	1.5	3.6	3.9
N	15	15	15	15	15	15	5	5

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 100 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43400	14.	13.	14.	15.	14.	14.	14.	18.
43407	11.	11.	12.	11.	11.	11.	12.	9.
43413	13.	12.	12.	13.	11.	13.	15.	16.
43416	16.	16.	15.	13.	14.	13.	16.	18.
43419	10.	12.	11.	11.	10.	11.	14.	16.
43420	13.	14.	13.	13.	14.	13.	SCHEDULED EUTH WEEK 13	
43439	12.	12.	10.	11.	11.	11.	SCHEDULED EUTH WEEK 13	
43458	12.	12.	12.	12.	12.	12.	SCHEDULED EUTH WEEK 13	
43462	11.	12.	12.	11.	11.	12.	SCHEDULED EUTH WEEK 13	
43468	13.	14.	12.	12.	15.	15.	SCHEDULED EUTH WEEK 13	
43486	15.	14.	15.	15.	15.	15.	SCHEDULED EUTH WEEK 13	
43489	14.	14.	13.	13.	13.	14.	SCHEDULED EUTH WEEK 13	
43502	14.	13.	13.	12.	13.	12.	SCHEDULED EUTH WEEK 13	
43511	13.	14.	15.	13.	29.	14.	SCHEDULED EUTH WEEK 13	
43515	17.	16.	15.	16.	16.	16.	SCHEDULED EUTH WEEK 13	
MEAN	13.	13.	13.	13.	14.	13.	14.	15.
S.D.	1.9	1.5	1.6	1.6	4.5	1.6	1.5	3.7
N	15	15	15	15	15	15	5	5

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 300 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43402	14.	15.	14.	15.	16.	14.	18.	22.
43426	13.	13.	12.	12.	12.	11.	14.	16.
43442	14.	12.	12.	14.	12.	14.	14.	16.
43446	11.	12.	11.	10.	11.	11.	13.	15.
43461	15.	15.	17.	15.	13.	13.	13.	18.
43463	13.	12.	13.	12.	12.	13.	SCHEDULED EUTH WEEK 13	
43475	11.	13.	12.	12.	12.	11.	SCHEDULED EUTH WEEK 13	
43478	15.	15.	14.	15.	16.	15.	SCHEDULED EUTH WEEK 13	
43491	14.	15.	14.	13.	15.	14.	SCHEDULED EUTH WEEK 13	
43495	15.	13.	14.	13.	14.	15.	SCHEDULED EUTH WEEK 13	
43496	15.	15.	14.	13.	14.	13.	SCHEDULED EUTH WEEK 13	
43508	15.	14.	14.	14.	15.	15.	SCHEDULED EUTH WEEK 13	
43513	15.	14.	15.	14.	12.	15.	SCHEDULED EUTH WEEK 13	
43516	13.	14.	14.	14.	14.	14.	SCHEDULED EUTH WEEK 13	
43517	11.	14.	15.	14.	14.	14.	SCHEDULED EUTH WEEK 13	
MEAN	14.	14.	14.	13.	13.	13.	14.	17.
S.D.	1.5	1.2	1.5	1.4	1.6	1.5	2.1	2.8
N	15	15	15	15	15	15	5	5

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15
ANIMAL								
43401	17.	17.	17.	20.	19.	17.	17.	17.
43410	11.	12.	13.	12.	12.	11.	11.	12.
43421	16.	16.	16.	14.	15.	15.	14.	16.
43429	16.	16.	15.	16.	15.	16.	15.	17.
43430	13.	14.	13.	13.	13.	15.	20.	17.
43440	13.	15.	14.	12.	14.	15.	SCHEDULED EUTH WEEK 13	
43456	18.	19.	18.	18.	17.	17.	SCHEDULED EUTH WEEK 13	
43460	13.	14.	14.	12.	13.	13.	SCHEDULED EUTH WEEK 13	
43466	16.	15.	16.	15.	16.	17.	SCHEDULED EUTH WEEK 13	
43477	13.	14.	13.	14.	14.	14.	SCHEDULED EUTH WEEK 13	
43479	13.	15.	13.	12.	12.	13.	SCHEDULED EUTH WEEK 13	
43481	19.	19.	17.	17.	18.	17.	SCHEDULED EUTH WEEK 13	
43484	14.	13.	14.	14.	13.	14.	SCHEDULED EUTH WEEK 13	
43492	14.	14.	14.	14.	13.	13.	SCHEDULED EUTH WEEK 13	
43503	13.	13.	13.	14.	13.	13.	SCHEDULED EUTH WEEK 13	
MEAN	15.	15.	15.	14.	14.	15.	15.	16.
S.D.	2.3	2.1	1.7	2.4	2.2	1.9	3.4	2.2
N	15	15	15	15	15	15	5	5

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43398	15.	17.	SCHEDULED EUTH WEEK 17
43405	19.	19.	SCHEDULED EUTH WEEK 17
43409	18.	23.	SCHEDULED EUTH WEEK 17
43423	17.	17.	SCHEDULED EUTH WEEK 17
43432	21.	20.	SCHEDULED EUTH WEEK 17
MEAN	18.	19.	
S.D.	2.2	2.5	
N	5	5	

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 100 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43400	18.	17.	SCHEDULED EUTH WEEK 17
43407	16.	18.	SCHEDULED EUTH WEEK 17
43413	17.	17.	SCHEDULED EUTH WEEK 17
43416	18.	18.	SCHEDULED EUTH WEEK 17
43419	16.	16.	SCHEDULED EUTH WEEK 17
MEAN	17.	17.	
S.D.	1.0	0.8	
N	5	5	

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 300 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43402	21.	21.	SCHEDULED EUTH WEEK 17
43426	16.	17.	SCHEDULED EUTH WEEK 17
43442	16.	17.	SCHEDULED EUTH WEEK 17
43446	15.	17.	SCHEDULED EUTH WEEK 17
43461	18.	20.	SCHEDULED EUTH WEEK 17
MEAN	17.	18.	
S.D.	2.4	1.9	
N	5	5	

TABLE 72
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FOOD CONSUMPTION (GRAMS/ANIMAL/DAY)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	15 TO 16	16 TO 17	
ANIMAL			
43401	19.	19.	SCHEDULED EUTH WEEK 17
43410	14.	14.	SCHEDULED EUTH WEEK 17
43421	17.	18.	SCHEDULED EUTH WEEK 17
43429	18.	19.	SCHEDULED EUTH WEEK 17
43430	19.	21.	SCHEDULED EUTH WEEK 17
MEAN	17.	18.	
S.D.	2.1	2.6	
N	5	5	

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SPONSOR:CMA-BFRIP

TABLE 73 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43289	1	1	1	1	1	1	1
43295	1	1	1	1	1	1	1
43308	1	1	1	1	1	1	1
43316	1	1	1	1	1	1	1
43326	3	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 73 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43285	1	1	1	1	1	1	1
43293	1	1	1	1	1	1	1
43311	1	1	1	1	1	1	1
43320	1	1	1	1	1	1	1
43340	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 73 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: MALES

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43290	1	1	1	1	1	1	1
43307	1	1	1	1	1	1	1
43309	1	1	1	1	1	1	1
43318	1	1	1	1	1	1	1
43322	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 73 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

HOME CAGE OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43277	1	1	1	1	1	1	1
43278	1	1	1	1	1	1	1
43280	1	1	1	1	1	1	1
43281	2	1	1	1	1	1	1
43282	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 73 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43398	1	1	1	1	1	1	1
43405	1	1	1	1	1	1	1
43409	1	1	1	1	1	1	1
43423	1	1	1	1	1	1	1
43432	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 73 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43401	1	1	1	1	1	1	1
43410	1	1	1	1	1	1	1
43421	1	1	1	1	1	1	1
43429	1	1	1	1	1	1	1
43430	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

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TABLE 74 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43289	1	1	1	1	1	1	1
43295	2	1	1	1	1	4	1
43308	1	1	1	1	1	1	1
43316	1	1	1	1	1	1	1
43326	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 74 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43285	3	1	1	1	1	1	1
43293	2	1	1	1	1	4	1
43311	1	1	1	1	1	1	1
43320	1	1	1	1	1	1	1
43340	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 74 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43290	3	1	1	1	1	1	1
43307	1	1	1	1	1	1	1
43309	1	1	1	1	1	1	1
43318	1	1	1	1	1	1	1
43322	2	1	1	1	1	4	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 74 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43277	1	1	1	1	1	1	1
43278	2	1	1	1	1	4	1
43280	3	1	1	1	1	1	1
43281	1	1	1	1	1	1	1
43282	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 74 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43398	1	1	1	1	1	1	1
43405	1	1	1	1	1	1	1
43409	1	1	1	1	1	1	1
43423	1	1	1	1	1	1	1
43432	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 74 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43400	1	1	1	1	1	1	1
43407	1	1	1	1	1	1	1
43413	3	1	1	1	1	1	1
43416	1	1	1	1	1	1	1
43419	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 74 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43402	1	1	1	1	1	1	1
43426	1	1	1	1	1	1	1
43442	1	1	1	1	1	1	1
43446	1	1	1	1	1	1	1
43461	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 74 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43401	3	1	1	1	1	1	1
43410	3	1	1	1	1	1	1
43421	2	1	1	1	1	4	1
43429	1	1	1	1	1	1	1
43430	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

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11/16/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 75 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: MALES

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43289	1	1	1	1	1	1	4
43295	1	1	1	1	1	2	4
43308	1	1	1	1	1	1	1
43316	2	1	1	1	1	3	1
43326	2	1	1	1	1	4	4

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 75 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: MALES

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43285	1	1	1	1	1	1	1
43293	2	1	1	1	1	3	4
43311	1	1	1	1	1	1	4
43320	1	1	1	1	1	1	4
43340	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 75 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: MALES

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43290	1	1	1	1	1	1	1
43307	1	1	1	1	1	1	4
43309	1	1	1	1	1	1	1
43318	1	1	1	1	1	1	1
43322	2	1	1	1	1	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 75 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: MALES

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43277	2	1	1	1	1	2	4
43278	2	1	1	1	1	3	2
43280	3	1	1	1	1	1	4
43281	2	1	1	1	1	2	1
43282	1	1	1	1	1	1	4

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 75 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: FEMALES

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43398	1	1	1	1	1	1	4
43405	3	1	1	1	3	1	1
43409	3	1	1	1	1	1	4
43423	1	1	1	1	1	1	1
43432	3	1	1	1	1	1	4

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 75 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43400	3	1	1	1	1	1	4
43407	1	1	1	1	1	1	4
43413	3	1	1	1	1	1	4
43416	1	1	1	1	1	1	1
43419	3	1	1	1	1	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 75 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43402	3	1	1	1	1	1	1
43426	1	1	1	1	1	1	1
43442	3	1	1	1	1	1	4
43446	1	1	1	1	1	1	4
43461	1	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 75 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HOME CAGE OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	POSTURE	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	BITING	PALPEBRAL CLOSURE	FECES CONSISTENCY
43401	3	1	1	1	1	1	4
43410	3	1	1	1	2	1	4
43421	1	1	1	1	1	1	4
43429	1	1	1	1	1	1	4
43430	3	1	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

PFOBv3.1
03/12/2001
R:07/18/2001

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43289	2	1	1	1	1
43295	1	1	1	1	1
43308	2	1	1	1	1
43316	1	1	1	1	1
43326	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43289	1	1	1	1	1	2	2	2
43295	1	1	1	1	1	2	2	2
43308	1	1	1	1	1	2	2	2
43316	1	1	1	1	1	2	2	2
43326	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CRUSTY DEPOSITS			COLOR			EYE PROMINENCE	MUSCLE TONE
	EYES	NOSE	MOUTH	MUCOUS MEMBRANES	EYES	SKIN		
43289	2	2	2	1	1	1	1	1
43295	2	2	2	1	1	1	1	1
43308	2	2	2	1	1	1	1	1
43316	2	2	2	1	1	1	1	1
43326	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43285	2	1	1	1	1
43293	1	1	1	1	1
43311	1	1	1	1	1
43320	2	1	1	1	1
43340	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43285	1	1	1	1	1	2	2	2
43293	1	1	1	1	1	2	2	2
43311	1	1	1	1	1	2	2	2
43320	1	1	1	1	1	2	2	2
43340	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43285	2	2	2	1	1	1	1	1
43293	2	2	2	1	1	1	1	1
43311	2	2	2	1	1	1	1	1
43320	2	2	2	1	1	1	1	1
43340	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: MALES

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43290	2	1	1	1	1
43307	1	1	1	1	1
43309	1	1	1	1	1
43318	1	1	1	1	1
43322	2	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS		
						EYES	NOSE	MOUTH
43290	1	1	1	1	1	2	2	2
43307	1	1	1	1	1	2	2	2
43309	1	1	1	1	1	2	2	2
43318	1	1	1	1	1	2	2	2
43322	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CRUSTY DEPOSITS			COLOR			EYE PROMINENCE	MUSCLE TONE
	EYES	NOSE	MOUTH	MUCOUS MEMBRANES	EYES	SKIN		
43290	2	2	2	1	1	1	1	1
43307	2	2	2	1	1	1	1	1
43309	2	2	2	1	1	1	1	1
43318	2	2	2	1	1	1	1	1
43322	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43277	1	1	1	1	1
43278	2	1	1	1	1
43280	2	1	1	1	1
43281	2	1	1	1	1
43282	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43277	1	1	1	1	1	2	2	2
43278	1	1	1	1	1	2	2	2
43280	1	1	1	1	1	2	2	2
43281	1	1	1	1	1	2	2	2
43282	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CRUSTY DEPOSITS			COLOR			EYE PROMINENCE	MUSCLE TONE
	EYES	NOSE	MOUTH	MUCOUS MEMBRANES	EYES	SKIN		
43277	2	2	2	1	1	1	1	1
43278	2	2	2	1	1	1	1	1
43280	2	2	2	1	1	1	1	1
43281	2	2	2	1	1	1	1	1
43282	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: FEMALES

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43398	1	1	1	1	1
43405	1	1	1	1	1
43409	2	1	1	1	1
43423	1	1	1	1	1
43432	2	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: FEMALES

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS		
						EYES	NOSE	MOUTH
43398	1	1	1	1	1	2	2	2
43405	1	1	1	1	1	2	2	2
43409	1	1	1	1	1	2	2	2
43423	1	1	1	1	1	2	2	2
43432	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: FEMALES

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43398	2	2	2	1	1	1	1	1
43405	2	2	2	1	1	1	1	1
43409	2	2	2	1	1	1	1	1
43423	2	2	2	1	1	1	1	1
43432	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43400	1	1	1	1	1
43407	2	1	1	1	1
43413	1	1	1	1	1
43416	2	1	1	1	1
43419	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: FEMALES

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS		
						EYES	NOSE	MOUTH
43400	1	1	1	1	1	2	2	2
43407	1	1	1	1	1	2	2	2
43413	1	1	1	1	1	2	2	2
43416	1	1	1	1	1	2	2	2
43419	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CRUSTY DEPOSITS			COLOR			EYE PROMINENCE	MUSCLE TONE
	EYES	NOSE	MOUTH	MUCOUS MEMBRANES	EYES	SKIN		
43400	2	2	2	1	1	1	1	1
43407	2	2	2	1	1	1	1	1
43413	2	2	2	1	1	1	1	1
43416	2	2	2	1	1	1	1	1
43419	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43402	2	1	1	1	1
43426	2	1	1	1	1
43442	2	1	1	1	1
43446	2	1	1	1	1
43461	2	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS		
						EYES	NOSE	MOUTH
43402	1	1	1	1	1	2	2	2
43426	1	1	1	1	1	2	2	2
43442	1	1	1	1	1	2	2	2
43446	1	1	1	1	1	2	2	2
43461	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43402	2	2	2	1	1	1	1	1
43426	2	2	2	1	1	1	1	1
43442	2	2	2	1	1	1	1	1
43446	2	2	2	1	1	1	1	1
43461	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43401	1	1	1	1	1
43410	2	1	1	1	1
43421	2	1	1	1	1
43429	2	1	1	1	1
43430	2	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43401	1	1	1	1	1	2	2	2
43410	1	1	1	1	1	2	2	2
43421	1	1	1	1	1	2	2	2
43429	1	1	1	1	1	2	2	2
43430	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 76 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43401	2	2	2	1	1	1	1	1
43410	2	2	2	1	1	1	1	1
43421	2	2	2	1	1	1	1	1
43429	2	2	2	1	1	1	1	1
43430	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

PFOBv3.1
11/16/2000
R:07/18/2001

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43289	1	1	1	1	1
43295	1	1	1	1	1
43308	1	1	1	1	1
43316	1	1	1	1	1
43326	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS		
						EYES	NOSE	MOUTH
43289	1	1	1	1	1	2	2	2
43295	1	1	1	1	1	2	2	2
43308	1	1	1	1	1	2	2	2
43316	1	1	1	1	1	2	2	2
43326	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43289	2	2	2	1	1	1	1	1
43295	2	2	2	1	1	1	1	1
43308	2	2	2	1	1	1	1	1
43316	2	2	2	1	1	1	1	1
43326	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43285	1	1	1	1	1
43293	1	1	1	1	1
43311	1	1	1	1	1
43320	1	1	1	1	1
43340	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS		
						EYES	NOSE	MOUTH
43285	1	1	1	1	1	2	2	2
43293	1	1	1	1	1	1	2	2
43311	1	1	1	1	1	2	2	2
43320	1	1	1	1	1	2	2	2
43340	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43285	2	2	2	1	1	1	1	1
43293	2	2	2	1	1	1	1	1
43311	2	2	2	1	1	1	1	1
43320	2	2	2	1	1	1	1	1
43340	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43290	3	1	1	1	1
43307	1	1	1	1	1
43309	1	1	1	1	1
43318	1	1	1	1	1
43322	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS		
						EYES	NOSE	MOUTH
43290	1	1	1	1	1	2	2	2
43307	1	1	1	1	1	2	2	2
43309	1	1	1	1	1	2	2	2
43318	1	1	1	1	1	2	2	2
43322	1	1	1	1	1	2	1	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43290	2	2	2	1	1	1	1	1
43307	2	2	2	1	1	1	1	1
43309	2	2	2	1	1	1	1	1
43318	2	2	2	1	1	1	1	1
43322	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43277	1	1	1	1	1
43278	1	1	1	1	1
43280	1	1	1	1	1
43281	1	1	1	1	1
43282	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43277	1	1	1	1	1	2	2	2
43278	1	1	1	1	1	2	2	2
43280	1	1	1	1	1	2	2	2
43281	1	2	1	1	1	1	1	1
43282	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43277	2	2	2	1	1	1	1	1
43278	2	2	2	1	1	1	1	1
43280	2	2	2	1	1	1	1	1
43281	2	2	2	1	1	1	1	1
43282	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43398	1	1	1	1	1
43405	1	1	1	1	1
43409	1	1	1	1	1
43423	1	1	1	1	1
43432	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43398	1	1	1	1	1	2	2	2
43405	1	1	1	1	1	2	2	2
43409	1	1	1	1	1	2	2	2
43423	1	1	1	1	1	2	2	2
43432	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43398	2	2	2	1	1	1	1	1
43405	2	2	2	1	1	1	1	1
43409	2	2	2	1	1	1	1	1
43423	2	2	2	1	1	1	1	1
43432	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43400	1	1	1	1	1
43407	1	1	1	1	1
43413	2*	1	1	1	1
43416	1	1	1	1	1
43419	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE
* = ANIMAL VOCALIZED

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43400	1	1	1	1	1	2	2	2
43407	1	1	1	1	1	2	2	2
43413	1	1	1	1	1	2	2	2
43416	1	1	1	1	1	2	2	2
43419	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CRUSTY DEPOSITS			COLOR			EYE PROMINENCE	MUSCLE TONE
	EYES	NOSE	MOUTH	MUCOUS MEMBRANES	EYES	SKIN		
43400	2	2	2	1	1	1	1	1
43407	2	2	2	1	1	1	1	1
43413	2	2	2	1	1	1	1	1
43416	2	2	2	1	1	1	1	1
43419	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43402	1	1	1	1	1
43426	1	1	1	1	1
43442	1	1	1	1	1
43446	1	1	1	1	1
43461	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43402	1	1	1	1	1	2	2	2
43426	1	1	1	1	1	2	2	2
43442	1	1	1	1	1	2	2	2
43446	1	1	1	1	1	2	2	2
43461	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43402	2	2	2	1	1	1	1	1
43426	2	2	2	1	1	1	1	1
43442	2	2	2	1	1	1	1	1
43446	2	2	2	1	1	1	1	1
43461	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43401	1	1	1	1	1
43410	2	1	1	1	1
43421	1	1	1	1	1
43429	1	1	1	1	1
43430	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43401	1	1	1	1	1	2	2	2
43410	1	1	1	1	1	2	2	2
43421	1	1	1	1	1	2	2	2
43429	1	1	1	1	1	2	2	2
43430	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 77 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43401	2	2	2	1	1	1	1	1
43410	2	2	2	1	1	1	1	1
43421	2	2	2	1	1	1	1	1
43429	2	2	2	1	1	1	1	1
43430	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

PFOBv3.1
11/16/2000
R:07/18/2001

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43289	1	1	1	1	1
43295	1	1	1	1	1
43308	1	1	1	1	1
43316	1	1	1	1	1
43326	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43289	1	1	1	1	1	2	2	2
43295	1	1	1	1	1	2	2	2
43308	1	1	1	1	1	2	2	2
43316	1	1	1	1	1	2	2	2
43326	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43289	2	2	2	1	1	1	1	1
43295	2	2	2	1	1	1	1	1
43308	2	2	2	1	1	1	1	1
43316	2	2	2	1	1	1	1	1
43326	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43285	3	1	1	1	1
43293	1	1	1	1	1
43311	2	1	1	1	1
43320	3	1	1	1	1
43340	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43285	1	1	1	1	1	2	2	2
43293	1	1	1	1	1	2	2	2
43311	1	1	1	1	1	2	2	2
43320	1	1	1	1	1	2	2	2
43340	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43285	2	2	2	1	1	1	1	1
43293	2	2	2	1	1	1	1	1
43311	2	2	2	1	1	1	1	1
43320	2	2	2	1	1	1	1	1
43340	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43290	1	1	1	1	1
43307	1	1	1	1	1
43309	1	1	1	1	1
43318	1	1	1	1	1
43322	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS		
						EYES	NOSE	MOUTH
43290	1	1	1	1	1	2	2	2
43307	1	1	1	1	1	2	2	2
43309	1	1	1	1	1	2	2	2
43318	1	1	1	1	1	2	2	2
43322	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43290	2	2	2	1	1	1	1	1
43307	2	2	2	1	1	1	1	1
43309	2	2	2	1	1	1	1	1
43318	2	2	2	1	1	1	1	1
43322	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43277	1	2*	1	1	1
43278	1	1	1	1	1
43280	1	1	1	1	1
43281	2	1	1	1	1
43282	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE
* = ANIMAL VOCALIZED

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43277	1	1	1	1	1	2	2	2
43278	1	1	1	1	1	2	2	2
43280	1	1	1	1	1	2	2	2
43281	1	1	1	1	1	2	2	2
43282	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43277	2	2	2	1	1	1	1	1
43278	2	2	2	1	1	1	1	1
43280	2	2	2	1	1	1	1	1
43281	2	2	2	1	1	1	1	1
43282	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43398	1	1	1	1	1
43405	1	1	1	1	1
43409	5	1	1	1	1
43423	1	1	1	1	1
43432	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43398	1	1	1	1	1	2	2	2
43405	1	1	1	1	1	1	2	2
43409	1	1	1	1	1	2	2	2
43423	1	1	1	1	1	2	2	2
43432	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43398	2	2	2	1	1	1	1	1
43405	2	2	2	1	1	1	1	1
43409	2	2	2	1	1	1	1	1
43423	2	2	2	1	1	1	1	1
43432	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43400	2	1	1	1	1
43407	1	1	2	1	1
43413	2*	2*	1	1	1
43416	1	1	1	1	1
43419	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE
* = ANIMAL VOCALIZED

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43400	1	1	1	1	1	2	2	2
43407	1	1	1	1	1	1	2	2
43413	1	1	1	1	1	2	2	2
43416	1	1	1	1	1	2	2	2
43419	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CRUSTY DEPOSITS			COLOR			EYE PROMINENCE	MUSCLE TONE
	EYES	NOSE	MOUTH	MUCOUS MEMBRANES	EYES	SKIN		
43400	2	2	2	1	1	1	1	1
43407	2	2	2	1	1	1	2	1
43413	2	2	2	1	1	1	1	1
43416	2	2	2	1	1	1	1	1
43419	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43402	2	1	1	1	1
43426	1	1	1	1	1
43442	1	1	1	1	1
43446	1	1	1	1	1
43461	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: FEMALES

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS		
						EYES	NOSE	MOUTH
43402	1	1	1	1	1	2	2	2
43426	1	1	1	1	1	2	2	2
43442	1	1	1	1	1	2	2	2
43446	1	1	1	1	1	2	2	2
43461	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43402	2	2	2	1	1	1	2	1
43426	2	2	2	1	1	1	1	1
43442	2	2	2	1	1	1	1	1
43446	2	2	2	1	1	1	1	1
43461	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	EASE OF REMOVAL FROM CAGE	EASE OF HANDLING ANIMAL IN HAND	LACRIMATION	CHROMODACRYORRHEA	SALIVATION
43401	1	1	1	1	1
43410	1	1	1	1	1
43421	1	1	1	1	1
43429	1	1	1	1	1
43430	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PILOERECTION	FUR APPEARANCE	PALPEBRAL CLOSURE	RESPIRATORY RATE	RESPIRATORY CHARACTER	RED DEPOSITS EYES	RED DEPOSITS NOSE	RED DEPOSITS MOUTH
43401	1	1	1	1	1	2	2	2
43410	1	1	1	1	1	2	2	2
43421	1	1	1	1	1	2	2	2
43429	1	1	1	1	1	2	2	2
43430	1	1	1	1	1	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 78 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

HANDLING OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CRUSTY DEPOSITS EYES	CRUSTY DEPOSITS NOSE	CRUSTY DEPOSITS MOUTH	COLOR MUCOUS MEMBRANES	COLOR EYES	COLOR SKIN	EYE PROMINENCE	MUSCLE TONE
43401	2	2	2	1	1	1	1	1
43410	2	2	2	1	1	1	1	1
43421	2	2	2	1	1	1	1	1
43429	2	2	2	1	1	1	1	1
43430	2	2	2	1	1	1	1	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

PFOBv3.1
11/16/2000
R:07/18/2001

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43289	0.2	1	1	1	1	1	1	3
43295	0.4	1	1	1	1	1	1	3
43308	0.3	1	1	1	1	1	1	3
43316	0.5	1	1	1	1	1	1	3
43326	0.5	1	1	1	1	1	1	3
MEAN	0.4							
S.D.	0.13							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43289	1	3.0	0.0	0.0	1.0	0.0
43295	1	1.0	0.0	0.0	0.0	2.0
43308	1	6.0	0.0	0.0	0.0	0.0
43316	1	13.0	0.0	0.0	0.0	0.0
43326	1	5.0	0.0	1.0	1.0	1.0
MEAN		5.6	0.0	0.2	0.4	0.6
S.D.		4.56	0.00	0.45	0.55	0.89
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43285	0.4	1	1	1	1	1	1	3
43293	0.3	1	1	1	1	1	1	3
43311	0.2	1	1	1	1	1	1	3
43320	0.3	1	1	1	1	1	1	3
43340	0.4	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.08							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43285	1	4.0	0.0	0.0	0.0	4.0
43293	1	9.0	0.0	0.0	0.0	0.0
43311	1	20.0	0.0	1.0	0.0	0.0
43320	1	11.0	0.0	0.0	0.0	0.0
43340	1	5.0	0.0	0.0	1.0	1.0
MEAN		9.8	0.0	0.2	0.2	1.0
S.D.		6.38	0.00	0.45	0.45	1.73
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43290	0.3	1	1	1	1	1	1	3
43307	0.3	1	1	1	1	1	1	3
43309	0.3	1	1	1	1	1	1	3
43318	0.3	1	1	1	1	1	1	3
43322	0.5	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.09							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43290	1	11.0	0.0	0.0	1.0	0.0
43307	1	14.0	0.0	0.0	1.0	2.0
43309	1	9.0	0.0	0.0	0.0	0.0
43318	1	13.0	0.0	0.0	1.0	0.0
43322	1	3.0	0.0	0.0	1.0	4.0
MEAN		10.0	0.0	0.0	0.8	1.2
S.D.		4.36	0.00	0.00	0.45	1.79
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43277	0.3	1	1	1	1	1	1	3
43278	0.4	1	1	1	1	1	1	3
43280	0.3	1	1	1	1	1	1	3
43281	0.3	1	1	1	1	1	1	3
43282	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.04							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43277	1	3.0	0.0	0.0	1.0	0.0
43278	1	8.0	0.0	0.0	0.0	0.0
43280	1	10.0	0.0	0.0	1.0	1.0
43281	1	9.0	0.0	1.0	1.0	4.0
43282	1	2.0	0.0	1.0	0.0	0.0
MEAN		6.4	0.0	0.4	0.6	1.0
S.D.		3.65	0.00	0.55	0.55	1.73
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43398	0.3	1	1	1	1	1	1	3
43405	0.3	1	1	1	1	1	1	3
43409	0.3	1	1	1	1	1	1	3
43423	0.3	1	1	1	1	1	1	3
43432	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.00							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43398	1	13.0	0.0	1.0	0.0	0.0
43405	1	8.0	0.0	1.0	0.0	0.0
43409	1	4.0	0.0	0.0	0.0	0.0
43423	1	3.0	0.0	1.0	0.0	0.0
43432	1	9.0	0.0	1.0	1.0	0.0
MEAN		7.4	0.0	0.8	0.2	0.0
S.D.		4.04	0.00	0.45	0.45	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43400	0.3	1	1	1	1	1	1	3
43407	0.3	1	1	1	1	1	1	3
43413	0.3	1	1	1	1	1	1	3
43416	0.3	1	1	1	1	1	1	3
43419	0.4	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.04							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43400	1	6.0	0.0	0.0	2.0	1.0
43407	1	14.0	0.0	1.0	1.0	0.0
43413	1	2.0	0.0	0.0	1.0	7.0
43416	1	14.0	0.0	0.0	0.0	1.0
43419	1	8.0	0.0	0.0	0.0	0.0
MEAN		8.8	0.0	0.2	0.8	1.8
S.D.		5.22	0.00	0.45	0.84	2.95
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43402	0.4	1	1	1	1	1	1	3
43426	0.2	1	1	1	1	1	1	3
43442	0.3	1	1	1	1	1	1	3
43446	0.3	1	1	1	1	1	1	3
43461	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.07							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43402	1	14.0	0.0	0.0	0.0	0.0
43426	1	11.0	0.0	2.0	1.0	0.0
43442	1	6.0	0.0	1.0	0.0	0.0
43446	1	8.0	0.0	0.0	0.0	0.0
43461	1	6.0	0.0	0.0	0.0	0.0
MEAN		9.0	0.0	0.6	0.2	0.0
S.D.		3.46	0.00	0.89	0.45	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43401	0.3	1	1	1	1	1	1	3
43410	0.3	1	1	1	1	1	1	3
43421	0.4	1	1	1	1	1	1	3
43429	0.2	1	1	1	1	1	1	3
43430	0.2	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.08							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 79 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43401	1	11.0	0.0	1.0	0.0	0.0
43410	1	21.0	0.0	0.0	0.0	0.0
43421	1	6.0	0.0	0.0	1.0	0.0
43429	1	0.0	0.0	0.0	0.0	0.0
43430	1	7.0	0.0	0.0	0.0	0.0
MEAN		9.0	0.0	0.2	0.2	0.0
S.D.		7.78	0.00	0.45	0.45	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

PFOBv3.1
11/16/2000
R:07/18/2001

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43289	0.3	1	1	1	1	1	1	3
43295	0.4	1	1	1	1	1	1	3
43308	0.5	1	1	1	1	1	1	3
43316	0.4	1	1	1	1	1	1	3
43326	0.3	1	1	1	1	1	1	3
MEAN	0.4							
S.D.	0.08							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43289	1	3.0	0.0	0.0	0.0	0.0
43295	1	3.0	0.0	0.0	1.0	0.0
43308	1	8.0	0.0	0.0	0.0	0.0
43316	1	4.0	0.0	1.0	0.0	0.0
43326	1	3.0	0.0	0.0	0.0	1.0
MEAN		4.2	0.0	0.2	0.2	0.2
S.D.		2.17	0.00	0.45	0.45	0.45
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43285	0.3	1	1	1	1	1	1	3
43293	0.5	1	1	1	1	1	1	3
43311	0.4	1	1	1	1	1	1	3
43320	0.6	1	1	1	1	1	1	3
43340	0.5	1	1	1	1	1	1	3
MEAN	0.5							
S.D.	0.11							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43285	1	8.0	0.0	0.0	0.0	0.0
43293	1	7.0	0.0	0.0	0.0	0.0
43311	1	6.0	0.0	0.0	1.0	1.0
43320	1	8.0	0.0	0.0	2.0	0.0
43340	1	0.0	0.0	0.0	1.0	1.0
MEAN		5.8	0.0	0.0	0.8	0.4
S.D.		3.35	0.00	0.00	0.84	0.55
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43290	0.5	1	1	1	1	1	1	3
43307	0.2	1	1	1	1	1	1	3
43309	0.2	1	1	1	1	1	1	3
43318	0.3	1	1	1	1	1	1	3
43322	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.12							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43290	1	8.0	0.0	0.0	0.0	0.0
43307	1	6.0	0.0	0.0	2.0	0.0
43309	1	9.0	0.0	0.0	1.0	0.0
43318	1	6.0	0.0	0.0	3.0	0.0
43322	1	5.0	0.0	0.0	0.0	0.0
MEAN		6.8	0.0	0.0	1.2	0.0
S.D.		1.64	0.00	0.00	1.30	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43277	0.5	1	1	1	1	1	1	3
43278	0.2	1	1	1	1	1	1	3
43280	0.4	1	1	1	1	1	1	3
43281	0.3	1	1	1	1	1	1	3
43282	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.11							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43277	1	4.0	0.0	0.0	1.0	0.0
43278	1	1.0	0.0	0.0	1.0	1.0
43280	1	5.0	0.0	0.0	0.0	1.0
43281	1	6.0	0.0	0.0	2.0	0.0
43282	1	4.0	0.0	0.0	0.0	0.0
MEAN		4.0	0.0	0.0	0.8	0.4
S.D.		1.87	0.00	0.00	0.84	0.55
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43398	0.4	1	1	1	1	1	1	3
43405	0.3	1	1	1	1	1	1	3
43409	0.3	1	1	1	1	1	1	3
43423	0.3	1	1	1	1	1	1	3
43432	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.04							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43398	1	13.0	0.0	2.0	0.0	0.0
43405	1	10.0	0.0	0.0	0.0	0.0
43409	1	15.0	0.0	0.0	1.0	0.0
43423	1	6.0	0.0	1.0	0.0	0.0
43432	1	15.0	0.0	0.0	0.0	0.0
MEAN		11.8	0.0	0.6	0.2	0.0
S.D.		3.83	0.00	0.89	0.45	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43400	0.3	1	1	1	1	1	1	3
43407	0.3	1	1	1	1	1	1	3
43413	0.3	1	1	1	1	1	1	3
43416	0.4	1	1	1	1	1	1	3
43419	0.4	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.05							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43400	1	10.0	0.0	0.0	0.0	0.0
43407	1	10.0	0.0	0.0	0.0	0.0
43413	1	0.0	0.0	0.0	0.0	1.0
43416	1	11.0	0.0	1.0	1.0	0.0
43419	1	14.0	0.0	0.0	0.0	0.0
MEAN		9.0	0.0	0.2	0.2	0.2
S.D.		5.29	0.00	0.45	0.45	0.45
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43402	0.4	1	1	1	1	1	1	3
43426	0.3	1	1	1	1	1	1	3
43442	0.4	1	1	1	1	1	1	3
43446	0.3	1	1	1	1	1	1	3
43461	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.05							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43402	1	14.0	0.0	0.0	1.0	0.0
43426	1	20.0	0.0	0.0	0.0	0.0
43442	1	3.0	0.0	0.0	0.0	0.0
43446	1	13.0	0.0	0.0	0.0	0.0
43461	1	3.0	0.0	0.0	0.0	0.0
MEAN		10.6	0.0	0.0	0.2	0.0
S.D.		7.44	0.00	0.00	0.45	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43401	0.4	1	1	1	1	1	1	3
43410	0.4	1	1	1	1	1	1	3
43421	0.3	1	1	1	1	1	1	3
43429	0.4	1	1	1	1	1	1	3
43430	0.4	1	1	1	1	1	1	3
MEAN	0.4							
S.D.	0.04							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 80 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43401	1	16.0	0.0	0.0	0.0	0.0
43410	1	17.0	0.0	0.0	0.0	0.0
43421	1	2.0	0.0	1.0	0.0	0.0
43429	1	12.0	0.0	1.0	0.0	0.0
43430	1	6.0	0.0	0.0	0.0	0.0
MEAN		10.6	0.0	0.4	0.0	0.0
S.D.		6.47	0.00	0.55	0.00	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

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11/16/2000
R:07/18/2001

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43289	0.2	1	1	1	1	1	1	3
43295	0.3	2	5	1	1	1	2	2
43308	0.4	1	1	1	1	1	1	3
43316	0.3	1	1	1	1	1	1	3
43326	0.4	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.08							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43289	1	7.0	0.0	0.0	0.0	0.0
43295	1	0.0	0.0	0.0	0.0	2.0
43308	1	3.0	0.0	0.0	2.0	2.0
43316	1	5.0	0.0	0.0	0.0	0.0
43326	1	1.0	0.0	0.0	1.0	1.0
MEAN		3.2	0.0	0.0	0.6	1.0
S.D.		2.86	0.00	0.00	0.89	1.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43285	0.3	1	1	1	1	1	1	3
43293	0.4	1	1	1	1	1	1	3
43311	0.3	1	1	1	1	1	1	3
43320	0.3	1	1	1	1	1	1	3
43340	0.4	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.05							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43285	1	7.0	0.0	0.0	0.0	0.0
43293	1	9.0	0.0	1.0	0.0	0.0
43311	1	8.0	0.0	0.0	1.0	1.0
43320	1	8.0	0.0	0.0	1.0	0.0
43340	1	0.0	0.0	0.0	0.0	3.0
MEAN		6.4	0.0	0.2	0.4	0.8
S.D.		3.65	0.00	0.45	0.55	1.30
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43290	0.4	1	1	1	1	1	1	3
43307	0.2	1	1	1	1	1	1	3
43309	0.5	1	1	1	1	1	1	3
43318	0.3	1	1	1	1	1	1	3
43322	0.4	1	1	1	1	1	1	3
MEAN	0.4							
S.D.	0.11							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43290	1	5.0	0.0	0.0	1.0	0.0
43307	1	6.0	0.0	0.0	0.0	0.0
43309	1	7.0	0.0	0.0	1.0	0.0
43318	1	10.0	0.0	0.0	2.0	0.0
43322	1	6.0	0.0	0.0	0.0	0.0
MEAN		6.8	0.0	0.0	0.8	0.0
S.D.		1.92	0.00	0.00	0.84	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43277	0.3	1	1	1	1	1	1	3
43278	0.2	1	1	1	1	1	1	3
43280	0.2	1	1	1	1	1	1	3
43281	0.3	1	1	1	1	1	1	3
43282	0.5	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.12							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43277	1	7.0	0.0	0.0	1.0	0.0
43278	1	2.0	0.0	0.0	2.0	0.0
43280	1	5.0	0.0	0.0	1.0	1.0
43281	1	10.0	0.0	1.0	1.0	0.0
43282	1	0.0	0.0	0.0	0.0	0.0
MEAN		4.8	0.0	0.2	1.0	0.2
S.D.		3.96	0.00	0.45	0.71	0.45
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43398	0.2	1	1	1	1	1	1	3
43405	0.2	1	1	1	1	1	1	3
43409	0.3	1	1	1	1	1	1	3
43423	0.3	1	1	1	1	1	1	3
43432	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.05							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43398	1	20.0	0.0	1.0	0.0	0.0
43405	1	14.0	0.0	0.0	0.0	0.0
43409	1	12.0	0.0	0.0	0.0	0.0
43423	1	4.0	0.0	1.0	0.0	0.0
43432	1	21.0	0.0	0.0	0.0	0.0
MEAN		14.2	0.0	0.4	0.0	0.0
S.D.		6.87	0.00	0.55	0.00	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43400	0.4	1	1	1	1	1	1	3
43407	0.3	1	1	1	1	1	1	3
43413	0.3	1	1	1	1	1	1	3
43416	0.3	1	1	1	1	1	1	3
43419	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.04							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43400	1	17.0	0.0	1.0	0.0	0.0
43407	1	9.0	0.0	1.0	0.0	0.0
43413	1	0.0	0.0	0.0	1.0	3.0
43416	1	16.0	0.0	1.0	0.0	0.0
43419	1	13.0	0.0	0.0	0.0	0.0
MEAN		11.0	0.0	0.6	0.2	0.6
S.D.		6.89	0.00	0.55	0.45	1.34
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43402	0.4	1	1	1	1	1	1	3
43426	0.3	1	1	1	1	1	1	3
43442	0.3	1	1	1	1	1	1	3
43446	0.3	1	1	1	1	1	1	3
43461	0.3	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.04							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43402	1	17.0	0.0	0.0	0.0	0.0
43426	1	10.0	0.0	2.0	0.0	0.0
43442	1	4.0	0.0	0.0	0.0	0.0
43446	1	14.0	0.0	0.0	0.0	0.0
43461	1	8.0	0.0	0.0	0.0	0.0
MEAN		10.6	0.0	0.4	0.0	0.0
S.D.		5.08	0.00	0.89	0.00	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	TIME TO 1ST STEP (seconds)	MOBILITY	GAIT	CONVULSIONS CLONIC	CONVULSIONS TONIC	TREMORS	GAIT SCORE	AROUSAL
43401	0.3	1	1	1	1	1	1	3
43410	0.4	1	1	1	1	1	1	3
43421	0.3	1	1	1	1	1	1	3
43429	0.3	1	1	1	1	1	1	3
43430	0.2	1	1	1	1	1	1	3
MEAN	0.3							
S.D.	0.07							
N	5							

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 81 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

OPEN FIELD OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	BIZARRE/STEREO-TYPIC BEHAVIOR	REARING (counts)	BACKING (counts)	GROOMING (counts)	URINATION (counts)	DEFECATION (counts)
43401	1	14.0	0.0	0.0	0.0	0.0
43410	1	21.0	0.0	0.0	0.0	0.0
43421	1	1.0	0.0	0.0	1.0	0.0
43429	1	12.0	0.0	0.0	0.0	0.0
43430	1	9.0	0.0	1.0	0.0	0.0
MEAN		11.4	0.0	0.2	0.2	0.0
S.D.		7.30	0.00	0.45	0.45	0.00
N		5	5	5	5	5

OBSERVATION SCORE, UNLESS STATED OTHERWISE

PFOBv3.1
11/16/2000
R:07/18/2001

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43289	2	2	2	2	2
43295	2	2	2	2	2
43308	2	2	2	2	2
43316	2	2	2	2	2
43326	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43289	2	2	2	2	1
43295	2	2	2	2	1
43308	2	2	2	2	1
43316	2	2	2	2	1
43326	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43285	2	2	2	2	2
43293	2	2	2	2	2
43311	2	2	2	3	2
43320	2	2	2	2	2
43340	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43285	2	2	2	2	1
43293	2	2	2	2	1
43311	2	2	2	2	1
43320	2	2	2	2	2
43340	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43290	2	2	2	2	2
43307	2	2	2	2	2
43309	2	2	2	2	2
43318	2	2	2	2	2
43322	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43290	2	2	2	2	1
43307	2	2	2	2	1
43309	2	2	2	2	1
43318	2	2	2	2	1
43322	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43277	2	2	2	2	2
43278	2	2	2	2	2
43280	2	2	2	2	2
43281	2	2	2	2	2
43282	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43277	2	2	2	2	1
43278	2	2	2	2	1
43280	2	2	2	2	1
43281	2	2	2	2	1
43282	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43398	2	2	2	2	2
43405	2	2	2	2	2
43409	2	2	2	2	2
43423	2	2	2	2	2
43432	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43398	2	2	2	2	1
43405	2	2	2	2	1
43409	2	2	1	2	2
43423	2	2	2	2	1
43432	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43400	2	2	2	2	2
43407	2	2	2	2	2
43413	2	2	2	2	2
43416	2	2	2	2	2
43419	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43400	2	2	2	2	1
43407	2	2	2	2	1
43413	2	2	2	2	1
43416	2	2	2	2	1
43419	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43402	2	2	2	2	2
43426	2	2	3	3	2
43442	2	2	2	2	2
43446	2	2	2	2	2
43461	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43402	2	2	2	2	1
43426	2	2	2	2	1
43442	2	2	2	2	1
43446	2	2	2	2	1
43461	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43401	2	2	2	2	2
43410	2	2	2	2	2
43421	2	2	2	2	2
43429	2	2	2	2	2
43430	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 82 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43401	2	2	2	2	1
43410	2	2	2	2	1
43421	2	2	2	2	1
43429	2	2	2	2	1
43430	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

PFOBv3.1
11/16/2000
R:07/18/2001

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43289	2	2	2	2	2
43295	2	2	2	2	2
43308	2	2	2	2	2
43316	2	2	2	2	2
43326	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43289	2	2	2	2	1
43295	2	2	2	2	1
43308	2	2	2	2	1
43316	2	2	2	2	1
43326	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43285	2	2	2	2	2
43293	2	2	2	2	2
43311	1	1	2	2	2
43320	2	2	2	2	2
43340	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43285	2	2	2	2	1
43293	2	2	2	2	1
43311	2	2	2	2	1
43320	2	2	2	2	1
43340	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43290	3	3	2	3	2
43307	2	2	2	2	2
43309	2	2	2	2	2
43318	2	2	2	2	2
43322	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43290	2	2	2	2	1
43307	2	2	2	2	1
43309	2	2	2	2	1
43318	2	2	2	2	1
43322	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43277	2	2	2	2	2
43278	2	2	2	2	2
43280	2	2	2	2	2
43281	2	2	2	2	2
43282	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43277	2	2	2	2	1
43278	2	2	2	2	1
43280	2	2	2	2	1
43281	2	2	2	2	1
43282	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43398	2	2	2	2	2
43405	2	2	2	2	2
43409	2	2	2	2	2
43423	2	2	2	2	2
43432	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43398	2	2	2	2	1
43405	2	2	2	2	1
43409	2	2	2	2	1
43423	2	2	2	2	1
43432	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43400	2	2	2	2	2
43407	2	2	2	2	2
43413	2	2	2	2	2
43416	2	2	2	2	2
43419	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43400	2	2	2	2	1
43407	2	2	2	2	1
43413	2	2	2	2	1
43416	2	2	2	2	1
43419	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43402	2	2	2	2	2
43426	2	2	2	2	2
43442	2	2	2	2	2
43446	2	2	2	2	2
43461	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43402	2	2	2	2	1
43426	2	2	2	2	1
43442	2	2	2	2	1
43446	2	2	2	2	1
43461	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43401	2	2	2	2	2
43410	2	2	1	2	2
43421	2	2	2	2	2
43429	2	2	2	2	2
43430	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 83 (WEEK 12 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43401	2	2	2	2	1
43410	2	2	2	2	1
43421	2	2	2	2	1
43429	2	2	2	2	1
43430	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

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TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43289	2	2	2	2	2
43295	2	2	2	2	2
43308	2	2	2	2	2
43316	2	2	2	2	2
43326	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43289	2	2	2	2	1
43295	2	2	2	2	1
43308	2	2	2	2	1
43316	2	2	2	2	1
43326	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43285	2	2	2	2	2
43293	2	2	2	2	2
43311	2	2	2	2	2
43320	2	2	2	2	2
43340	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43285	2	2	2	2	1
43293	2	2	2	2	1
43311	2	2	2	2	1
43320	2	2	2	2	1
43340	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43290	2	2	2	2	2
43307	1	1	2	2	2
43309	2	2	2	2	2
43318	2	2	2	2	2
43322	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43290	2	2	2	2	1
43307	2	2	2	2	1
43309	2	2	2	2	1
43318	2	2	2	2	1
43322	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43277	2	2	2	2	2
43278	2	2	2	2	2
43280	2	2	2	2	2
43281	2	2	2	2	2
43282	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43277	2	2	2	2	1
43278	2	2	2	2	1
43280	2	2	2	2	1
43281	2	2	2	2	1
43282	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43398	2	2	2	2	2
43405	2	2	2	2	2
43409	2	2	2	2	2
43423	2	2	2	2	2
43432	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43398	2	2	2	2	1
43405	2	2	2	2	1
43409	2	2	2	2	1
43423	2	2	2	2	1
43432	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43400	2	2	2	2	2
43407	2	2	2	2	2
43413	3*	3*	2	3	2
43416	2	2	2	2	2
43419	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE
* = ANIMAL VOCALIZED

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43400	2	2	2	2	1
43407	2	2	2	2	1
43413	2	2	2	2	1
43416	2	2	2	2	1
43419	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43402	2	2	2	2	2
43426	2	2	2	2	2
43442	2	2	2	2	2
43446	2	2	2	2	2
43461	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43402	2	2	2	2	1
43426	2	2	2	2	1
43442	2	2	2	2	1
43446	2	2	2	2	1
43461	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	APPROACH RESPONSE	TOUCH RESPONSE	STARTLE RESPONSE	TAIL PINCH RESPONSE	OLFACTORY ORIENTATION
43401	2	2	2	2	2
43410	2	2	2	2	2
43421	2	2	2	2	2
43429	2	2	2	2	2
43430	2	2	2	2	2

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 84 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

SENSORY OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	PUPIL RESPONSE	EYEBLINK RESPONSE	FORELIMB EXTENSION	HINDLIMB EXTENSION	AIR RIGHTING REFLEX
43401	2	2	2	2	1
43410	2	2	2	2	1
43421	2	2	2	2	1
43429	2	2	2	2	1
43430	2	2	2	2	1

OBSERVATION SCORE, UNLESS STATED OTHERWISE

PFOBv3.1
11/16/2000
R:07/18/2001

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43289	3	600.	550.	500.	550.	50.0	275.	325.	300.	300.	25.0
43295	3	625.	700.	500.	608.	101.0	300.	425.	250.	325.	90.1
43308	3	400.	500.	575.	492.	87.8	200.	200.	225.	208.	14.4
43316	3	575.	500.	600.	558.	52.0	325.	250.	300.	292.	38.2
43326	3	475.	425.	500.	467.	38.2	225.	200.	225.	217.	14.4
MEAN					535.0					268.4	
S.D.					56.03					52.56	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: MALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43289	120.0	88.	79.	84.	6.4
43295	120.0	109.	106.	108.	2.1
43308	17.7	93.	56.	75.	26.2
43316	120.0	82.	58.	70.	17.0
43326	120.0	87.	73.	80.	9.9
MEAN	99.5			83.4	
S.D.	45.75			14.72	
N	5			5	

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: MALES

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43285	3	500.	600.	525.	542.	52.0	225.	300.	375.	300.	75.0
43293	3	500.	525.	500.	508.	14.4	200.	250.	200.	217.	28.9
43311	3	900.	650.	800.	783.	125.8	225.	300.	300.	275.	43.3
43320	3	525.	600.	600.	575.	43.3	300.	275.	325.	300.	25.0
43340	3	700.	500.	700.	633.	115.5	225.	200.	250.	225.	25.0
MEAN					608.2					263.4	
S.D.					108.04					40.13	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43285	120.0	89.	82.	86.	4.9
43293	120.0	86.	74.	80.	8.5
43311	120.0	100.	76.	88.	17.0
43320	120.0	90.	74.	82.	11.3
43340	120.0	79.	81.	80.	1.4
MEAN	120.0			83.2	
S.D.	0.00			3.63	
N	5			5	

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43290	3	600.	650.	550.	600.	50.0	200.	275.	325.	267.	62.9
43307	3	625.	850.	675.	717.	118.1	200.	300.	200.	233.	57.7
43309	3	600.	700.	650.	650.	50.0	250.	300.	325.	292.	38.2
43318	3	625.	750.	575.	650.	90.1	125.	300.	200.	208.	87.8
43322	3	475.	575.	600.	550.	66.1	200.	225.	350.	258.	80.4
MEAN					633.4					251.6	
S.D.					62.47					32.24	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: MALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43290	14.5	51.	31.	41.	14.1
43307	120.0	80.	75.	78.	3.5
43309	120.0	73.	72.	73.	0.7
43318	120.0	69.	60.	65.	6.4
43322	120.0	71.	73.	72.	1.4
MEAN	98.9			65.8	
S.D.	47.18			14.62	
N	5			5	

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43277	3	550.	525.	600.	558.	38.2	225.	400.	375.	333.	94.6
43278	3	475.	500.	500.	492.	14.4	325.	250.	225.	267.	52.0
43280	3	600.	675.	575.	617.	52.0	300.	350.	250.	300.	50.0
43281	3	400.	500.	525.	475.	66.1	200.	175.	225.	200.	25.0
43282	3	700.	800.	675.	725.	66.1	300.	325.	325.	317.	14.4
MEAN					573.4					283.4	
S.D.					101.77					52.65	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: MALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43277	120.0	56.	57.	57.	0.7
43278	56.1	53.	29.	41.	17.0
43280	120.0	94.	75.	85.	13.4
43281	63.5	50.	52.	51.	1.4
43282	120.0	102.	108.	105.	4.2
MEAN	95.9			67.8	
S.D.	33.08			26.44	
N	5			5	

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43398	3	400.	550.	600.	517.	104.1	200.	275.	325.	267.	62.9
43405	3	400.	475.	600.	492.	101.0	200.	250.	300.	250.	50.0
43409	3	625.	525.	500.	550.	66.1	300.	325.	300.	308.	14.4
43423	3	375.	450.	400.	408.	38.2	225.	175.	200.	200.	25.0
43432	3	525.	475.	500.	500.	25.0	200.	275.	300.	258.	52.0
MEAN					493.4					256.6	
S.D.					52.68					38.73	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: FEMALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43398	27.8	52.	54.	53.	1.4
43405	10.9	30.	30.	30.	0.0
43409	120.0	59.	57.	58.	1.4
43423	6.0	73.	49.	61.	17.0
43432	120.0	55.	28.	42.	19.1
MEAN	56.9			48.8	
S.D.	58.13			12.76	
N	5			5	

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: FEMALES

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43400	3	400.	550.	600.	517.	104.1	325.	300.	325.	317.	14.4
43407	3	400.	450.	500.	450.	50.0	300.	325.	275.	300.	25.0
43413	3	575.	650.	675.	633.	52.0	200.	250.	200.	217.	28.9
43416	3	500.	750.	625.	625.	125.0	225.	300.	225.	250.	43.3
43419	3	475.	625.	600.	567.	80.4	200.	175.	200.	192.	14.4
MEAN					558.4					255.2	
S.D.					76.71					53.17	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43400	120.0	77.	64.	71.	9.2
43407	120.0	16.	16.	16.	0.0
43413	120.0	73.	70.	72.	2.1
43416	120.0	75.	56.	66.	13.4
43419	9.8	71.	52.	62.	13.4
MEAN	98.0			57.4	
S.D.	49.28			23.49	
N	5			5	

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43402	3	500.	600.	650.	583.	76.4	200.	425.	475.	367.	146.5
43426	3	475.	550.	525.	517.	38.2	325.	350.	375.	350.	25.0
43442	3	600.	600.	550.	583.	28.9	200.	325.	300.	275.	66.1
43446	3	500.	575.	575.	550.	43.3	300.	225.	275.	267.	38.2
43461	3	500.	525.	550.	525.	25.0	225.	275.	225.	242.	28.9
MEAN					551.6					300.2	
S.D.					31.14					54.92	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43402	20.6	62.	60.	61.	1.4
43426	120.0	61.	38.	50.	16.3
43442	25.5	80.	43.	62.	26.2
43446	35.4	20.	37.	29.	12.0
43461	120.0	77.	59.	68.	12.7
MEAN	64.3			54.0	
S.D.	51.13			15.41	
N	5			5	

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43401	3	500.	525.	525.	517.	14.4	300.	300.	250.	283.	28.9
43410	3	500.	500.	550.	517.	28.9	225.	350.	300.	292.	62.9
43421	3	650.	625.	525.	600.	66.1	200.	275.	225.	233.	38.2
43429	3	400.	375.	400.	392.	14.4	225.	175.	200.	200.	25.0
43430	3	650.	675.	500.	608.	94.6	200.	225.	325.	250.	66.1
MEAN					526.8					251.6	
S.D.					87.06					37.51	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 85 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43401	120.0	80.	69.	75.	7.8
43410	120.0	25.	26.	26.	0.7
43421	120.0	66.	89.	78.	16.3
43429	87.8	35.	28.	32.	4.9
43430	120.0	48.	40.	44.	5.7
MEAN	113.6			51.0	
S.D.	14.40			24.19	
N	5			5	

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TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43289	3	1175.	1300.	1425.	1300.	125.0	1025.	600.	800.	808.	212.6
43295	3	1775.	1525.	1775.	1692.	144.3	1200.	650.	1450.	1100.	409.3
43308	3	400.	575.	900.	625.	253.7	700.	800.	675.	725.	66.1
43316	3	1500.	1225.	800.	1175.	352.7	1000.	1000.	675.	892.	187.6
43326	3	1525.	1775.	1350.	1550.	213.6	1300.	1950.	1250.	1500.	390.5
MEAN					1268.4					1005.0	
S.D.					413.04					309.85	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43289	40.9	104.	90.	97.	9.9
43295	120.0	124.	123.	124.	0.7
43308	12.7	101.	83.	92.	12.7
43316	120.0	83.	83.	83.	0.0
43326	65.9	121.	107.	114.	9.9
MEAN	71.9			102.0	
S.D.	47.77			16.69	
N	5			5	

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43285	3	1025.	800.	825.	883.	123.3	625.	875.	800.	767.	128.3
43293	3	1650.	950.	1275.	1292.	350.3	625.	925.	800.	783.	150.7
43311	3	475.	400.	425.	433.	38.2	550.	1075.	1250.	958.	364.3
43320	3	1125.	925.	1150.	1067.	123.3	800.	650.	750.	733.	76.4
43340	3	1400.	1550.	1650.	1533.	125.8	900.	750.	600.	750.	150.0
MEAN					1041.6					798.2	
S.D.					418.44					91.26	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43285	3.7	63.	73.	68.	7.1
43293	2.0	75.	57.	66.	12.7
43311	30.5	53.	72.	63.	13.4
43320	120.0	116.	107.	112.	6.4
43340	64.1	99.	103.	101.	2.8
MEAN	44.1			82.0	
S.D.	49.37			22.77	
N	5			5	

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43290	3	1600.	700.	600.	967.	550.8	925.	1275.	1400.	1200.	246.2
43307	3	1000.	1250.	1575.	1275.	288.3	525.	900.	925.	783.	224.1
43309	3	1675.	1825.	1350.	1617.	242.8	1000.	900.	925.	942.	52.0
43318	3	1000.	950.	975.	975.	25.0	1125.	1125.	600.	950.	303.1
43322	3	1075.	1125.	1475.	1225.	217.9	1025.	1100.	725.	950.	198.4
MEAN					1211.8					965.0	
S.D.					266.63					149.44	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43290	16.9	52.	45.	49.	4.9
43307	77.6	49.	68.	59.	13.4
43309	102.2	108.	96.	102.	8.5
43318	61.6	52.	57.	55.	3.5
43322	7.0	59.	57.	58.	1.4
MEAN	53.1			64.6	
S.D.	40.37			21.27	
N	5			5	

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43277	3	2025.	1250.	1325.	1533.	427.4	650.	1775.	1150.	1192.	563.7
43278	3	1500.	1200.	1750.	1483.	275.4	1025.	725.	625.	792.	208.2
43280	3	1425.	1100.	1050.	1192.	203.6	850.	425.	1050.	775.	319.2
43281	3	1000.	1000.	700.	900.	173.2	1450.	1050.	750.	1083.	351.2
43282	3	1150.	1000.	1925.	1358.	496.4	1150.	825.	975.	983.	162.7
MEAN					1293.2					965.0	
S.D.					256.21					181.53	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43277	31.5	90.	92.	91.	1.4
43278	112.1	53.	67.	60.	9.9
43280	31.3	106.	99.	103.	4.9
43281	120.0	80.	74.	77.	4.2
43282	19.8	104.	77.	91.	19.1
MEAN	62.9			84.4	
S.D.	48.79			16.46	
N	5			5	

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43398	3	775.	425.	475.	558.	189.3	500.	650.	250.	467.	202.1
43405	3	850.	900.	775.	842.	62.9	700.	825.	1050.	858.	177.4
43409	3	1025.	650.	625.	767.	224.1	600.	575.	1000.	725.	238.5
43423	3	1250.	1400.	925.	1192.	242.8	500.	725.	825.	683.	166.5
43432	3	650.	550.	600.	600.	50.0	450.	725.	700.	625.	152.1
MEAN					791.8					671.6	
S.D.					252.36					142.97	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43398	25.3	54.	59.	57.	3.5
43405	61.0	75.	71.	73.	2.8
43409	46.9	73.	66.	70.	4.9
43423	120.0	90.	78.	84.	8.5
43432	18.9	72.	58.	65.	9.9
MEAN	54.4			69.8	
S.D.	40.34			9.98	
N	5			5	

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43400	3	450.	400.	425.	425.	25.0	625.	575.	700.	633.	62.9
43407	3	325.	925.	400.	550.	326.9	400.	525.	725.	550.	163.9
43413	3	1425.	875.	1025.	1108.	284.3	825.	625.	900.	783.	142.2
43416	3	775.	1925.	1550.	1417.	586.5	725.	725.	675.	708.	28.9
43419	3	1125.	975.	1250.	1117.	137.7	1200.	525.	1175.	967.	382.7
MEAN					923.4					728.2	
S.D.					419.23					159.10	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43400	21.2	67.	34.	51.	23.3
43407	35.1	29.	42.	36.	9.2
43413	38.4	96.	105.	101.	6.4
43416	120.0	94.	83.	89.	7.8
43419	22.8	72.	85.	79.	9.2
MEAN	47.5			71.2	
S.D.	41.21			26.99	
N	5			5	

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43402	3	1075.	1600.	1325.	1333.	262.6	475.	1475.	900.	950.	501.9
43426	3	1525.	625.	500.	883.	559.2	875.	600.	625.	700.	152.1
43442	3	725.	1075.	675.	825.	217.9	900.	825.	750.	825.	75.0
43446	3	1300.	600.	600.	833.	404.1	750.	900.	1050.	900.	150.0
43461	3	825.	1125.	750.	900.	198.4	600.	900.	525.	675.	198.4
MEAN					954.8					810.0	
S.D.					213.82					120.68	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: FEMALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43402	45.8	71.	60.	66.	7.8
43426	3.2	61.	43.	52.	12.7
43442	76.7	85.	88.	87.	2.1
43446	120.0	81.	68.	75.	9.2
43461	120.0	98.	76.	87.	15.6
MEAN	73.1			73.4	
S.D.	50.11			14.88	
N	5			5	

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43401	3	800.	1075.	750.	875.	175.0	800.	750.	575.	708.	118.1
43410	3	1350.	1050.	600.	1000.	377.5	800.	650.	900.	783.	125.8
43421	3	1400.	1325.	1400.	1375.	43.3	925.	25.	650.	533.	461.2
43429	3	600.	475.	600.	558.	72.2	775.	900.	650.	775.	125.0
43430	3	925.	775.	950.	883.	94.6	675.	625.	1100.	800.	261.0
MEAN					938.2					719.8	
S.D.					294.20					110.12	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 86 (WEEK 12 EVALUAITON)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43401	30.1	106.	80.	93.	18.4
43410	16.0	47.	31.	39.	11.3
43421	120.0	125.	110.	118.	10.6
43429	120.0	85.	44.	65.	29.0
43430	120.0	103.	90.	97.	9.2
MEAN	81.2			82.4	
S.D.	53.34			30.74	
N	5			5	

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TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43289	3	1000.	1050.	925.	992.	62.9	400.	250.	725.	458.	242.8
43295	3	1050.	1300.	1175.	1175.	125.0	825.	675.	500.	667.	162.7
43308	3	725.	600.	1050.	792.	232.3	575.	400.	450.	475.	90.1
43316	3	1475.	1200.	1025.	1233.	226.8	325.	400.	325.	350.	43.3
43326	3	1025.	1225.	1050.	1100.	109.0	350.	500.	875.	575.	270.4
MEAN					1058.4					505.0	
S.D.					174.06					120.70	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43289	3.7	66.	67.	67.	0.7
43295	120.0	98.	94.	96.	2.8
43308	5.5	60.	64.	62.	2.8
43316	120.0	50.	51.	51.	0.7
43326	8.4	111.	107.	109.	2.8
MEAN	51.5			77.0	
S.D.	62.54			24.42	
N	5			5	

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43285	3	575.	500.	325.	467.	128.3	225.	300.	500.	342.	142.2
43293	3	875.	875.	900.	883.	14.4	550.	700.	800.	683.	125.8
43311	3	250.	925.	275.	483.	382.7	350.	275.	425.	350.	75.0
43320	3	700.	525.	475.	567.	118.1	325.	350.	475.	383.	80.4
43340	3	1325.	950.	825.	1033.	260.2	575.	500.	450.	508.	62.9
MEAN					686.6					453.2	
S.D.					256.20					144.70	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: MALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43285	18.3	35.	37.	36.	1.4
43293	96.9	59.	61.	60.	1.4
43311	2.5	86.	84.	85.	1.4
43320	120.0	64.	58.	61.	4.2
43340	16.8	57.	54.	56.	2.1
MEAN	50.9			59.6	
S.D.	53.52			17.44	
N	5			5	

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43290	3	1100.	400.	400.	633.	404.1	600.	275.	200.	358.	212.6
43307	3	1050.	800.	900.	917.	125.8	375.	250.	400.	342.	80.4
43309	3	1350.	1500.	1675.	1508.	162.7	525.	650.	675.	617.	80.4
43318	3	725.	425.	700.	617.	166.5	400.	400.	350.	383.	28.9
43322	3	1375.	1250.	775.	1133.	316.6	600.	400.	575.	525.	109.0
MEAN					961.6					445.0	
S.D.					373.04					120.42	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: MALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43290	53.7	22.	24.	23.	1.4
43307	79.7	47.	54.	51.	4.9
43309	29.8	80.	84.	82.	2.8
43318	70.3	59.	64.	62.	3.5
43322	44.9	57.	59.	58.	1.4
MEAN	55.7			55.2	
S.D.	19.88			21.37	
N	5			5	

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43277	3	275.	550.	400.	408.	137.7	475.	300.	0.	258.	240.2
43278	3	750.	700.	675.	708.	38.2	375.	375.	450.	400.	43.3
43280	3	1175.	1100.	950.	1075.	114.6	775.	500.	500.	592.	158.8
43281	3	1000.	450.	950.	800.	304.1	925.	850.	975.	917.	62.9
43282	3	1400.	1700.	1525.	1542.	150.7	400.	525.	375.	433.	80.4
MEAN					906.6					520.0	
S.D.					427.64					251.70	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43277	12.0	51.	55.	53.	2.8
43278	8.3	32.	32.	32.	0.0
43280	23.7	59.	53.	56.	4.2
43281	120.0	36.	34.	35.	1.4
43282	9.6	80.	70.	75.	7.1
MEAN	34.7			50.2	
S.D.	48.06			17.46	
N	5			5	

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: FEMALES

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43398	3	700.	400.	625.	575.	156.1	450.	325.	375.	383.	62.9
43405	3	400.	375.	550.	442.	94.6	350.	375.	250.	325.	66.1
43409	3	350.	450.	725.	508.	194.2	475.	425.	275.	392.	104.1
43423	3	1275.	1425.	1225.	1308.	104.1	375.	600.	300.	425.	156.1
43432	3	600.	650.	475.	575.	90.1	350.	200.	425.	325.	114.6
MEAN					681.6					370.0	
S.D.					354.49					43.95	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43398	120.0	46.	35.	41.	7.8
43405	120.0	68.	59.	64.	6.4
43409	120.0	47.	42.	45.	3.5
43423	120.0	50.	48.	49.	1.4
43432	43.2	32.	26.	29.	4.2
MEAN	104.6			45.6	
S.D.	34.35			12.72	
N	5			5	

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43400	3	225.	300.	525.	350.	156.1	100.	275.	300.	225.	109.0
43407	3	125.	325.	175.	208.	104.1	225.	200.	250.	225.	25.0
43413	3	725.	575.	700.	667.	80.4	350.	325.	300.	325.	25.0
43416	3	850.	1100.	1000.	983.	125.8	350.	375.	400.	375.	25.0
43419	3	825.	1350.	1025.	1067.	265.0	325.	775.	600.	567.	226.8
MEAN					655.0					343.4	
S.D.					377.59					140.86	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: FEMALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43400	84.6	45.	35.	40.	7.1
43407	10.6	17.	14.	16.	2.1
43413	120.0	59.	53.	56.	4.2
43416	120.0	59.	59.	59.	0.0
43419	11.6	9.	13.	11.	2.8
MEAN	69.4			36.4	
S.D.	55.11			22.19	
N	5			5	

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43402	3	975.	950.	800.	908.	94.6	500.	450.	575.	508.	62.9
43426	3	175.	225.	425.	275.	132.3	300.	300.	150.	250.	86.6
43442	3	575.	300.	1325.	733.	530.5	375.	375.	750.	500.	216.5
43446	3	1225.	350.	250.	608.	536.4	325.	450.	500.	425.	90.1
43461	3	1175.	1000.	750.	975.	213.6	325.	550.	100.	325.	225.0
MEAN					699.8					401.6	
S.D.					277.97					112.25	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 16

SEX: FEMALES

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43402	120.0	50.	60.	55.	7.1
43426	120.0	31.	27.	29.	2.8
43442	3.0	55.	64.	60.	6.4
43446	120.0	47.	31.	39.	11.3
43461	120.0	45.	44.	45.	0.7
MEAN	96.6			45.6	
S.D.	52.32			12.40	
N	5			5	

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	HINDLIMB EXTENSOR STRENGTH	FORELIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.	HINDLIMB GRIP STRENGTH (grams) 1	2	3	MEAN	S.D.
43401	3	950.	900.	575.	808.	203.6	625.	450.	325.	467.	150.7
43410	3	400.	325.	450.	392.	62.9	250.	375.	225.	283.	80.4
43421	3	1300.	750.	650.	900.	350.0	550.	450.	775.	592.	166.5
43429	3	600.	500.	550.	550.	50.0	375.	400.	375.	383.	14.4
43430	3	1050.	1125.	1300.	1158.	128.3	275.	675.	550.	500.	204.6
MEAN					761.6					445.0	
S.D.					299.92					117.48	
N					5					5	

OBSERVATION SCORE, UNLESS STATED OTHERWISE

TABLE 87 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

NEUROMUSCULAR OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	ROTAROD PERFORMANCE (seconds)	HINDLIMB FOOTSPLAY (mm) 1	2	MEAN	S.D.
43401	30.7	63.	51.	57.	8.5
43410	120.0	27.	26.	27.	0.7
43421	120.0	41.	45.	43.	2.8
43429	120.0	43.	50.	47.	4.9
43430	120.0	44.	42.	43.	1.4
MEAN	102.1			43.4	
S.D.	39.94			10.81	
N	5			5	

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TABLE 88 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: MALES

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43289	0.5	38.4	227.5
43295	0.7	38.1	249.9
43308	0.6	37.9	221.4
43316	0.7	38.3	227.0
43326	0.4	38.2	205.4
MEAN	0.6	38.2	226.2
S.D.	0.13	0.19	15.97
N	5	5	5

TABLE 88 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43285	0.4	38.7	245.0
43293	0.5	38.8	236.0
43311	1.0	37.7	226.1
43320	0.5	38.0	230.2
43340	0.8	38.2	183.3
MEAN	0.6	38.3	224.1
S.D.	0.25	0.47	23.90
N	5	5	5

TABLE 88 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: MALES

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43290	0.4	37.8	209.8
43307	0.8	38.2	230.2
43309	0.6	38.0	274.9
43318	0.7	38.6	249.7
43322	0.6	38.5	226.5
MEAN	0.6	38.2	238.2
S.D.	0.15	0.33	24.93
N	5	5	5

TABLE 88 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43277	0.6	38.4	206.6
43278	0.4	38.1	228.7
43280	0.8	37.6	234.6
43281	0.4	38.4	234.4
43282	0.6	38.0	205.3
MEAN	0.6	38.1	221.9
S.D.	0.17	0.33	14.78
N	5	5	5

TABLE 88 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43398	0.6	38.5	158.8
43405	0.6	38.1	185.2
43409	0.7	37.8	161.6
43423	0.5	38.2	168.0
43432	0.4	38.5	187.2
MEAN	0.6	38.2	172.2
S.D.	0.11	0.29	13.26
N	5	5	5

TABLE 88 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43400	0.7	38.5	190.1
43407	0.6	38.6	167.0
43413	0.5	38.5	164.4
43416	0.4	38.8	167.7
43419	0.6	38.2	163.1
MEAN	0.6	38.5	170.5
S.D.	0.11	0.22	11.14
N	5	5	5

TABLE 88 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: PRETEST

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43402	0.6	38.6	194.8
43426	0.7	38.8	151.2
43442	0.7	38.5	170.7
43446	0.5	38.8	151.2
43461	0.5	38.4	184.2
MEAN	0.6	38.6	170.4
S.D.	0.10	0.18	19.51
N	5	5	5

TABLE 88 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY
TEST PERIOD: PRETEST

SEX: FEMALES

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43401	0.6	38.0	202.0
43410	0.5	38.9	146.6
43421	0.7	38.7	185.7
43429	0.7	38.5	174.9
43430	0.5	38.5	183.0
MEAN	0.6	38.5	178.4
S.D.	0.10	0.33	20.34
N	5	5	5

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TABLE 89 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43289	0.4	37.9	568.5
43295	0.6	38.3	590.0
43308	0.3	38.3	566.1
43316	0.3	39.4	505.8
43326	0.3	38.5	505.6
MEAN	0.4	38.5	547.2
S.D.	0.13	0.56	39.01
N	5	5	5

TABLE 89 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43285	0.3	38.2	613.8
43293	0.0	38.4	597.6
43311	0.5	37.3	499.2
43320	0.8	39.0	476.4
43340	0.4	39.2	389.8
MEAN	0.5	38.4	515.4
S.D.	0.22	0.75	92.19
N	4	5	5

TABLE 89 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43290	0.3	38.7	503.0
43307	0.3	36.5	565.7
43309	0.5	38.2	633.9
43318	0.4	38.7	586.6
43322	0.2	38.1	505.8
MEAN	0.3	38.0	559.0
S.D.	0.11	0.90	55.64
N	5	5	5

TABLE 89 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY
TEST PERIOD: WEEK 12

SEX: MALES

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43277	0.3	39.0	521.2
43278	0.4	38.5	509.0
43280	2.6	37.5	597.5
43281	0.3	38.6	524.5
43282	0.5	38.0	418.6
MEAN	0.8	38.3	514.2
S.D.	1.00	0.58	63.76
N	5	5	5

TABLE 89 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43398	0.3	38.7	259.3
43405	0.3	38.6	345.4
43409	0.4	39.1	288.1
43423	0.6	38.7	278.2
43432	0.4	38.7	315.8
MEAN	0.4	38.8	297.4
S.D.	0.12	0.19	33.72
N	5	5	5

TABLE 89 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43400	0.6	38.9	336.9
43407	0.3	39.2	258.6
43413	0.4	38.6	305.1
43416	0.4	39.2	303.6
43419	0.1	39.0	244.4
MEAN	0.4	39.0	289.7
S.D.	0.18	0.25	37.67
N	5	5	5

TABLE 89 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43402	0.6	39.4	330.6
43426	0.4	37.9	253.0
43442	0.0	38.4	310.5
43446	0.3	39.1	235.2
43461	0.3	39.0	320.5
MEAN	0.4	38.8	290.0
S.D.	0.14	0.60	42.93
N	4	5	5

TABLE 89 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 12

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43401	0.5	37.9	378.5
43410	0.5	39.2	259.3
43421	0.4	39.4	341.9
43429	0.3	39.5	306.6
43430	0.5	39.5	300.3
MEAN	0.4	39.1	317.3
S.D.	0.09	0.68	45.05
N	5	5	5

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TABLE 90 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43289	1.2	37.8	599.7
43295	3.8	38.2	598.0
43308	0.7	38.7	584.3
43316	0.6	39.0	538.2
43326	0.5	37.7	538.5
MEAN	1.4	38.3	571.7
S.D.	1.39	0.56	31.06
N	5	5	5

TABLE 90 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43285	0.4	38.9	626.0
43293	0.7	38.3	601.9
43311	0.5	39.1	508.9
43320	0.7	38.1	500.7
43340	0.4	37.8	402.6
MEAN	0.5	38.4	528.0
S.D.	0.15	0.55	89.30
N	5	5	5

TABLE 90 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43290	0.3	38.9	502.5
43307	0.6	39.0	570.4
43309	0.6	38.4	630.5
43318	0.4	38.0	596.0
43322	0.4	37.9	516.7
MEAN	0.5	38.4	563.2
S.D.	0.13	0.50	53.63
N	5	5	5

TABLE 90 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: MALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43277	0.7	37.9	526.9
43278	0.4	38.2	509.4
43280	1.4	38.4	628.9
43281	0.5	38.7	540.5
43282	0.5	37.9	426.1
MEAN	0.7	38.2	526.4
S.D.	0.41	0.34	72.55
N	5	5	5

TABLE 90 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 1
DOSE LEVEL: 0 MG/KG/DAY
SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43398	0.8	0.0	262.2
43405	0.4	38.6	347.3
43409	0.5	39.1	285.7
43423	0.4	37.5	290.7
43432	0.3	38.5	323.1
MEAN	0.5	38.4	301.8
S.D.	0.19	0.67	33.45
N	5	4	5

TABLE 90 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 2
DOSE LEVEL: 100 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43400	0.6	37.2	332.8
43407	0.5	38.1	274.2
43413	0.8	37.8	303.9
43416	0.5	38.4	308.0
43419	0.8	38.2	262.0
MEAN	0.6	37.9	296.2
S.D.	0.15	0.47	28.25
N	5	5	5

TABLE 90 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 3
DOSE LEVEL: 300 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43402	2.4	38.1	352.4
43426	0.5	38.3	263.1
43442	0.3	38.9	298.7
43446	0.5	38.7	247.6
43461	0.4	38.3	320.7
MEAN	0.8	38.5	296.5
S.D.	0.89	0.33	42.49
N	5	5	5

TABLE 90 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL FUNCTIONAL OBSERVATIONAL BATTERY DATA

PHYSIOLOGICAL OBSERVATIONS

DOSE GROUP: 4
DOSE LEVEL: 1000 MG/KG/DAY SEX: FEMALES
TEST PERIOD: WEEK 16

ANIMAL NUMBER	CATALEPSY (seconds)	BODY TEMPERATURE (degrees C)	BODY WEIGHT (grams)
43401	0.5	38.0	358.2
43410	0.7	38.2	249.7
43421	0.5	37.9	320.6
43429	0.6	38.9	301.5
43430	1.0	38.5	302.0
MEAN	0.7	38.3	306.4
S.D.	0.21	0.41	39.19
N	5	5	5

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TABLE 91 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 0 MG/KG/DAY
TEST PERIOD: PRETEST

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43289	735	290	128	47	5	0	10	2	878	339
43295	744	289	429	132	221	57	0	0	1394	478
43308	532	202	25	0	5	2	0	0	562	204
43316	461	183	77	4	0	0	0	0	538	187
43326	593	215	473	155	12	2	270	49	1348	421
MEAN	613.	236.	226.	68.	49.	12.	56.	10.	944.	326.
S.D.	124.6	50.3	208.8	72.2	96.5	25.1	119.7	21.7	412.6	128.9
N	5									

TABLE 91 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 100 MG/KG/DAY
TEST PERIOD: PRETEST

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43285	982	395	194	56	15	2	7	0	1198	453
43293	831	292	283	67	83	17	32	0	1229	376
43311	230	57	6	0	5	0	10	0	251	57
43320	272	69	116	20	3	0	1	0	392	89
43340	322	117	2	0	3	0	23	0	350	117
MEAN	527.	186.	120.	29.	22.	4.	15.	0.	684.	218.
S.D.	351.7	150.0	121.4	31.4	34.6	7.4	12.6	0.0	486.2	182.3
N	5									

TABLE 91 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 300 MG/KG/DAY
TEST PERIOD: PRETEST

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43290	146	30	385	120	21	0	166	38	718	188
43307	491	186	158	30	0	0	240	69	889	285
43309	452	139	153	4	52	1	6	0	663	144
43318	529	176	23	2	6	0	20	0	578	178
43322	284	80	254	57	31	1	0	0	569	138
MEAN	380.	122.	195.	43.	22.	0.	86.	21.	683.	187.
S.D.	161.0	66.2	134.4	48.7	20.7	0.5	109.8	31.3	130.5	59.0
N	5									

TABLE 91 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 1000 MG/KG/DAY
TEST PERIOD: PRETEST

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43277	632	253	168	66	122	9	1	0	923	328
43278	525	166	270	78	0	0	0	0	795	244
43280	116	1	57	6	38	0	4	0	215	7
43281	370	122	21	4	7	0	0	0	398	126
43282	298	86	101	19	0	0	6	0	405	105
MEAN	388.	126.	123.	35.	33.	2.	2.	0.	547.	162.
S.D.	200.4	93.5	98.6	34.9	52.0	4.0	2.7	0.0	298.1	125.3
N	5									

TABLE 91 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 0 MG/KG/DAY
TEST PERIOD: PRETEST

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43398	641	275	329	129	255	88	109	54	1334	546
43405	535	201	506	211	224	65	76	2	1341	479
43409	776	296	193	60	13	0	0	0	982	356
43423	354	120	175	73	0	0	0	0	529	193
43432	519	161	96	8	0	0	3	0	618	169
MEAN	565.	211.	260.	96.	98.	31.	38.	11.	961.	349.
S.D.	156.4	74.5	161.2	77.3	129.4	42.7	51.5	23.9	383.5	167.7
N	5									

TABLE 91 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 100 MG/KG/DAY
TEST PERIOD: PRETEST

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43400	639	249	256	96	5	1	0	0	900	346
43407	717	275	55	6	484	139	46	0	1302	420
43413	90	22	8	0	0	0	10	0	108	22
43416	463	158	290	75	17	0	270	96	1040	329
43419	645	275	264	83	0	0	0	0	909	358
MEAN	511.	196.	175.	52.	101.	28.	65.	19.	852.	295.
S.D.	253.1	108.4	132.3	45.4	214.1	62.1	116.0	42.9	446.4	156.4
N	5									

TABLE 91 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 300 MG/KG/DAY
TEST PERIOD: PRETEST

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43402	698	287	168	52	86	0	78	6	1030	345
43426	605	221	51	5	59	13	17	0	732	239
43442	445	136	0	0	159	70	164	51	768	257
43446	783	328	260	99	22	0	34	0	1099	427
43461	777	257	147	28	15	0	412	150	1351	435
MEAN	662.	246.	125.	37.	68.	17.	141.	41.	996.	341.
S.D.	141.0	72.9	102.1	40.4	58.3	30.4	161.8	64.4	254.7	91.8
N	5									

TABLE 91 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 1000 MG/KG/DAY
TEST PERIOD: PRETEST

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43401	773	243	22	0	396	155	23	0	1214	398
43410	799	342	380	148	64	25	128	62	1371	577
43421	576	204	39	2	1	0	26	0	642	206
43429	550	210	313	104	23	0	90	39	976	353
43430	405	150	57	13	1	0	6	0	469	163
MEAN	621.	230.	162.	53.	97.	36.	55.	20.	934.	339.
S.D.	164.7	71.0	170.4	68.3	169.1	67.4	52.0	28.8	378.4	165.1
N	5									

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TABLE 92 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43289	731	236	176	30	0	0	84	25	991	291
43295	607	108	234	19	31	4	104	24	976	155
43308	397	118	33	3	0	0	49	6	479	127
43316	265	41	353	53	277	47	2	0	897	141
43326	313	55	175	26	190	18	150	25	828	124
MEAN	463.	112.	194.	26.	100.	14.	78.	16.	834.	168.
S.D.	199.1	77.0	115.6	18.2	126.7	20.0	55.9	12.1	209.1	70.1
N	5									

TABLE 92 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 100 MG/KG/DAY
TEST PERIOD: WEEK 12

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43285	639	107	243	28	232	38	0	0	1114	173
43293	797	212	384	40	207	43	245	51	1633	346
43311	392	71	300	58	113	23	12	3	817	155
43320	219	22	145	8	83	13	246	41	693	84
43340	151	38	58	0	173	25	47	0	429	63
MEAN	440.	90.	226.	27.	162.	28.	110.	19.	937.	164.
S.D.	274.6	75.6	128.0	23.6	62.6	12.1	124.9	24.9	460.4	111.7
N	5									

TABLE 92 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 300 MG/KG/DAY
TEST PERIOD: WEEK 12

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43290	267	41	326	60	117	15	216	43	926	159
43307	842	224	244	77	280	76	69	20	1435	397
43309	684	188	216	33	45	9	17	0	962	230
43318	441	126	91	12	18	2	244	36	794	176
43322	486	124	173	34	483	143	9	2	1151	303
MEAN	544.	141.	210.	43.	189.	49.	111.	20.	1054.	253.
S.D.	223.1	70.0	86.9	25.4	193.6	60.3	111.5	19.4	248.5	98.1
N	5									

TABLE 92 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 1000 MG/KG/DAY
TEST PERIOD: WEEK 12

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43277	930	234	204	34	227	39	0	0	1361	307
43278	840	174	146	28	74	15	1	0	1061	217
43280	349	57	305	59	221	54	197	40	1072	210
43281	538	100	356	106	216	48	80	27	1190	281
43282	670	89	188	28	278	46	0	0	1136	163
MEAN	665.	131.	240.	51.	203.	40.	56.	13.	1164.	236.
S.D.	232.8	71.9	87.3	33.3	76.4	15.2	86.2	18.9	121.8	57.9
N	5									

TABLE 92 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 0 MG/KG/DAY
TEST PERIOD: WEEK 12

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43398	352	162	136	53	150	57	138	70	776	342
43405	331	107	324	84	136	50	274	111	1065	352
43409	538	125	74	21	323	109	265	61	1200	316
43423	88	32	226	67	151	31	0	0	465	130
43432	280	75	15	6	142	49	18	4	455	134
MEAN	318.	100.	155.	46.	180.	59.	139.	49.	792.	255.
S.D.	161.3	49.4	122.6	32.2	80.0	29.4	130.4	47.0	339.8	112.9
N	5									

TABLE 92 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 100 MG/KG/DAY
TEST PERIOD: WEEK 12

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43400	595	201	112	21	260	82	441	149	1408	453
43407	377	103	209	24	74	12	355	73	1015	212
43413	47	6	19	0	0	0	41	0	107	6
43416	234	64	9	0	33	4	11	0	287	68
43419	383	131	155	71	146	66	0	0	684	268
MEAN	327.	101.	101.	23.	103.	33.	170.	44.	700.	201.
S.D.	202.8	73.0	86.4	29.0	103.5	38.3	211.2	66.5	529.8	175.9
N	5									

TABLE 92 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 300 MG/KG/DAY
TEST PERIOD: WEEK 12

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43402	650	279	225	79	349	106	207	66	1431	530
43426	511	170	59	15	151	40	298	106	1019	331
43442	256	40	401	43	98	18	126	30	881	131
43446	550	235	241	109	103	17	104	44	998	405
43461	515	174	15	0	31	5	131	27	692	206
MEAN	496.	180.	188.	49.	146.	37.	173.	55.	1004.	321.
S.D.	145.6	90.2	155.0	45.0	121.0	40.5	79.9	32.6	271.6	158.2
N	5									

TABLE 92 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 1000 MG/KG/DAY
TEST PERIOD: WEEK 12

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43401	649	236	363	91	197	16	312	103	1521	446
43410	388	158	114	36	230	45	76	12	808	251
43421	658	184	125	25	256	66	88	18	1127	293
43429	800	274	166	68	371	115	91	21	1428	478
43430	432	152	79	26	61	6	227	45	799	229
MEAN	585.	201.	169.	49.	223.	50.	159.	40.	1137.	339.
S.D.	171.7	52.7	112.6	29.1	111.8	43.6	105.6	37.5	337.2	114.8
N	5									

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TABLE 93 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 0 MG/KG/DAY
TEST PERIOD: WEEK 16

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43289	621	162	181	35	0	0	110	25	912	222
43295	300	55	17	2	198	28	19	4	534	89
43308	451	122	14	0	3	0	7	0	475	122
43316	298	55	328	63	84	19	15	0	725	137
43326	423	94	486	77	97	18	100	12	1106	201
MEAN	419.	98.	205.	35.	76.	13.	50.	8.	750.	154.
S.D.	132.9	45.8	204.0	34.9	81.4	12.5	50.3	10.6	262.6	55.6
N	5									

TABLE 93 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 100 MG/KG/DAY
TEST PERIOD: WEEK 16

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43285	680	135	156	26	183	32	47	9	1066	202
43293	683	159	374	86	46	18	45	9	1148	272
43311	360	66	89	12	13	0	95	9	557	87
43320	409	82	234	33	51	7	47	4	741	126
43340	205	36	225	39	68	8	139	29	637	112
MEAN	467.	96.	216.	39.	72.	13.	75.	12.	830.	160.
S.D.	209.5	50.5	106.2	28.0	65.1	12.4	41.7	9.7	262.9	76.0
N	5									

TABLE 93 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 300 MG/KG/DAY
TEST PERIOD: WEEK 16

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43290	342	72	63	9	131	20	16	1	552	102
43307	431	74	32	2	110	3	6	0	579	79
43309	448	112	83	8	29	7	44	10	604	137
43318	372	77	16	3	57	19	5	1	450	100
43322	388	66	150	27	54	2	5	2	597	97
MEAN	396.	80.	69.	10.	76.	10.	15.	3.	556.	103.
S.D.	43.3	18.2	52.4	10.1	42.5	8.7	16.8	4.1	62.8	21.1
N	5									

TABLE 93 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

MALE GROUP: 1000 MG/KG/DAY
TEST PERIOD: WEEK 16

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43277	626	197	106	22	2	0	7	0	741	219
43278	567	114	25	6	30	5	6	0	628	125
43280	489	83	102	11	128	11	24	1	743	106
43281	346	96	355	63	49	13	240	64	990	236
43282	635	144	116	18	18	0	21	4	790	166
MEAN	533.	127.	141.	24.	45.	6.	60.	14.	778.	170.
S.D.	119.5	45.4	125.1	22.7	49.3	6.1	101.2	28.1	132.5	56.8
N	5									

TABLE 93 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 0 MG/KG/DAY
TEST PERIOD: WEEK 16

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43398	369	151	374	158	85	38	224	93	1052	440
43405	347	113	485	194	418	160	407	152	1657	619
43409	585	199	132	22	163	58	3	0	883	279
43423	515	157	186	67	4	0	218	68	923	292
43432	299	82	145	34	57	17	12	2	513	135
MEAN	423.	140.	264.	95.	145.	55.	173.	63.	1006.	353.
S.D.	121.2	44.7	157.0	76.8	162.8	62.8	169.0	64.3	415.6	183.7
N	5									

TABLE 93 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 100 MG/KG/DAY
TEST PERIOD: WEEK 16

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43400	497	214	62	25	212	60	580	218	1351	517
43407	618	203	183	43	119	26	303	80	1223	352
43413	59	10	7	1	9	1	11	0	86	12
43416	303	75	93	30	2	0	221	10	619	115
43419	683	303	227	88	156	70	0	0	1066	461
MEAN	432.	161.	114.	37.	100.	31.	223.	62.	869.	291.
S.D.	253.8	117.2	89.6	32.1	92.1	32.6	239.0	93.6	517.7	219.4
N	5									

TABLE 93 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 300 MG/KG/DAY
TEST PERIOD: WEEK 16

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43402	625	222	431	120	250	74	97	35	1403	451
43426	349	116	1	0	75	27	33	4	458	147
43442	530	173	46	20	326	80	70	27	972	300
43446	611	228	497	179	267	115	153	54	1528	576
43461	392	122	43	11	6	0	432	92	873	225
MEAN	501.	172.	204.	66.	185.	59.	157.	42.	1047.	340.
S.D.	125.8	53.1	239.5	79.3	136.9	45.6	159.8	33.0	430.4	173.3
N	5									

TABLE 93 (WEEK 16 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MOTOR ACTIVITY COUNTS

FEMALE GROUP: 1000 MG/KG/DAY
TEST PERIOD: WEEK 16

ANIMAL	0 TO 15 MINS TOTAL	0 TO 15 MINS AMB	16 TO 30 MINS TOTAL	16 TO 30 MINS AMB	31 TO 45 MINS TOTAL	31 TO 45 MINS AMB	46 TO 60 MINS TOTAL	46 TO 60 MINS AMB	COMBINED TOTAL	COMBINED AMB
43401	519	187	47	2	192	55	77	19	835	263
43410	810	299	305	106	365	130	150	29	1630	564
43421	677	184	106	29	221	43	354	106	1358	362
43429	536	213	415	168	40	20	396	122	1387	523
43430	349	110	113	29	146	46	2	0	610	185
MEAN	578.	199.	197.	67.	193.	59.	196.	55.	1164.	379.
S.D.	174.1	68.0	155.7	68.6	118.3	41.8	172.4	55.0	424.2	163.0
N	5									

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FINAL REPORT

Volume 3 of 4
(Individual Tables 94-121)

STUDY TITLE

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

STUDY DIRECTOR

Christopher P. Chengelis, Ph.D., D.A.B.T.

STUDY INITIATED ON

March 2, 2000

STUDY COMPLETION DATE

December 14, 2001

PERFORMING LABORATORY

WIL Research Laboratories, Inc.
1407 George Road
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LABORATORY STUDY NUMBER

WIL-186012

SPONSOR

Chemical Manufacturers Association
Brominated Flame Retardant Industry Panel (BFRIP)
1300 Wilson Blvd.
Arlington, VA 22209

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 94 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL
GROUP: 0 MG/KG/DAY		MALES						
43365	14.6	6.95	13.8	39.8	57.2	19.8	34.6	799.
43368	20.7	7.53	14.7	42.3	56.2	19.6	34.8	833.
43369	21.2	7.00	14.3	40.6	58.0	20.4	35.1	1023.
43379	14.7	7.13	14.4	41.5	58.3	20.2	34.7	1236.
43391	12.3	7.21	13.9	40.1	55.6	19.2	34.6	973.
MEAN	16.7	7.16	14.2	40.9	57.1	19.8	34.8	973.
S.D.	4.00	0.229	0.37	1.03	1.15	0.48	0.21	174.3
N	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 94 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL
GROUP: 100 MG/KG/DAY		MALES						
43371	10.7	7.24	14.6	41.8	57.7	20.2	35.0	1064.
43380	13.9	7.36	15.1	43.3	58.7	20.5	34.9	1068.
43382	11.6	7.31	14.6	42.8	58.6	20.0	34.0	986.
43384	13.0	7.42	14.3	41.6	56.0	19.3	34.5	1058.
43386	16.1	7.57	14.9	42.9	56.7	19.7	34.8	1368.
MEAN	13.1	7.38	14.7	42.5	57.5	19.9	34.6	1109.
S.D.	2.10	0.125	0.31	0.74	1.18	0.46	0.40	148.8
N	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 94 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL
GROUP: 300 MG/KG/DAY		MALES						
43363	7.3	7.47	15.2	43.9	58.8	20.3	34.5	1086.
43383	12.9	7.40	14.8	41.9	56.7	20.1	35.4	894.
43385	16.0	7.21	14.8	42.6	59.0	20.5	34.8	1115.
43388	13.7	7.61	14.9	43.0	56.5	19.6	34.7	958.
43392	15.1	7.06	14.7	41.9	59.3	20.8	35.0	942.
MEAN	13.0	7.35	14.9	42.7	58.1	20.3	34.9	999.
S.D.	3.41	0.217	0.19	0.84	1.35	0.45	0.34	96.2
N	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

PROJECT NO.:WIL-186012
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TABLE 94 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL
GROUP: 1000 MG/KG/DAY		MALES						
43362	17.1	7.35	14.2	41.4	56.2	19.3	34.4	1198.
43372	16.1	6.59	14.1	40.1	60.8	21.4	35.1	1015.
43373	10.1	7.60	14.5	42.3	55.6	19.1	34.3	1108.
43377	15.7	7.40	14.8	43.2	58.3	20.0	34.4	1026.
43397	11.0	7.21	14.5	42.3	58.7	20.1	34.2	884.
MEAN	14.0	7.23	14.4	41.9	57.9	20.0	34.5	1046.
S.D.	3.21	0.384	0.28	1.17	2.08	0.90	0.36	116.8
N	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 94 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL
GROUP: 0 MG/KG/DAY		FEMALES						
43467	10.7	7.01	13.6	40.4	57.6	19.4	33.7	1117.
43474	9.3	7.24	14.0	40.0	55.3	19.4	35.0	1223.
43483	8.9	6.83	13.3	39.6	58.0	19.5	33.7	1100.
43497	12.3	6.80	14.2	40.8	60.0	21.0	34.9	1524.
43501	8.3	6.53	13.3	38.8	59.5	20.4	34.3	1099.
MEAN	9.9	6.88	13.7	39.9	58.1	19.9	34.3	1213.
S.D.	1.61	0.264	0.41	0.77	1.85	0.73	0.63	181.5
N	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 94 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL
GROUP: 100 MG/KG/DAY		FEMALES						
43486	6.9	6.80	14.3	40.8	60.1	21.0	35.0	1110.
43489	9.5	7.15	14.2	41.8	58.5	19.8	33.8	1056.
43502	14.1	7.29	14.7	43.2	59.3	20.2	34.0	1054.
43511	11.2	7.06	14.3	41.9	59.3	20.3	34.2	1009.
43515	7.2	6.17	12.0	34.8	56.5	19.5	34.6	672.
MEAN	9.8	6.89	13.9	40.5	58.7	20.2	34.3	980.
S.D.	2.99	0.442	1.08	3.30	1.37	0.57	0.48	176.0
N	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 94 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL
GROUP: 300 MG/KG/DAY		FEMALES						
43496	15.8	6.70	13.5	39.9	59.5	20.1	33.8	946.
43508	12.5	7.35	14.6	42.4	57.8	19.9	34.5	1142.
43513	14.9	6.91	14.0	41.7	60.4	20.2	33.5	1200.
43516	6.6	7.25	14.5	43.1	59.4	20.0	33.6	1099.
43517	16.2	6.82	13.9	40.9	59.9	20.4	34.1	1099.
MEAN	13.2	7.01	14.1	41.6	59.4	20.1	33.9	1097.
S.D.	3.96	0.281	0.45	1.25	0.98	0.19	0.41	94.1
N	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 94 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL
GROUP: 1000 MG/KG/DAY		FEMALES						
43479	9.5	6.82	14.1	41.9	61.5	20.7	33.7	962.
43481	13.5	6.85	14.3	41.3	60.3	20.8	34.6	1227.
43484	11.4	7.12	13.7	40.1	56.3	19.2	34.1	1291.
43492	11.9	7.20	14.5	42.9	59.5	20.1	33.7	1056.
43503	11.1	7.66	15.1	44.8	58.4	19.7	33.8	1070.
MEAN	11.5	7.13	14.3	42.2	59.2	20.1	34.0	1121.
S.D.	1.44	0.339	0.52	1.77	1.98	0.67	0.38	134.4
N	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 95 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 0 MG/KG/DAY		MALES								
43332	13.5	8.20	15.6	44.0	53.7	19.0	35.5	1379.	13.9	21.8
43334	12.5	7.83	14.6	41.3	52.7	18.7	35.4	1246.	14.0	19.9
43336	11.2	9.02	15.3	45.2	50.1	17.0	33.9	1317.	13.5	19.7
43339	22.2	8.59	15.6	43.8	51.0	18.2	35.7	1293.	13.8	22.0
43349	11.1	7.65	13.8	39.0	51.0	18.1	35.4	1067.	13.0	20.7
43365	11.3	7.19	13.2	36.8	51.2	18.4	36.0	1032.	13.6	22.4
43368	15.8	7.83	13.8	38.8	49.5	17.6	35.5	1968.	13.9	20.1
43369	17.1	7.67	14.4	40.6	52.9	18.8	35.5	1125.	13.2	17.5
43379	11.1	7.98	14.8	41.5	52.0	18.5	35.6	1318.	13.2	15.6
43391	15.9	8.10	14.7	41.6	51.4	18.1	35.3	1238.	13.1	19.1
MEAN	14.2	8.01	14.6	41.3	51.6	18.2	35.4	1298.	13.5	19.9
S.D.	3.62	0.515	0.80	2.61	1.29	0.59	0.56	261.7	0.37	2.10
N	10	10	10	10	10	10	10	10	10	10

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 95 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 100 MG/KG/DAY		MALES								
43342	15.2	8.43	15.4	42.8	50.8	18.3	36.1	1260.	19.7	25.7
43350	11.2	7.91	14.3	40.3	50.9	18.1	35.6	1419.	16.7	24.2
43351	10.4	8.46	15.0	42.8	50.6	17.7	35.1	1253.	14.1	23.5
43354	15.0	8.00	14.6	39.9	49.9	18.3	36.6	1553.	14.7	21.9
43364	14.3	8.27	15.6	44.2	53.5	18.8	35.2	1007.	14.0	20.6
43371	10.8	8.38	14.9	41.9	50.0	17.7	35.5	1592.	17.1	25.8
43380	12.8	7.89	15.0	41.6	52.7	19.0	36.1	1177.	14.5	21.0
43382	7.9	7.92	14.8	41.6	52.5	18.7	35.7	1167.	17.9	24.7
43384	15.6	8.10	14.6	40.7	50.2	18.1	36.0	1536.	13.2	17.9
43386	16.2	8.44	14.9	42.6	50.5	17.6	34.9	1458.	14.4	26.4
MEAN	12.9	8.18	14.9	41.8	51.2	18.2	35.7	1342.	15.6	23.2
S.D.	2.76	0.240	0.38	1.31	1.27	0.49	0.53	196.9	2.10	2.75
N	10	10	10	10	10	10	10	10	10	10

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 95 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 300 MG/KG/DAY		MALES								
43323	13.7	7.74	15.2	42.2	54.6	19.7	36.0	1994.	19.3	25.1
43331	15.1	9.37	15.5	46.0	49.1	16.5	33.6	1220.	14.8	22.2
43341	10.3	7.92	15.3	43.0	54.3	19.3	35.6	1426.	17.8	27.0
43355	14.8	8.54	16.0	44.5	52.1	18.8	36.0	1517.	13.6	20.6
43361	12.7	8.25	14.7	41.6	50.4	17.9	35.4	1341.	18.1	29.5
43363	6.3	8.03	15.2	43.6	54.3	19.0	34.9	996.	14.2	21.2
43383	10.9	7.66	14.1	40.1	52.4	18.4	35.2	953.	15.1	30.3
43385	9.5	6.93	13.1	36.2	52.3	18.9	36.2	1101.	13.6	23.0
43388	10.4	8.08	14.5	41.3	51.1	18.0	35.2	1336.	16.5	27.8
43392	10.2	8.17	15.5	43.6	53.3	19.0	35.5	1384.	14.2	18.7
MEAN	11.4	8.07	14.9	42.2	52.4	18.6	35.4	1327.	15.7	24.5
S.D.	2.70	0.628	0.84	2.71	1.81	0.91	0.74	299.3	2.06	3.99
N	10	10	10	10	10	10	10	10	10	10

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 95 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 1000 MG/KG/DAY		MALES								
43297	11.6	8.34	15.1	43.2	51.7	18.1	35.0	1288.	15.7	28.5
43325	13.2	7.79	14.4	41.1	52.8	18.6	35.1	878.	15.9	23.8
43328	11.0	8.26	15.5	44.8	54.2	18.7	34.5	1159.	13.9	21.6
43346	14.7	7.67	14.1	39.2	51.1	18.4	36.1	1019.	14.9	23.1
43362	17.0	7.12	13.1	36.6	51.3	18.4	35.9	842.	15.1	30.3
43372	13.6	7.44	14.9	42.5	57.2	20.1	35.1	1128.	13.1	9.3
43373	7.0	8.61	15.1	43.1	50.1	17.5	35.0	1050.	17.6	25.8
43377	15.3	6.99	13.7	38.5	55.1	19.5	35.5	1046.	15.7	27.4
43397	10.9	7.26	13.8	39.7	54.7	19.1	34.9	905.	17.1	26.1
MEAN	12.7	7.72	14.4	41.0	53.1	18.7	35.2	1035.	15.4	24.0
S.D.	2.96	0.576	0.80	2.66	2.31	0.77	0.51	144.7	1.42	6.14
N	9	9	9	9	9	9	9	9	9	9

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 95 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 0 MG/KG/DAY		FEMALES								
43433	5.1	7.07	14.1	39.4	55.7	19.9	35.8	1170.	13.4	16.3
43435	12.7	7.15	14.2	39.8	55.7	19.9	35.8	1098.	13.5	16.9
43436	10.9	7.39	14.9	41.0	55.5	20.2	36.3	1245.	13.5	18.6
43438	9.8	7.80	15.4	43.5	55.8	19.8	35.5	1059.	12.7	10.4
43449	7.8	5.87	11.9	32.6	55.6	20.2	36.4	1132.	13.5	17.1
43467	9.7	7.28	14.0	39.1	53.6	19.2	35.8	1522.	12.6	15.3
43474	7.6	7.60	14.3	39.9	52.5	18.8	35.8	1354.	13.2	16.1
43483	3.6	5.87	11.2	31.4	53.4	19.1	35.7	992.	13.4	18.8
43497	9.8	7.15	14.2	39.4	55.1	19.9	36.1	2194.	14.3	17.0
43501	5.4	6.93	13.6	37.5	54.1	19.6	36.2	1189.	13.1	17.2
MEAN	8.2	7.01	13.8	38.4	54.7	19.7	35.9	1296.	13.3	16.4
S.D.	2.87	0.653	1.29	3.70	1.20	0.48	0.29	350.5	0.48	2.35
N	10	10	10	10	10	10	10	10	10	10

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 95 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 100 MG/KG/DAY		FEMALES								
43420	6.7	7.38	14.3	39.7	53.8	19.4	36.1	1437.	12.0	9.1
43439	11.6	7.30	13.5	37.8	51.8	18.5	35.7	1140.	12.7	19.9
43458	7.3	6.86	13.5	37.6	54.8	19.7	36.0	2204.	13.1	22.2
43462	10.2	8.32	15.1	43.2	51.9	18.2	35.0	1190.	11.8	12.6
43468	9.3	6.69	13.0	36.5	54.5	19.4	35.6	103.	13.0	19.9
43486	6.7	6.06	12.1	33.0	54.4	20.0	36.7	1097.	13.0	19.2
43489	6.9	6.50	11.9	34.5	53.1	18.4	34.6	1036.	12.7	23.4
43502	11.8	7.28	14.1	39.1	53.7	19.4	36.1	1211.	12.7	17.1
43511	7.1	7.58	14.8	40.8	53.8	19.5	36.3	1067.	12.5	16.2
43515	10.3	7.42	13.7	39.1	52.8	18.4	34.9	1509.	12.2	17.5
MEAN	8.8	7.14	13.6	38.1	53.5	19.1	35.7	1199.	12.6	17.7
S.D.	2.08	0.635	1.05	2.98	1.04	0.65	0.68	518.8	0.44	4.31
N	10	10	10	10	10	10	10	10	10	10

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 95 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 300 MG/KG/DAY		FEMALES								
43463	12.9	7.40	14.6	41.4	56.0	19.7	35.1	1077.	12.4	12.4
43475	10.1	7.70	13.9	40.1	52.1	18.0	34.6	1067.	12.0	9.6
43478	9.4	6.34	12.4	34.6	54.6	19.6	35.9	865.	12.7	13.8
43491	8.1	7.46	14.4	40.5	54.3	19.3	35.5	1276.	12.2	16.5
43495	8.4	7.03	13.7	38.7	55.0	19.4	35.3	1166.	11.9	19.2
43496	11.5	4.26	9.7	26.0	60.9	22.8	37.5	1430.	13.3	18.0
43508	9.9	6.50	12.3	34.1	52.4	19.0	36.2	1039.	12.9	22.5
43513	8.9	6.40	12.8	35.0	54.8	20.1	36.6	1173.	12.6	17.6
43516	7.2	6.72	13.4	37.3	55.5	19.9	35.9	1314.	12.6	20.9
43517	9.4	6.62	12.2	35.3	53.3	18.4	34.5	1127.	13.6	15.9
MEAN	9.6	6.64	12.9	36.3	54.9	19.6	35.7	1153.	12.6	16.6
S.D.	1.66	0.964	1.43	4.49	2.47	1.29	0.92	159.2	0.54	3.92
N	10	10	10	10	10	10	10	10	10	10

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 95 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 1000 MG/KG/DAY FEMALES										
43440	6.3	7.61	13.8	39.7	52.2	18.2	34.8	119.	12.8	21.9
43456	7.9	6.49	13.5	37.4	57.6	20.7	36.0	1919.	12.1	17.4
43460	6.4	6.67	12.8	35.5	53.3	19.1	35.9	1046.	12.6	20.2
43466	8.7	6.71	12.8	35.8	53.4	19.1	35.7	1065.	11.7	7.6
43477	17.4	6.86	13.3	37.8	55.1	19.4	35.2	1245.	13.9	19.1
43479	5.1	6.13	11.6	33.2	54.2	18.9	34.9	957.	13.5	12.0
43481	9.1	7.30	14.0	40.1	54.9	19.2	34.9	1239.	13.3	12.9
43484	7.8	7.63	14.0	39.8	52.1	18.3	35.1	1245.	14.2	14.4
43492	11.3	7.77	14.4	40.5	52.1	18.6	35.7	1071.	12.4	19.0
43503	9.9	7.98	15.3	42.7	53.5	19.2	35.9	1810.	12.9	15.8
MEAN	9.0	7.12	13.6	38.3	53.8	19.1	35.4	1172.	12.9	16.0
S.D.	3.47	0.624	1.01	2.84	1.71	0.70	0.47	491.3	0.79	4.37
N	10	10	10	10	10	10	10	10	10	10

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 96 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 0 MG/KG/DAY		MALES								
43289	12.1	9.10	15.1	41.3	45.4	16.6	36.6	1367.	15.6	17.7
43295	15.1	7.94	14.6	40.5	51.1	18.4	36.0	1294.	14.3	18.8
43308	17.5	8.36	15.3	40.6	48.6	18.3	37.7	1465.	15.2	18.9
43316	11.8	8.05	15.5	43.1	53.5	19.3	36.0	1272.	13.3	18.3
43326	17.9	9.42	16.8	45.7	48.5	17.9	36.8	1366.	12.7	19.0
MEAN	14.9	8.57	15.5	42.2	49.4	18.1	36.6	1353.	14.2	18.5
S.D.	2.88	0.655	0.82	2.20	3.05	0.98	0.70	75.7	1.23	0.54
N	5	5	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 96 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 100 MG/KG/DAY		MALES								
43285	10.2	8.83	15.1	41.7	47.2	17.1	36.2	1465.	13.1	18.1
43293	11.2	8.84	16.2	43.8	49.5	18.3	37.0	1575.	14.4	22.2
43311	18.4	8.09	14.2	39.2	48.5	17.6	36.2	1395.	11.8	18.2
43320	15.3	9.24	16.0	43.5	47.1	17.3	36.8	1642.	13.6	19.2
43340	14.8	8.67	15.7	42.8	49.3	18.1	36.7	1593.	13.8	18.5
MEAN	14.0	8.73	15.4	42.2	48.3	17.7	36.6	1534.	13.3	19.2
S.D.	3.32	0.417	0.81	1.86	1.13	0.51	0.36	101.1	0.98	1.71
N	5	5	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 96 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 300 MG/KG/DAY		MALES								
43290	18.4	8.19	15.4	41.4	50.5	18.8	37.2	1342.	13.4	17.2
43307	13.4	8.57	15.2	43.2	50.4	17.8	35.2	1610.	12.0	18.0
43309	13.4	8.87	16.3	43.9	49.6	18.4	37.1	1509.	14.4	19.2
43318	16.4	9.12	16.4	44.5	48.8	17.9	36.8	1282.	13.2	19.6
43322	11.2	7.95	15.1	41.4	52.1	19.0	36.5	1451.	13.3	17.3
MEAN	14.6	8.54	15.7	42.9	50.3	18.4	36.6	1439.	13.3	18.3
S.D.	2.83	0.479	0.62	1.43	1.23	0.53	0.81	130.7	0.85	1.09
N	5	5	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 96 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 1000 MG/KG/DAY		MALES								
43277	10.5	8.74	16.0	43.5	49.8	18.3	36.7	1361.	12.8	20.4
43278	14.4	9.65	16.5	45.0	46.6	17.1	36.6	1441.	14.9	21.7
43280	10.5	8.05	15.6	42.3	52.5	19.4	37.0	1358.	14.1	18.9
43281	16.9	8.86	16.1	43.2	48.7	18.2	37.3	1795.	13.8	20.2
43282	12.7	8.70	16.4	44.7	51.3	18.8	36.7	1282.	14.2	20.6
MEAN	13.0	8.80	16.1	43.7	49.8	18.4	36.9	1447.	14.0	20.4
S.D.	2.73	0.571	0.36	1.11	2.29	0.85	0.29	202.3	0.76	1.00
N	5	5	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 96 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 0 MG/KG/DAY		FEMALES								
43398	10.2	7.84	14.8	39.9	50.8	18.9	37.2	1208.	11.8	15.3
43405	5.4	7.54	15.1	40.7	54.0	20.0	37.0	1337.	13.2	14.8
43409	5.4	7.41	14.2	38.5	51.9	19.2	37.0	1033.	11.2	15.7
43423	10.6	7.32	14.6	39.1	53.3	20.0	37.4	1428.	12.4	14.6
43432	9.5	7.93	15.1	41.5	52.3	19.0	36.3	1493.	12.7	16.5
MEAN	8.2	7.61	14.8	39.9	52.5	19.4	37.0	1300.	12.3	15.4
S.D.	2.60	0.267	0.38	1.20	1.24	0.54	0.41	183.5	0.78	0.76
N	5	5	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 96 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 100 MG/KG/DAY		FEMALES								
43400	8.4	8.31	15.9	43.3	52.1	19.1	36.7	1407.	12.2	16.4
43407	15.1	6.31	13.2	35.3	56.0	21.0	37.5	1457.	12.6	13.1
43413	8.3	7.46	14.4	39.3	52.7	19.3	36.6	1429.	11.6	11.7
43416	6.7	7.65	15.0	41.1	53.8	19.7	36.6	1490.	11.8	12.8
43419	12.5	8.30	15.2	41.7	50.3	18.3	36.5	1333.	11.7	14.4
MEAN	10.2	7.61	14.7	40.1	53.0	19.5	36.8	1423.	12.0	13.7
S.D.	3.48	0.819	1.01	3.06	2.11	0.99	0.41	59.2	0.41	1.80
N	5	5	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

TABLE 96 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 300 MG/KG/DAY		FEMALES								
43402	7.8	7.63	14.6	40.1	52.6	19.2	36.4	1101.	11.7	18.9
43426	7.2	7.98	14.9	40.7	51.0	18.6	36.5	1278.	11.7	15.5
43442	5.4	7.56	14.6	41.2	54.6	19.3	35.3	1504.	12.9	17.1
43446	9.1	7.51	14.5	39.7	52.9	19.3	36.5	1292.	12.8	18.1
43461	9.5	7.32	14.2	38.3	52.3	19.3	36.9	1373.	12.1	17.1
MEAN	7.8	7.60	14.6	40.0	52.7	19.1	36.3	1310.	12.2	17.3
S.D.	1.64	0.242	0.25	1.11	1.29	0.30	0.60	147.2	0.58	1.28
N	5	5	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 96 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL HEMATOLOGY VALUES

ANIMAL	WHITE CELL	RED CELLS	HEMO-GLOBIN	HEMATO-CRIT	MCV	MCH	MCHC	PLATELET	PROTIME	APTT
	thous/uL	mil/uL	g/dL	%	fL	uug	g/dL	thous/uL	seconds	seconds
GROUP: 1000 MG/KG/DAY		FEMALES								
43401	9.9	7.46	15.0	40.1	53.7	20.2	37.5	1367.	11.4	14.7
43410	5.4	7.39	14.8	40.1	54.2	20.0	36.9	1415.	12.8	11.4
43421	8.0	7.42	14.9	40.8	55.0	20.1	36.5	1316.	11.4	15.9
43429	13.6	7.70	15.1	41.3	53.6	19.6	36.6	1206.	15.0	27.4
43430	7.2	7.50	14.6	40.6	54.1	19.5	36.1	1426.	12.5	18.7
MEAN	8.8	7.49	14.9	40.6	54.1	19.9	36.7	1346.	12.6	17.6
S.D.	3.12	0.122	0.19	0.51	0.55	0.31	0.52	89.6	1.47	6.06
N	5	5	5	5	5	5	5	5	5	5

g/dL = GRAMS/DECILITER, thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, uug = PICOGRAMS,
fL = FEMTOLITERS

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TABLE 97 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

PROJECT NO.:WIL-186012
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ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 0 MG/KG/DAY			MALES				
43365	19	75	5	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43368	11	83	6	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43369	12	82	5	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43379	13	78	8	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43391	22	66	10	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	15	77	7	1	0		
S.D.	4.8	6.8	2.2	0.7	0.0		
N	5	5	5	5	5		

TABLE 97 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 100 MG/KG/DAY MALES							
43371	11	82	6	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43380	19	72	8	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43382	7	85	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43384	30	60	10	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43386	13	77	9	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	16	75	8	1	0		
S.D.	8.9	9.8	1.6	0.4	0.0		
N	5	5	5	5	5		

TABLE 97 (WEEK 3 EVALUATION)

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SPONSOR:CMA-BFRIP | INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%) | WEEK 3

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 300 MG/KG/DAY			MALES				
43363	18	74	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43383	10	82	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43385	9	84	6	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43388	16	76	8	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43392	9	81	9	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	12	79	7	1	0		
S.D.	4.3	4.2	1.1	0.4	0.0		
N	5	5	5	5	5		

TABLE 97 (WEEK 3 EVALUATION)

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SPONSOR:CMA-BFRIP — INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%) — WEEK 3

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 1000 MG/KG/DAY MALES							
43362	12	83	5	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43372	9	83	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43373	16	76	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43377	13	80	6	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43397	9	81	9	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	12	81	7	1	0		
S.D.	2.9	2.9	1.5	0.4	0.0		
N	5	5	5	5	5		

TABLE 97 (WEEK 3 EVALUATION)

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SPONSOR:CMA-BFRIP — INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%) — WEEK 3

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 0 MG/KG/DAY FEMALES							
43467	15	81	3	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43474	17	78	5	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43483	9	79	11	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43497	4	91	5	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43501	14	77	9	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	12	81	7	0	0		
S.D.	5.3	5.7	3.3	0.5	0.0		
N	5	5	5	5	5		

TABLE 97 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 100 MG/KG/DAY FEMALES							
43486	18	74	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43489	11	82	5	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43502	11	83	5	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43511	27	66	5	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43515	35	62	2	1	0	ADEQUATE	1-PKC 1-TGC 1-POL 1-CRE
	PLTS CLUMPED						
MEAN	20	73	5	1	0		
S.D.	10.5	9.4	1.8	0.5	0.0		
N	5	5	5	5	5		

------ MORPHOLOGY CODE ------
1 = FEW, PKC = POIKILOCYTES, TGC = TARGET CELLS, POL = POLYCHROMASIA, CRE = CRENATED

TABLE 97 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 300 MG/KG/DAY FEMALES							
43496	10	80	8	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43508	7	88	4	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43513	12	81	7	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43516	13	80	6	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43517	8	85	7	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	10	83	6	1	0		
S.D.	2.5	3.6	1.5	0.8	0.0		
N	5	5	5	5	5		

TABLE 97 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 1000 MG/KG/DAY FEMALES							
43479	10	86	3	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43481	8	83	7	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43484	11	81	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43492	10	84	6	0	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43503	9	84	6	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	10	84	6	1	0		
S.D.	1.1	1.8	1.6	0.7	0.0		
N	5	5	5	5	5		

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SPONSOR:CMA-BFRIP

TABLE 98 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

0 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43365	14.6	2.8	11.0	0.7	0.1	0.0
43368	20.7	2.3	17.2	1.2	0.0	0.0
43369	21.2	2.5	17.4	1.1	0.2	0.0
43379	14.7	1.9	11.5	1.2	0.1	0.0
43391	12.3	2.7	8.1	1.2	0.2	0.0
MEAN	16.7	2.4	13.0	1.1	0.2	0.0
S.D.	4.00	0.35	4.10	0.21	0.09	0.00
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 98 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

100 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43371	10.7	1.2	8.8	0.6	0.1	0.0
43380	13.9	2.6	10.0	1.1	0.1	0.0
43382	11.6	0.8	9.9	0.8	0.1	0.0
43384	13.0	3.9	7.8	1.3	0.0	0.0
43386	16.1	2.1	12.4	1.4	0.2	0.0
MEAN	13.1	2.1	9.8	1.1	0.1	0.0
S.D.	2.10	1.23	1.72	0.33	0.06	0.00
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 98 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

300 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43363	7.3	1.3	5.4	0.5	0.1	0.0
43383	12.9	1.3	10.6	0.9	0.1	0.0
43385	16.0	1.4	13.4	1.0	0.2	0.0
43388	13.7	2.2	10.4	1.1	0.0	0.0
43392	15.1	1.4	12.2	1.4	0.2	0.0
MEAN	13.0	1.5	10.4	1.0	0.1	0.0
S.D.	3.41	0.38	3.07	0.31	0.07	0.00
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 98 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

1000 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43362	17.1	2.1	14.2	0.9	0.0	0.0
43372	16.1	1.4	13.4	1.1	0.2	0.0
43373	10.1	1.6	7.7	0.7	0.1	0.0
43377	15.7	2.0	12.6	0.9	0.2	0.0
43397	11.0	1.0	8.9	1.0	0.1	0.0
MEAN	14.0	1.6	11.3	0.9	0.1	0.0
S.D.	3.21	0.44	2.87	0.16	0.07	0.00
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 98 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

0 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43467	10.7	1.6	8.7	0.3	0.1	0.0
43474	9.3	1.6	7.3	0.5	0.0	0.0
43483	8.9	0.8	7.0	1.0	0.1	0.0
43497	12.3	0.5	11.2	0.6	0.0	0.0
43501	8.3	1.2	6.4	0.7	0.0	0.0
MEAN	9.9	1.1	8.1	0.6	0.0	0.0
S.D.	1.61	0.49	1.91	0.25	0.05	0.00
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 98 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

100 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43486	6.9	1.2	5.1	0.5	0.1	0.0
43489	9.5	1.0	7.8	0.5	0.2	0.0
43502	14.1	1.6	11.7	0.7	0.1	0.0
43511	11.2	3.0	7.4	0.6	0.2	0.0
43515	7.2	2.5	4.5	0.1	0.1	0.0
MEAN	9.8	1.9	7.3	0.5	0.1	0.0
S.D.	2.99	0.86	2.85	0.21	0.07	0.00
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 98 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

300 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43496	15.8	1.6	12.6	1.3	0.3	0.0
43508	12.5	0.9	11.0	0.5	0.1	0.0
43513	14.9	1.8	12.1	1.0	0.0	0.0
43516	6.6	0.9	5.3	0.4	0.1	0.0
43517	16.2	1.3	13.8	1.1	0.0	0.0
MEAN	13.2	1.3	11.0	0.9	0.1	0.0
S.D.	3.96	0.42	3.32	0.39	0.13	0.00
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 98 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

1000 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43479	9.5	1.0	8.2	0.3	0.1	0.0
43481	13.5	1.1	11.2	0.9	0.3	0.0
43484	11.4	1.3	9.2	0.8	0.1	0.0
43492	11.9	1.2	10.0	0.7	0.0	0.0
43503	11.1	1.0	9.3	0.7	0.1	0.0
MEAN	11.5	1.1	9.6	0.7	0.1	0.0
S.D.	1.44	0.13	1.12	0.25	0.10	0.00
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

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SPONSOR:CMA-BFRIP

TABLE 99 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 0 MG/KG/DAY			MALES				
43332	17	68	12	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43334	13	72	13	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43336	19	69	9	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43339	18	65	13	2	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43349	43	45	8	2	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43365	35	55	8	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43368	21	61	13	2	3	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43369	19	68	10	1	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43379	20	63	14	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43391	20	60	16	3	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	23	63	12	2	2		
S.D.	9.2	8.0	2.7	0.6	0.7		
N	10	10	10	10	10		

TABLE 99 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 100 MG/KG/DAY			MALES				
43342	14	70	13	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43350	24	55	18	1	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43351	32	54	11	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43354	15	72	11	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43364	13	73	11	1	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43371	19	66	13	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43380	23	64	10	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43382	31	56	11	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43384	42	41	14	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43386	13	78	8	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	23	63	12	2	1		
S.D.	9.8	11.3	2.7	0.5	0.7		
N	10	10	10	10	10		

TABLE 99 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 300 MG/KG/DAY			MALES				
43323	14	75	9	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43331	13	74	11	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43341	17	67	13	1	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43355	14	75	10	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43361	14	75	9	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43363	21	62	15	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43383	38	49	11	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43385	24	64	10	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43388	22	62	13	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43392	14	72	11	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	19	68	11	1	1		
S.D.	7.7	8.5	1.9	0.5	0.6		
N	10	10	10	10	10		

TABLE 99 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 1000 MG/KG/DAY MALES							
43297	12	72	14	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43325	27	58	14	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43328	13	71	14	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43346	31	58	8	1	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43362	22	60	12	2	4	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43372	15	68	14	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43373	23	67	8	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43377	25	68	5	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43397	12	75	11	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	20	66	11	2	1		
S.D.	7.2	6.3	3.4	0.5	1.4		
N	9	9	9	9	9		

TABLE 99 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 0 MG/KG/DAY FEMALES							
43433	21	70	6	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43435	16	72	10	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43436	13	76	9	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43438	9	83	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43449	19	63	15	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43467	13	80	4	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43474	14	73	10	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43483	35	53	10	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43497	7	84	7	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43501	12	71	12	3	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	16	73	9	2	1		
S.D.	7.9	9.4	3.2	0.7	0.6		
N	10	10	10	10	10		

TABLE 99 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 100 MG/KG/DAY FEMALES							
43420	29	58	10	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43439	17	70	11	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43458	19	72	8	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43462	12	79	7	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43468	11	78	9	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43486	28	62	8	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43489	38	44	13	3	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43502	8	81	9	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43511	11	74	11	3	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43515	16	74	7	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	19	69	9	2	1		
S.D.	9.7	11.4	1.9	0.7	0.7		
N	10	10	10	10	10		

TABLE 99 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 300 MG/KG/DAY FEMALES							
43463	11	81	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43475	30	63	7	0	0	ADEQUATE	1-PKC 1-POL 1-CRE
43478	17	69	11	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43491	14	70	13	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43495	18	66	12	3	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43496	29	64	6	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43508	21	66	9	3	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43513	19	71	7	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43516	15	68	14	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43517	17	69	10	2	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	19	69	10	2	1		
S.D.	6.1	5.0	2.8	0.9	0.6		
N	10	10	10	10	10		

------ MORPHOLOGY CODE ------
1 = FEW, PKC = POIKILOCYTES, POL = POLYCHROMASIA, CRE = CRENATED

TABLE 99 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 1000 MG/KG/DAY FEMALES							
43440	23	60	12	3	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43456	9	78	10	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43460	25	58	15	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43466	24	63	11	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43477	41	45	12	0	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43479	22	66	9	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43481	12	74	10	2	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43484	25	58	14	1	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43492	16	76	7	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43503	11	77	10	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	21	66	11	2	1		
S.D.	9.4	10.8	2.4	0.8	0.8		
N	10	10	10	10	10		

TABLE 100 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

0 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43332	13.5	2.3	9.2	1.6	0.3	0.1
43334	12.5	1.6	9.0	1.6	0.1	0.1
43336	11.2	2.1	7.7	1.0	0.2	0.1
43339	22.2	4.0	14.4	2.9	0.4	0.4
43349	11.1	4.8	5.0	0.9	0.2	0.2
43365	11.3	4.0	6.2	0.9	0.1	0.1
43368	15.8	3.3	9.6	2.1	0.3	0.5
43369	17.1	3.2	11.6	1.7	0.2	0.3
43379	11.1	2.2	7.0	1.6	0.2	0.1
43391	15.9	3.2	9.5	2.5	0.5	0.2
MEAN	14.2	3.1	8.9	1.7	0.3	0.2
S.D.	3.62	1.00	2.72	0.67	0.12	0.14
N	10	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER

TABLE 100 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

100 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43342	15.2	2.1	10.6	2.0	0.3	0.2
43350	11.2	2.7	6.2	2.0	0.1	0.2
43351	10.4	3.3	5.6	1.1	0.2	0.1
43354	15.0	2.3	10.8	1.7	0.2	0.2
43364	14.3	1.9	10.4	1.6	0.1	0.3
43371	10.8	2.1	7.1	1.4	0.1	0.1
43380	12.8	2.9	8.2	1.3	0.3	0.1
43382	7.9	2.4	4.4	0.9	0.2	0.0
43384	15.6	6.6	6.4	2.2	0.3	0.2
43386	16.2	2.1	12.6	1.3	0.2	0.0
MEAN	12.9	2.8	8.2	1.5	0.2	0.1
S.D.	2.76	1.38	2.73	0.42	0.08	0.09
N	10	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER

TABLE 100 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

300 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43323	13.7	1.9	10.3	1.2	0.1	0.1
43331	15.1	2.0	11.2	1.7	0.2	0.2
43341	10.3	1.8	6.9	1.3	0.1	0.2
43355	14.8	2.1	11.1	1.5	0.1	0.0
43361	12.7	1.8	9.5	1.1	0.1	0.1
43363	6.3	1.3	3.9	0.9	0.1	0.0
43383	10.9	4.1	5.3	1.2	0.1	0.1
43385	9.5	2.3	6.1	1.0	0.1	0.1
43388	10.4	2.3	6.4	1.4	0.2	0.1
43392	10.2	1.4	7.3	1.1	0.2	0.1
MEAN	11.4	2.1	7.8	1.2	0.1	0.1
S.D.	2.70	0.79	2.55	0.22	0.04	0.06
N	10	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER

TABLE 100 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

1000 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43297	11.6	1.4	8.4	1.6	0.2	0.0
43325	13.2	3.6	7.7	1.8	0.1	0.0
43328	11.0	1.4	7.8	1.5	0.2	0.0
43346	14.7	4.6	8.5	1.2	0.1	0.3
43362	17.0	3.7	10.2	2.0	0.3	0.7
43372	13.6	2.0	9.2	1.9	0.3	0.1
43373	7.0	1.6	4.7	0.6	0.1	0.0
43377	15.3	3.8	10.4	0.8	0.3	0.0
43397	10.9	1.3	8.2	1.2	0.1	0.1
MEAN	12.7	2.6	8.3	1.4	0.2	0.1
S.D.	2.96	1.29	1.68	0.52	0.08	0.23
N	9	9	9	9	9	9

thous/uL = THOUSANDS/MICROLITER

TABLE 100 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

0 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43433	5.1	1.1	3.6	0.3	0.1	0.1
43435	12.7	2.0	9.1	1.3	0.1	0.1
43436	10.9	1.4	8.3	1.0	0.1	0.1
43438	9.8	0.9	8.1	0.7	0.1	0.0
43449	7.8	1.5	4.9	1.2	0.2	0.1
43467	9.7	1.3	7.8	0.4	0.2	0.1
43474	7.6	1.1	5.5	0.8	0.2	0.1
43483	3.6	1.3	1.9	0.4	0.0	0.0
43497	9.8	0.7	8.2	0.7	0.2	0.0
43501	5.4	0.6	3.8	0.6	0.2	0.1
MEAN	8.2	1.2	6.1	0.7	0.1	0.1
S.D.	2.87	0.41	2.50	0.33	0.05	0.05
N	10	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER

TABLE 100 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

100 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43420	6.7	1.9	3.9	0.7	0.1	0.1
43439	11.6	2.0	8.1	1.3	0.1	0.1
43458	7.3	1.4	5.3	0.6	0.1	0.0
43462	10.2	1.2	8.1	0.7	0.1	0.1
43468	9.3	1.0	7.3	0.8	0.2	0.0
43486	6.7	1.9	4.2	0.5	0.1	0.0
43489	6.9	2.6	3.0	0.9	0.2	0.1
43502	11.8	0.9	9.6	1.1	0.2	0.0
43511	7.1	0.8	5.3	0.8	0.2	0.1
43515	10.3	1.6	7.6	0.7	0.2	0.1
MEAN	8.8	1.5	6.2	0.8	0.2	0.1
S.D.	2.08	0.57	2.18	0.22	0.06	0.06
N	10	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER

TABLE 100 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

300 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43463	12.9	1.4	10.4	0.9	0.1	0.0
43475	10.1	3.0	6.4	0.7	0.0	0.0
43478	9.4	1.6	6.5	1.0	0.2	0.1
43491	8.1	1.1	5.7	1.1	0.2	0.1
43495	8.4	1.5	5.5	1.0	0.3	0.1
43496	11.5	3.3	7.4	0.7	0.1	0.0
43508	9.9	2.1	6.5	0.9	0.3	0.1
43513	8.9	1.7	6.3	0.6	0.2	0.1
43516	7.2	1.1	4.9	1.0	0.1	0.1
43517	9.4	1.6	6.5	0.9	0.2	0.2
MEAN	9.6	1.8	6.6	0.9	0.2	0.1
S.D.	1.66	0.76	1.51	0.16	0.08	0.06
N	10	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER

TABLE 100 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

1000 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43440	6.3	1.4	3.8	0.8	0.2	0.1
43456	7.9	0.7	6.2	0.8	0.2	0.1
43460	6.4	1.6	3.7	1.0	0.1	0.1
43466	8.7	2.1	5.5	1.0	0.2	0.0
43477	17.4	7.1	7.8	2.1	0.0	0.3
43479	5.1	1.1	3.4	0.5	0.1	0.1
43481	9.1	1.1	6.7	0.9	0.2	0.2
43484	7.8	2.0	4.5	1.1	0.1	0.2
43492	11.3	1.8	8.6	0.8	0.1	0.0
43503	9.9	1.1	7.6	1.0	0.1	0.1
MEAN	9.0	2.0	5.8	1.0	0.1	0.1
S.D.	3.47	1.85	1.89	0.43	0.06	0.10
N	10	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 101 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 0 MG/KG/DAY			MALES				
43289	11	75	11	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43295	20	66	11	3	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43308	11	76	9	3	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43316	9	75	13	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43326	11	71	14	2	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	12	73	12	2	1		
S.D.	4.3	4.2	1.9	0.5	0.7		
N	5	5	5	5	5		

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 101 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 100 MG/KG/DAY			MALES				
43285	12	76	10	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43293	15	68	12	4	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43311	10	76	11	1	2	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43320	11	72	14	3	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43340	11	76	11	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	12	74	12	2	1		
S.D.	1.9	3.6	1.5	1.3	0.8		
N	5	5	5	5	5		

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 101 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 300 MG/KG/DAY			MALES				
43290	10	80	9	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43307	11	83	4	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43309	14	73	10	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43318	28	53	16	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43322	14	71	12	3	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	15	72	10	2	0		
S.D.	7.3	11.7	4.4	0.7	0.5		
N	5	5	5	5	5		

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SPONSOR:CMA-BFRIP

TABLE 101 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 1000 MG/KG/DAY MALES							
43277	19	70	8	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43278	13	71	12	3	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43280	19	62	16	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43281	7	83	7	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43282	7	82	8	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	13	74	10	2	1		
S.D.	6.0	8.8	3.8	0.4	0.0		
N	5	5	5	5	5		

TABLE 101 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 0 MG/KG/DAY FEMALES							
43398	10	79	8	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43405	12	78	6	4	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43409	13	76	8	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43423	8	82	8	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43432	25	64	9	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	14	76	8	2	0		
S.D.	6.7	6.9	1.1	0.9	0.5		
N	5	5	5	5	5		

TABLE 101 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 100 MG/KG/DAY FEMALES							
43400	10	79	8	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43407	27	59	12	1	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43413	8	78	11	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43416	8	78	11	3	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43419	5	89	4	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	12	77	9	2	1		
S.D.	8.8	10.9	3.3	0.7	0.5		
N	5	5	5	5	5		

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 101 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 300 MG/KG/DAY FEMALES							
43402	20	64	14	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43426	13	77	8	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43442	25	59	11	4	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43446	12	82	4	2	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43461	17	71	9	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	17	71	9	2	0		
S.D.	5.3	9.3	3.7	0.9	0.5		
N	5	5	5	5	5		

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 101 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE DIFFERENTIAL COUNT (%)

ANIMAL	NEUTRO-PHIL	LYMPH-OCYTE	MONOCYTE	EOSIN-OPHIL	BASOPHIL	PLATELET ESTIMATE	RBC MORPHOLOGY
GROUP: 1000 MG/KG/DAY FEMALES							
43401	7	80	10	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43410	13	74	9	3	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43421	14	73	10	2	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43429	11	83	5	1	0	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
43430	14	71	11	3	1	PLATELET ESTIMATE AND MORPHOLOGY NOT REVIEWED	
MEAN	12	76	9	2	1		
S.D.	2.9	5.1	2.3	0.8	0.4		
N	5	5	5	5	5		

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TABLE 102 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

0 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43289	12.1	1.3	9.1	1.3	0.2	0.1
43295	15.1	3.0	10.0	1.7	0.5	0.0
43308	17.5	1.9	13.3	1.6	0.5	0.2
43316	11.8	1.1	8.9	1.5	0.2	0.1
43326	17.9	2.0	12.7	2.5	0.4	0.4
MEAN	14.9	1.9	10.8	1.7	0.4	0.2
S.D.	2.88	0.75	2.08	0.46	0.13	0.13
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 102 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

100 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43285	10.2	1.2	7.8	1.0	0.2	0.0
43293	11.2	1.7	7.6	1.3	0.4	0.1
43311	18.4	1.8	14.0	2.0	0.2	0.4
43320	15.3	1.7	11.0	2.1	0.5	0.0
43340	14.8	1.6	11.2	1.6	0.1	0.1
MEAN	14.0	1.6	10.3	1.6	0.3	0.1
S.D.	3.32	0.23	2.68	0.47	0.15	0.15
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 102 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

300 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43290	18.4	1.8	14.7	1.7	0.2	0.0
43307	13.4	1.5	11.1	0.5	0.3	0.0
43309	13.4	1.9	9.8	1.3	0.3	0.1
43318	16.4	4.6	8.7	2.6	0.3	0.2
43322	11.2	1.6	8.0	1.3	0.3	0.0
MEAN	14.6	2.3	10.5	1.5	0.3	0.1
S.D.	2.83	1.31	2.67	0.75	0.06	0.08
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 102 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

1000 MG/KG/DAY MALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43277	10.5	2.0	7.4	0.8	0.2	0.1
43278	14.4	1.9	10.2	1.7	0.4	0.1
43280	10.5	2.0	6.5	1.7	0.2	0.1
43281	16.9	1.2	14.0	1.2	0.3	0.2
43282	12.7	0.9	10.4	1.0	0.3	0.1
MEAN	13.0	1.6	9.7	1.3	0.3	0.1
S.D.	2.73	0.52	2.97	0.40	0.10	0.03
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 102 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

0 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43398	10.2	1.0	8.1	0.8	0.2	0.1
43405	5.4	0.6	4.2	0.3	0.2	0.0
43409	5.4	0.7	4.1	0.4	0.1	0.1
43423	10.6	0.8	8.7	0.8	0.2	0.0
43432	9.5	2.4	6.1	0.9	0.2	0.0
MEAN	8.2	1.1	6.2	0.7	0.2	0.0
S.D.	2.60	0.72	2.12	0.26	0.04	0.05
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 102 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

100 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43400	8.4	0.8	6.6	0.7	0.2	0.1
43407	15.1	4.1	8.9	1.8	0.2	0.2
43413	8.3	0.7	6.5	0.9	0.2	0.1
43416	6.7	0.5	5.2	0.7	0.2	0.0
43419	12.5	0.6	11.1	0.5	0.3	0.0
MEAN	10.2	1.3	7.7	0.9	0.2	0.1
S.D.	3.48	1.53	2.34	0.52	0.04	0.06
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 102 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

300 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43402	7.8	1.6	5.0	1.1	0.2	0.0
43426	7.2	0.9	5.5	0.6	0.1	0.0
43442	5.4	1.4	3.2	0.6	0.2	0.1
43446	9.1	1.1	7.5	0.4	0.2	0.0
43461	9.5	1.6	6.7	0.9	0.2	0.1
MEAN	7.8	1.3	5.6	0.7	0.2	0.0
S.D.	1.64	0.29	1.66	0.28	0.03	0.04
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

TABLE 102 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL LEUKOCYTE COUNTS

1000 MG/KG/DAY FEMALE

ANIMAL	TOTAL LEUKOCYTES thous/uL	NEUTRO-PHIL thous/uL	LYMPH-OCYTE thous/uL	MONOCYTE thous/uL	EOSIN-OPHIL thous/uL	BASOPHIL thous/uL
43401	9.9	0.7	7.9	1.0	0.2	0.1
43410	5.4	0.7	4.0	0.5	0.2	0.1
43421	8.0	1.1	5.8	0.8	0.2	0.1
43429	13.6	1.5	11.3	0.7	0.1	0.0
43430	7.2	1.0	5.1	0.8	0.2	0.1
MEAN	8.8	1.0	6.8	0.7	0.2	0.1
S.D.	3.12	0.33	2.87	0.18	0.03	0.04
N	5	5	5	5	5	5

thous/uL = THOUSANDS/MICROLITER

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 0 MG/KG/DAY		MALES									
43365	4.2	6.2	2.0	2.10	0.2	15.5	0.4	216.	40.	109.	0.
43368	4.2	6.3	2.1	2.00	0.2	12.1	0.2	189.	33.	73.	0.
43369	4.3	6.8	2.5	1.72	0.2	15.5	0.2	214.	27.	76.	1.
43379	4.3	6.7	2.4	1.79	0.2	10.5	0.2	211.	26.	73.	0.
43391	4.1	6.1	2.0	2.05	0.1	11.2	0.2	181.	30.	67.	0.
MEAN	4.2	6.4	2.2	1.93	0.2	13.0	0.2	202.	31.	80.	0.
S.D.	0.08	0.31	0.23	0.167	0.04	2.39	0.09	16.1	5.6	16.8	0.4
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 0 MG/KG/DAY		MALES					
43365	157.	45.	9.1	98.	9.1	4.76	142.
43368	118.	59.	10.1	96.	8.6	5.67	141.
43369	129.	40.	10.3	99.	9.1	5.53	141.
43379	125.	39.	9.7	102.	8.7	5.83	142.
43391	122.	48.	9.5	100.	9.1	5.16	141.
MEAN	130.	46.	9.7	99.	8.9	5.39	141.
S.D.	15.5	8.0	0.48	2.2	0.25	0.431	0.5
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 100 MG/KG/DAY		MALES									
43371	4.6	6.5	1.9	2.42	0.1	9.6	0.2	246.	24.	96.	0.
43380	4.3	6.4	2.1	2.05	0.1	12.4	0.2	151.	25.	79.	0.
43382	4.2	6.3	2.1	2.00	0.1	12.1	0.2	218.	21.	77.	1.
43384	4.6	6.6	2.0	2.30	0.1	12.2	0.2	142.	21.	65.	1.
43386	4.5	6.8	2.3	1.96	0.1	14.1	0.2	169.	32.	99.	0.
MEAN	4.4	6.5	2.1	2.15	0.1	12.1	0.2	185.	25.	83.	0.
S.D.	0.18	0.19	0.15	0.202	0.00	1.61	0.00	44.9	4.5	14.1	0.5
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 100 MG/KG/DAY		MALES					
43371	124.	56.	9.7	101.	9.0	5.28	141.
43380	111.	43.	10.2	102.	9.8	5.75	141.
43382	98.	52.	10.1	102.	8.9	5.66	142.
43384	112.	46.	10.0	101.	9.1	5.68	141.
43386	126.	53.	10.4	100.	9.0	5.89	141.
MEAN	114.	50.	10.1	101.	9.2	5.65	141.
S.D.	11.3	5.3	0.26	0.8	0.36	0.227	0.4
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 300 MG/KG/DAY		MALES									
43363	4.2	6.6	2.4	1.75	0.1	10.4	0.2	244.	28.	67.	0.
43383	4.5	6.1	1.6	2.81	0.1	13.2	0.2	258.	25.	92.	0.
43385	4.4	6.4	2.0	2.20	0.1	12.6	0.2	188.	30.	94.	0.
43388	4.5	7.1	2.6	1.73	0.1	10.2	0.1	150.	24.	65.	1.
43392	4.4	6.2	1.8	2.44	0.1	10.6	0.2	180.	31.	108.	0.
MEAN	4.4	6.5	2.1	2.19	0.1	11.4	0.2	204.	28.	85.	0.
S.D.	0.12	0.40	0.41	0.462	0.00	1.39	0.04	45.5	3.0	18.6	0.4
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 300 MG/KG/DAY		MALES					
43363	132.	91.	9.9	104.	8.6	5.74	141.
43383	86.	32.	9.8	102.	9.1	5.36	142.
43385	90.	49.	9.8	100.	9.1	5.61	142.
43388	98.	41.	10.0	100.	9.0	5.31	143.
43392	96.	41.	9.5	102.	8.5	5.51	141.
MEAN	100.	51.	9.8	102.	8.9	5.51	142.
S.D.	18.3	23.3	0.19	1.7	0.29	0.177	0.8
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 1000 MG/KG/DAY		MALES									
43362	4.5	6.8	2.3	1.96	0.1	15.7	0.4	175.	33.	79.	2.
43372	4.7	6.8	2.1	2.24	0.1	14.3	0.2	168.	23.	74.	1.
43373	4.5	6.5	2.0	2.25	0.1	12.3	0.2	199.	29.	80.	0.
43377	4.5	6.7	2.2	2.05	0.1	10.8	0.1	139.	24.	71.	0.
43397	4.5	6.6	2.1	2.14	0.1	8.7	0.1	179.	21.	65.	0.
MEAN	4.5	6.7	2.1	2.13	0.1	12.4	0.2	172.	26.	74.	1.
S.D.	0.09	0.13	0.11	0.124	0.00	2.77	0.12	21.7	4.9	6.1	0.9
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 1000 MG/KG/DAY		MALES					
43362	113.	46.	10.2	110.	9.5	7.15	141.
43372	112.	56.	10.4	108.	9.4	5.82	142.
43373	125.	55.	10.0	109.	9.1	5.60	140.
43377	106.	38.	10.2	111.	9.0	5.17	144.
43397	116.	51.	10.0	111.	8.8	5.49	143.
MEAN	114.	49.	10.2	110.	9.2	5.85	142.
S.D.	6.9	7.4	0.17	1.3	0.29	0.766	1.6
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 0 MG/KG/DAY		FEMALES									
43467	5.2	7.3	2.1	2.48	0.1	16.0	0.2	72.	26.	91.	1.
43474	4.8	6.5	1.7	2.82	0.2	12.4	0.3	127.	29.	124.	0.
43483	4.8	7.0	2.2	2.18	0.2	15.6	0.3	136.	25.	115.	0.
43497	4.6	6.3	1.7	2.71	0.2	16.8	0.2	128.	30.	113.	0.
43501	4.8	6.3	1.5	3.20	0.2	15.6	0.2	125.	21.	100.	0.
MEAN	4.8	6.7	1.8	2.68	0.2	15.3	0.2	118.	26.	109.	0.
S.D.	0.22	0.45	0.30	0.381	0.04	1.68	0.05	25.8	3.6	13.0	0.4
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 0 MG/KG/DAY		FEMALES					
43467	112.	44.	9.4	100.	7.3	5.00	141.
43474	115.	47.	9.4	99.	6.4	4.47	142.
43483	114.	81.	9.6	98.	8.7	6.28	138.
43497	110.	35.	9.3	98.	7.8	5.55	140.
43501	99.	77.	9.7	100.	7.2	5.68	140.
MEAN	110.	57.	9.5	99.	7.5	5.40	140.
S.D.	6.4	20.8	0.16	1.0	0.85	0.689	1.5
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 100 MG/KG/DAY		FEMALES									
43486	5.5	7.4	1.9	2.89	0.1	15.9	0.3	84.	23.	69.	1.
43489	5.2	7.5	2.3	2.26	0.1	16.1	0.3	104.	25.	74.	0.
43502	4.9	7.1	2.2	2.23	0.1	12.3	0.3	124.	27.	81.	0.
43511	4.9	6.9	2.0	2.45	0.1	14.7	0.3	114.	25.	83.	0.
43515	4.8	7.2	2.4	2.00	0.1	15.3	0.3	99.	27.	64.	0.
MEAN	5.1	7.2	2.2	2.37	0.1	14.9	0.3	105.	25.	74.	0.
S.D.	0.29	0.24	0.21	0.334	0.00	1.53	0.00	15.2	1.7	8.0	0.4
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 100 MG/KG/DAY		FEMALES					
43486	126.	51.	10.4	104.	7.3	4.83	142.
43489	122.	65.	10.3	102.	6.7	4.50	140.
43502	114.	52.	10.1	103.	7.6	4.39	142.
43511	136.	89.	9.8	102.	6.8	5.10	139.
43515	129.	60.	10.1	101.	7.6	5.23	139.
MEAN	125.	63.	10.1	102.	7.2	4.81	140.
S.D.	8.2	15.4	0.23	1.1	0.43	0.365	1.5
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 300 MG/KG/DAY		FEMALES									
43496	5.2	7.2	2.0	2.60	0.3	11.1	0.2	70.	26.	116.	0.
43508	4.5	6.8	2.3	1.96	0.1	12.4	0.3	125.	35.	86.	0.
43513	4.4	6.8	2.4	1.83	0.1	13.7	0.2	110.	28.	121.	0.
43516	5.2	7.1	1.9	2.74	0.1	12.0	0.3	119.	21.	96.	0.
43517	4.8	6.7	1.9	2.53	0.1	16.1	0.2	110.	27.	101.	0.
MEAN	4.8	6.9	2.1	2.33	0.1	13.1	0.2	107.	27.	104.	0.
S.D.	0.38	0.22	0.23	0.409	0.09	1.94	0.05	21.5	5.0	14.4	0.0
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 300 MG/KG/DAY		FEMALES					
43496	106.	86.	10.0	102.	7.9	6.65	139.
43508	108.	47.	9.7	103.	7.3	5.27	141.
43513	99.	56.	9.6	104.	7.4	5.53	142.
43516	109.	68.	9.8	104.	7.3	5.00	141.
43517	95.	53.	9.7	102.	7.9	5.74	138.
MEAN	103.	62.	9.8	103.	7.6	5.64	140.
S.D.	6.1	15.4	0.15	1.0	0.31	0.630	1.6
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 1000 MG/KG/DAY FEMALES											
43479	5.1	7.4	2.3	2.22	0.1	11.4	0.2	90.	25.	71.	3.
43481	4.5	6.7	2.2	2.05	0.1	11.9	0.2	108.	31.	88.	1.
43484	6.2	8.6	2.4	2.58	0.1	13.7	0.2	88.	23.	54.	1.
43492	5.0	6.9	1.9	2.63	0.1	10.6	0.2	130.	26.	76.	2.
43503	5.2	7.2	2.0	2.60	0.1	12.7	0.3	80.	23.	71.	2.
MEAN	5.2	7.4	2.2	2.42	0.1	12.1	0.2	99.	26.	72.	2.
S.D.	0.62	0.74	0.21	0.264	0.00	1.19	0.04	20.0	3.3	12.2	0.8
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 103 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 1000 MG/KG/DAY FEMALES							
43479	130.	82.	10.0	115.	6.9	5.10	142.
43481	116.	51.	10.0	103.	9.1	6.53	138.
43484	121.	57.	11.2	106.	7.9	5.32	141.
43492	126.	82.	10.4	110.	8.5	5.20	142.
43503	112.	62.	10.0	109.	8.1	5.21	143.
MEAN	121.	67.	10.3	109.	8.1	5.47	141.
S.D.	7.3	14.4	0.52	4.5	0.81	0.597	1.9
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

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SPONSOR:CMA-BFRIP

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 0 MG/KG/DAY		MALES									
43332	4.2	6.7	2.5	1.68	0.2	11.3	0.3	133.	74.	134.	0.
43334	4.6	6.9	2.3	2.00	0.2	12.1	0.2	118.	35.	90.	0.
43336	4.4	7.2	2.8	1.57	0.2	13.5	0.2	104.	40.	112.	0.
43339	4.4	7.2	2.8	1.57	0.2	12.2	0.2	105.	41.	107.	0.
43349	4.1	7.0	2.9	1.41	0.2	13.3	0.4	82.	29.	76.	0.
43365	4.2	6.3	2.1	2.00	0.1	12.1	0.4	100.	35.	73.	0.
43368	4.3	6.8	2.5	1.72	0.1	11.9	0.2	66.	32.	75.	0.
43369	4.4	7.3	2.9	1.52	0.2	15.8	0.2	95.	31.	63.	0.
43379	4.4	7.0	2.6	1.69	0.2	12.6	0.3	136.	43.	81.	0.
43391	4.3	7.1	2.8	1.54	0.1	11.6	0.2	95.	38.	80.	0.
MEAN	4.3	7.0	2.6	1.67	0.2	12.6	0.3	103.	40.	89.	0.
S.D.	0.14	0.30	0.27	0.197	0.05	1.31	0.08	21.5	12.8	21.9	0.0
N	10	10	10	10	10	10	10	10	10	10	10

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 0 MG/KG/DAY		MALES					
43332	116.	73.	9.6	96.	7.5	5.65	142.
43334	122.	65.	9.7	100.	6.5	5.34	143.
43336	131.	58.	10.0	102.	6.1	5.76	143.
43339	108.	52.	9.2	93.	7.7	6.12	141.
43349	120.	44.	9.1	101.	5.5	5.52	141.
43365	206.	52.	8.7	99.	5.5	4.34	141.
43368	124.	54.	9.6	98.	6.7	5.27	141.
43369	138.	54.	10.4	101.	6.5	5.17	144.
43379	131.	51.	10.1	104.	5.9	5.14	144.
43391	117.	59.	9.5	97.	7.0	5.73	142.
MEAN	131.	56.	9.6	99.	6.5	5.40	142.
S.D.	27.6	8.1	0.50	3.2	0.76	0.483	1.2
N	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 100 MG/KG/DAY		MALES									
43342	4.5	7.0	2.5	1.80	0.2	11.8	0.2	96.	26.	66.	0.
43350	4.5	6.9	2.4	1.87	0.1	13.3	0.3	84.	28.	70.	0.
43351	4.6	7.2	2.6	1.77	0.2	12.5	0.3	108.	37.	77.	0.
43354	4.6	7.5	2.9	1.59	0.1	12.0	0.3	89.	25.	61.	1.
43364	4.6	7.5	2.9	1.59	0.3	12.8	0.3	68.	37.	119.	0.
43371	4.7	7.1	2.4	1.96	0.1	13.5	0.4	95.	28.	66.	0.
43380	4.7	7.5	2.8	1.68	0.1	12.9	0.3	87.	35.	72.	0.
43382	4.2	6.7	2.5	1.68	0.1	13.4	0.3	89.	29.	77.	1.
43384	4.6	7.4	2.8	1.64	0.2	14.3	0.3	80.	36.	68.	0.
43386	4.7	7.3	2.6	1.81	0.2	14.0	0.3	75.	27.	68.	0.
MEAN	4.6	7.2	2.6	1.74	0.2	13.1	0.3	87.	31.	74.	0.
S.D.	0.15	0.28	0.20	0.123	0.07	0.81	0.05	11.3	4.8	16.4	0.4
N	10	10	10	10	10	10	10	10	10	10	10

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 100 MG/KG/DAY		MALES					
43342	125.	55.	9.7	100.	6.7	5.22	141.
43350	115.	40.	9.6	104.	6.5	5.64	142.
43351	127.	57.	9.4	104.	6.5	5.03	143.
43354	121.	49.	10.3	102.	6.8	5.25	141.
43364	114.	41.	10.1	105.	6.9	5.76	144.
43371	170.	59.	9.7	106.	5.9	4.44	141.
43380	103.	53.	10.4	107.	7.1	6.10	145.
43382	140.	40.	9.2	105.	5.8	4.15	142.
43384	162.	52.	10.2	108.	6.3	5.08	144.
43386	151.	51.	9.9	100.	6.8	5.22	141.
MEAN	133.	50.	9.9	104.	6.5	5.19	142.
S.D.	22.1	7.1	0.40	2.7	0.42	0.581	1.5
N	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 300 MG/KG/DAY		MALES									
43323	4.7	7.1	2.4	1.96	0.1	12.6	0.4	102.	35.	73.	0.
43331	4.9	7.5	2.6	1.88	0.2	14.1	0.3	113.	38.	75.	0.
43341	4.6	7.0	2.4	1.92	0.2	12.3	0.3	92.	29.	64.	0.
43355	4.8	7.5	2.7	1.78	0.2	13.5	0.3	98.	49.	79.	0.
43361	5.1	7.7	2.6	1.96	0.1	11.7	0.3	70.	32.	52.	0.
43363	4.3	7.1	2.8	1.54	0.2	10.9	0.3	97.	69.	116.	2.
43383	4.6	6.4	1.8	2.56	0.2	14.1	0.3	133.	33.	78.	0.
43385	4.5	7.0	2.5	1.80	0.1	13.4	0.3	85.	45.	79.	1.
43388	4.8	7.6	2.8	1.71	0.1	13.8	0.3	68.	33.	63.	1.
43392	4.3	6.7	2.4	1.79	0.1	10.7	0.2	115.	33.	69.	0.
MEAN	4.7	7.2	2.5	1.89	0.2	12.7	0.3	97.	40.	75.	0.
S.D.	0.25	0.42	0.29	0.268	0.05	1.28	0.05	20.1	12.0	16.9	0.7
N	10	10	10	10	10	10	10	10	10	10	10

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 300 MG/KG/DAY		MALES					
43323	130.	34.	9.5	105.	6.8	4.76	142.
43331	132.	65.	10.9	108.	7.4	5.61	146.
43341	154.	34.	9.7	109.	5.9	5.03	143.
43355	137.	56.	10.2	102.	6.9	5.19	142.
43361	142.	65.	10.2	104.	7.0	5.51	142.
43363	145.	71.	10.5	111.	5.7	5.32	146.
43383	117.	31.	9.2	107.	5.7	5.16	140.
43385	137.	47.	9.5	106.	4.9	4.59	142.
43388	136.	34.	9.6	106.	6.0	4.67	142.
43392	143.	47.	10.5	110.	6.5	4.98	144.
MEAN	137.	48.	10.0	107.	6.3	5.08	143.
S.D.	9.9	15.1	0.56	2.8	0.77	0.344	1.9
N	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 1000 MG/KG/DAY		MALES									
43297	5.1	8.1	3.0	1.70	0.1	10.9	0.2	102.	31.	59.	0.
43325	4.7	7.4	2.7	1.74	0.3	15.8	0.5	84.	34.	95.	0.
43328	5.0	7.8	2.8	1.79	0.2	13.1	0.3	91.	37.	65.	1.
43346	4.7	7.6	2.9	1.62	0.1	12.7	0.3	120.	30.	64.	2.
43362	4.7	7.3	2.6	1.81	0.1	13.2	0.4	69.	29.	66.	3.
43372	5.2	7.9	2.7	1.93	0.2	13.3	0.3	75.	39.	68.	3.
43373	4.8	7.3	2.5	1.92	0.2	11.3	0.3	95.	44.	68.	0.
43377	4.8	7.1	2.3	2.09	0.1	12.2	0.3	63.	27.	59.	2.
43397	5.0	7.5	2.5	2.00	0.2	10.8	0.2	81.	26.	62.	2.
MEAN	4.9	7.6	2.7	1.84	0.2	12.6	0.3	87.	33.	67.	1.
S.D.	0.19	0.32	0.22	0.152	0.07	1.55	0.09	17.6	6.0	10.9	1.2
N	9	9	9	9	9	9	9	9	9	9	9

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 1000 MG/KG/DAY		MALES					
43297	131.	58.	10.5	110.	7.2	5.32	143.
43325	145.	37.	9.3	117.	5.9	6.11	142.
43328	124.	32.	10.8	113.	6.7	5.60	145.
43346	121.	39.	10.0	113.	7.2	5.44	142.
43362	138.	48.	9.7	113.	6.9	5.30	141.
43372	117.	61.	10.7	116.	6.5	5.26	145.
43373	130.	56.	10.3	117.	5.3	4.99	144.
43377	154.	34.	9.7	115.	6.2	4.25	142.
43397	107.	57.	10.0	115.	7.0	5.25	144.
MEAN	130.	47.	10.1	114.	6.5	5.28	143.
S.D.	14.5	11.5	0.50	2.3	0.64	0.496	1.5
N	9	9	9	9	9	9	9

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 0 MG/KG/DAY		FEMALES									
43433	5.0	7.2	2.2	2.27	0.2	18.6	0.4	49.	23.	72.	0.
43435	5.1	7.3	2.2	2.32	0.2	15.0	0.3	89.	37.	94.	0.
43436	4.9	6.9	2.0	2.45	0.2	12.5	0.3	54.	29.	74.	0.
43438	5.0	7.2	2.2	2.27	0.2	18.1	0.4	54.	30.	88.	0.
43449	4.4	6.6	2.2	2.00	0.1	18.0	0.3	60.	24.	97.	0.
43467	5.6	8.0	2.4	2.33	0.1	15.9	0.3	29.	28.	61.	0.
43474	5.2	7.1	1.9	2.74	0.2	14.4	0.3	49.	34.	113.	0.
43483	5.4	7.3	1.9	2.84	0.1	20.6	0.5	43.	23.	97.	0.
43497	4.8	7.0	2.2	2.18	0.2	16.1	0.3	66.	23.	70.	0.
43501	6.5	8.1	1.6	4.06	0.3	16.5	0.3	91.	28.	61.	0.
MEAN	5.2	7.3	2.1	2.55	0.2	16.6	0.3	58.	28.	83.	0.
S.D.	0.56	0.46	0.23	0.588	0.06	2.34	0.07	19.4	4.9	17.6	0.0
N	10	10	10	10	10	10	10	10	10	10	10

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 0 MG/KG/DAY		FEMALES					
43433	133.	59.	9.8	102.	5.1	4.68	142.
43435	119.	80.	9.7	97.	5.8	5.40	140.
43436	124.	71.	9.8	99.	6.5	5.63	141.
43438	140.	51.	9.8	103.	5.8	5.18	145.
43449	112.	50.	9.2	100.	7.2	4.96	142.
43467	138.	51.	10.4	104.	4.8	4.65	144.
43474	117.	48.	9.5	102.	4.3	5.01	143.
43483	137.	71.	9.6	101.	6.2	4.76	142.
43497	109.	46.	9.7	98.	5.5	5.67	141.
43501	142.	101.	10.4	100.	5.0	4.54	141.
MEAN	127.	63.	9.8	101.	5.6	5.05	142.
S.D.	12.4	17.8	0.37	2.2	0.87	0.410	1.5
N	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 100 MG/KG/DAY		FEMALES									
43420	5.4	8.2	2.8	1.93	0.2	21.3	0.4	51.	27.	78.	0.
43439	5.9	8.2	2.3	2.57	0.1	11.4	0.3	37.	41.	117.	0.
43458	4.7	6.8	2.1	2.24	0.2	14.7	0.5	42.	30.	87.	0.
43462	5.0	6.9	1.9	2.63	0.2	13.5	0.3	50.	35.	88.	0.
43468	6.0	8.4	2.4	2.50	0.2	15.8	0.4	30.	31.	95.	0.
43486	5.8	8.0	2.2	2.64	0.1	17.2	0.3	24.	23.	49.	0.
43489	5.8	7.7	1.9	3.05	0.8	17.6	0.4	22.	34.	129.	0.
43502	6.0	8.3	2.3	2.61	0.2	15.7	0.3	51.	30.	61.	1.
43511	5.5	7.5	2.0	2.75	0.1	12.9	0.3	41.	26.	96.	1.
43515	5.9	8.6	2.7	2.19	0.1	16.1	0.4	35.	24.	58.	0.
MEAN	5.6	7.9	2.3	2.51	0.2	15.6	0.4	38.	30.	86.	0.
S.D.	0.45	0.62	0.31	0.317	0.21	2.78	0.07	10.7	5.5	25.5	0.4
N	10	10	10	10	10	10	10	10	10	10	10

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 100 MG/KG/DAY		FEMALES					
43420	119.	103.	10.5	105.	5.1	4.55	143.
43439	123.	69.	10.3	101.	5.7	5.15	140.
43458	123.	69.	9.1	107.	5.2	4.50	142.
43462	114.	95.	10.1	108.	5.7	5.54	143.
43468	140.	95.	10.3	102.	6.4	4.97	141.
43486	143.	56.	10.3	106.	4.6	4.20	140.
43489	116.	68.	9.8	105.	4.7	7.11	139.
43502	125.	63.	10.7	102.	5.9	4.58	142.
43511	120.	87.	9.9	102.	5.5	5.29	139.
43515	137.	69.	11.1	106.	4.9	5.66	144.
MEAN	126.	77.	10.2	104.	5.4	5.16	141.
S.D.	10.3	16.1	0.54	2.5	0.57	0.838	1.8
N	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 300 MG/KG/DAY		FEMALES									
43463	6.2	8.6	2.4	2.58	0.2	11.8	0.3	33.	63.	91.	0.
43475	5.3	8.0	2.7	1.96	0.2	13.9	0.3	34.	27.	60.	0.
43478	6.3	8.5	2.2	2.86	0.2	18.4	0.3	25.	24.	65.	1.
43491	5.9	8.2	2.3	2.57	0.1	13.5	0.3	57.	29.	98.	0.
43495	5.1	7.3	2.2	2.32	0.2	10.2	0.4	52.	32.	95.	1.
43496	6.0	8.5	2.5	2.40	0.1	9.5	0.3	24.	22.	51.	0.
43508	4.8	7.4	2.6	1.85	0.1	16.5	0.4	38.	25.	57.	2.
43513	5.1	7.7	2.6	1.96	0.1	20.5	0.4	35.	27.	91.	0.
43516	6.4	8.8	2.4	2.67	0.2	12.6	0.3	43.	31.	53.	0.
43517	5.2	7.5	2.3	2.26	0.1	14.3	0.3	44.	30.	60.	0.
MEAN	5.6	8.1	2.4	2.34	0.2	14.1	0.3	39.	31.	72.	0.
S.D.	0.59	0.55	0.18	0.338	0.05	3.49	0.05	10.7	11.7	19.1	0.7
N	10	10	10	10	10	10	10	10	10	10	10

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 300 MG/KG/DAY		FEMALES					
43463	121.	65.	11.4	108.	5.8	4.97	142.
43475	121.	79.	11.0	109.	5.7	5.91	142.
43478	139.	93.	10.7	104.	5.5	4.90	138.
43491	125.	77.	11.0	106.	5.7	5.39	145.
43495	122.	78.	9.7	100.	6.7	5.64	139.
43496	125.	103.	10.9	103.	5.5	5.01	140.
43508	118.	50.	9.6	105.	3.8	4.32	137.
43513	107.	58.	9.5	106.	4.6	4.90	139.
43516	119.	94.	10.9	103.	5.5	5.41	140.
43517	120.	58.	10.0	107.	4.8	4.97	140.
MEAN	122.	76.	10.5	105.	5.4	5.14	140.
S.D.	7.9	17.6	0.70	2.7	0.79	0.452	2.3
N	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 1000 MG/KG/DAY		FEMALES									
43440	5.7	7.7	2.0	2.85	0.6	23.1	0.7	25.	50.	163.	0.
43456	6.2	8.8	2.6	2.38	0.1	12.6	0.3	22.	26.	63.	0.
43460	5.5	7.7	2.2	2.50	0.1	16.8	0.4	25.	26.	74.	2.
43466	6.0	8.8	2.8	2.14	0.2	17.0	0.3	27.	38.	63.	0.
43477	5.3	8.5	3.2	1.66	0.2	14.1	0.3	60.	31.	61.	1.
43479	5.6	7.7	2.1	2.67	0.1	16.7	0.4	32.	21.	65.	4.
43481	5.4	8.1	2.7	2.00	0.1	14.2	0.3	38.	38.	69.	1.
43484	6.0	8.9	2.9	2.07	0.1	12.8	0.3	38.	36.	64.	1.
43492	5.8	8.1	2.3	2.52	0.2	14.7	0.3	40.	52.	82.	5.
43503	5.8	8.2	2.4	2.42	0.3	12.9	0.3	33.	29.	67.	2.
MEAN	5.7	8.3	2.5	2.32	0.2	15.5	0.4	34.	35.	77.	2.
S.D.	0.29	0.48	0.39	0.353	0.16	3.16	0.13	11.1	10.2	30.8	1.7
N	10	10	10	10	10	10	10	10	10	10	10

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 104 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 1000 MG/KG/DAY		FEMALES					
43440	158.	64.	9.8	111.	5.3	6.40	137.
43456	111.	84.	10.4	111.	5.3	5.50	140.
43460	125.	50.	9.9	113.	5.2	4.61	141.
43466	120.	67.	10.9	113.	5.5	5.09	144.
43477	103.	62.	10.4	105.	5.6	5.31	138.
43479	146.	81.	10.1	114.	4.6	4.34	141.
43481	139.	53.	11.0	113.	5.3	4.94	142.
43484	110.	57.	11.2	110.	5.7	5.44	141.
43492	119.	99.	10.5	109.	6.2	4.68	141.
43503	112.	65.	10.2	106.	6.6	5.24	141.
MEAN	124.	68.	10.4	111.	5.5	5.16	141.
S.D.	17.8	15.3	0.47	3.1	0.55	0.579	2.0
N	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

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TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 0 MG/KG/DAY		MALES									
43289	4.2	6.4	2.2	1.91	0.2	15.6	0.5	63.	39.	128.	0.
43295	4.2	7.3	3.1	1.35	0.2	18.3	0.4	84.	296.	520.	0.
43308	4.2	6.8	2.6	1.62	0.1	12.9	0.5	64.	39.	116.	0.
43316	4.3	6.9	2.6	1.65	0.2	14.9	0.3	67.	42.	129.	0.
43326	4.7	7.4	2.7	1.74	0.2	17.0	0.5	125.	54.	152.	0.
MEAN	4.3	7.0	2.6	1.65	0.2	15.7	0.4	81.	94.	209.	0.
S.D.	0.22	0.40	0.32	0.204	0.04	2.06	0.09	26.2	113.1	174.3	0.0
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 0 MG/KG/DAY		MALES					
43289	172.	75.	9.6	102.	7.4	5.65	142.
43295	175.	76.	10.1	101.	6.2	5.58	142.
43308	179.	73.	9.8	99.	7.4	5.65	143.
43316	122.	88.	9.7	102.	6.8	5.68	145.
43326	131.	73.	10.0	98.	8.1	5.52	143.
MEAN	156.	77.	9.8	100.	7.2	5.62	143.
S.D.	27.0	6.3	0.21	1.8	0.72	0.065	1.2
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 100 MG/KG/DAY		MALES									
43285	4.4	7.0	2.6	1.69	0.2	14.9	0.3	94.	31.	115.	0.
43293	4.3	7.5	3.2	1.34	0.1	14.9	0.4	101.	45.	90.	0.
43311	4.4	6.8	2.4	1.83	0.1	12.5	0.3	76.	39.	125.	0.
43320	4.4	7.2	2.8	1.57	0.2	13.2	0.4	77.	55.	100.	0.
43340	4.5	6.8	2.3	1.96	0.2	17.9	0.4	65.	62.	202.	0.
MEAN	4.4	7.1	2.7	1.68	0.2	14.7	0.4	83.	46.	126.	0.
S.D.	0.07	0.30	0.36	0.239	0.05	2.09	0.05	14.6	12.4	44.4	0.0
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 100 MG/KG/DAY		MALES					
43285	139.	63.	9.9	103.	7.2	6.09	145.
43293	140.	73.	9.9	101.	7.5	6.07	144.
43311	127.	66.	9.9	100.	6.4	6.19	140.
43320	145.	59.	9.6	100.	6.9	5.55	143.
43340	136.	70.	9.7	102.	7.8	5.49	145.
MEAN	137.	66.	9.8	101.	7.2	5.88	143.
S.D.	6.7	5.5	0.14	1.3	0.54	0.331	2.1
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

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TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 300 MG/KG/DAY		MALES									
43290	4.4	6.9	2.5	1.76	0.2	14.0	0.5	78.	29.	93.	0.
43307	4.7	7.7	3.0	1.57	0.2	14.2	0.3	85.	32.	107.	0.
43309	4.6	7.6	3.0	1.53	0.2	13.0	0.3	103.	58.	143.	0.
43318	4.8	7.9	3.1	1.55	0.2	10.8	0.3	68.	31.	93.	0.
43322	4.5	7.2	2.7	1.67	0.2	14.8	0.3	90.	32.	88.	0.
MEAN	4.6	7.5	2.9	1.62	0.2	13.4	0.3	85.	36.	105.	0.
S.D.	0.16	0.40	0.25	0.097	0.00	1.57	0.09	13.1	12.1	22.5	0.0
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 300 MG/KG/DAY		MALES					
43290	152.	62.	9.6	102.	7.3	5.59	144.
43307	130.	104.	10.0	101.	6.9	5.54	143.
43309	146.	102.	10.6	101.	8.0	5.96	145.
43318	145.	101.	10.6	99.	6.7	6.39	142.
43322	136.	69.	10.1	102.	7.5	5.78	144.
MEAN	142.	88.	10.2	101.	7.3	5.85	144.
S.D.	8.7	20.4	0.43	1.2	0.51	0.344	1.1
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

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SPONSOR:CMA-BFRIP

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 1000 MG/KG/DAY		MALES									
43277	4.6	7.3	2.7	1.70	0.1	16.6	0.5	89.	33.	89.	0.
43278	4.4	7.2	2.8	1.57	0.1	13.0	0.4	94.	37.	89.	0.
43280	4.4	7.2	2.8	1.57	0.1	13.3	0.2	83.	36.	94.	0.
43281	4.4	7.4	3.0	1.47	0.1	14.8	0.4	80.	44.	149.	0.
43282	4.4	6.8	2.4	1.83	0.2	13.8	0.4	82.	35.	112.	0.
MEAN	4.4	7.2	2.7	1.63	0.1	14.3	0.4	86.	37.	107.	0.
S.D.	0.09	0.23	0.22	0.139	0.04	1.46	0.11	5.8	4.2	25.5	0.0
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 1000 MG/KG/DAY		MALES					
43277	142.	80.	9.8	102.	6.5	5.84	142.
43278	150.	65.	9.5	103.	7.2	5.33	142.
43280	157.	82.	10.3	101.	6.5	4.92	142.
43281	159.	89.	10.2	103.	6.7	5.19	145.
43282	137.	56.	9.4	101.	7.6	5.82	142.
MEAN	149.	74.	9.8	102.	6.9	5.42	143.
S.D.	9.5	13.5	0.40	1.0	0.48	0.402	1.3
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

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TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 0 MG/KG/DAY		FEMALES									
43398	5.1	7.4	2.3	2.22	0.2	14.6	0.4	59.	42.	125.	0.
43405	5.2	7.6	2.4	2.17	0.2	14.9	0.3	34.	29.	73.	0.
43409	5.7	8.3	2.6	2.19	0.1	19.8	0.3	21.	62.	109.	0.
43423	5.3	7.4	2.1	2.52	0.2	17.5	0.4	48.	41.	115.	0.
43432	4.7	7.6	2.9	1.62	0.2	14.5	0.4	53.	33.	85.	0.
MEAN	5.2	7.7	2.5	2.14	0.2	16.3	0.4	43.	41.	101.	0.
S.D.	0.36	0.37	0.30	0.326	0.04	2.33	0.05	15.4	12.7	21.7	0.0
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 0 MG/KG/DAY		FEMALES					
43398	127.	90.	10.1	104.	5.6	5.09	144.
43405	137.	84.	10.2	107.	4.1	4.37	145.
43409	125.	86.	10.6	100.	4.4	4.88	140.
43423	117.	69.	10.1	103.	5.9	5.46	143.
43432	130.	77.	10.0	102.	5.6	5.16	143.
MEAN	127.	81.	10.2	103.	5.1	4.99	143.
S.D.	7.3	8.3	0.23	2.6	0.81	0.405	1.9
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 100 MG/KG/DAY FEMALES											
43400	5.2	7.9	2.7	1.93	0.1	14.9	0.4	30.	42.	78.	0.
43407	3.9	7.0	3.1	1.26	0.2	24.0	0.6	42.	41.	123.	0.
43413	5.3	7.6	2.3	2.30	0.4	13.7	0.3	33.	46.	109.	0.
43416	4.8	7.3	2.5	1.92	0.1	13.2	0.3	27.	37.	95.	0.
43419	4.8	7.3	2.5	1.92	0.2	14.1	0.3	44.	116.	249.	1.
MEAN	4.8	7.4	2.6	1.87	0.2	16.0	0.4	35.	56.	131.	0.
S.D.	0.55	0.34	0.30	0.376	0.12	4.53	0.13	7.5	33.5	68.1	0.4
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 100 MG/KG/DAY		FEMALES					
43400	127.	98.	10.4	104.	6.1	5.51	143.
43407	113.	62.	9.4	103.	9.0	5.78	143.
43413	112.	67.	10.1	100.	6.3	6.65	140.
43416	110.	73.	9.8	102.	5.2	5.82	141.
43419	104.	77.	9.9	104.	4.8	4.81	142.
MEAN	113.	75.	9.9	103.	6.3	5.71	142.
S.D.	8.5	13.9	0.37	1.7	1.64	0.662	1.3
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 300 MG/KG/DAY		FEMALES									
43402	5.6	9.2	3.6	1.56	0.2	20.8	0.6	33.	494.	727.	0.
43426	4.6	7.2	2.6	1.77	0.1	15.7	0.4	47.	47.	152.	0.
43442	4.9	7.6	2.7	1.81	0.1	15.7	0.4	30.	36.	89.	0.
43446	4.8	7.3	2.5	1.92	0.2	15.2	0.4	55.	54.	138.	0.
43461	4.9	7.9	3.0	1.63	0.1	17.9	0.4	40.	37.	91.	0.
MEAN	5.0	7.8	2.9	1.74	0.1	17.1	0.4	41.	134.	239.	0.
S.D.	0.38	0.81	0.44	0.144	0.05	2.34	0.09	10.2	201.6	274.0	0.0
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 300 MG/KG/DAY		FEMALES					
43402	139.	150.	10.5	99.	5.2	4.63	142.
43426	112.	59.	9.6	103.	5.9	5.67	142.
43442	109.	76.	10.1	104.	5.4	4.90	143.
43446	128.	72.	9.8	104.	5.6	4.74	143.
43461	124.	75.	10.2	104.	6.2	6.23	141.
MEAN	122.	86.	10.0	103.	5.7	5.23	142.
S.D.	12.2	36.2	0.35	2.2	0.40	0.690	0.8
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALKALINE PHOS'TSE	ALANINE TRANSFER	ASPARTAT TRANSFER	GLUTAMYL TRANSFER
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 1000 MG/KG/DAY FEMALES											
43401	5.8	8.2	2.4	2.42	0.2	16.6	0.4	31.	43.	104.	0.
43410	5.1	7.6	2.5	2.04	0.1	21.3	0.4	46.	27.	66.	0.
43421	5.1	8.0	2.9	1.76	0.1	14.4	0.3	39.	27.	86.	0.
43429	5.2	7.7	2.5	2.08	0.2	14.7	0.4	34.	71.	165.	1.
43430	4.9	7.4	2.5	1.96	0.1	15.3	0.3	32.	28.	89.	0.
MEAN	5.2	7.8	2.6	2.05	0.1	16.5	0.4	36.	39.	102.	0.
S.D.	0.34	0.32	0.19	0.240	0.05	2.83	0.05	6.2	19.0	37.7	0.4
N	5	5	5	5	5	5	5	5	5	5	5

U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mg/dL = MILLIGRAMS/DECILITER

TABLE 105 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

ANIMAL	GLUCOSE	CHOL-ESTEROL	CALCIUM	CHLORIDE	PHOS-PHORUS	POTAS-SIUM	SODIUM
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L
GROUP: 1000 MG/KG/DAY FEMALES							
43401	142.	123.	11.0	105.	5.2	4.79	145.
43410	121.	61.	10.0	105.	5.4	5.11	143.
43421	138.	104.	10.8	103.	6.1	5.40	142.
43429	134.	95.	10.6	102.	5.7	4.93	142.
43430	113.	76.	9.7	102.	6.0	5.55	142.
MEAN	130.	92.	10.4	103.	5.7	5.16	143.
S.D.	12.2	24.1	0.55	1.5	0.38	0.317	1.3
N	5	5	5	5	5	5	5

mg/dL = MILLIGRAMS/DECILITER, mEq/L = milliEquivalents/Liter

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 106 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43365	DS	HAZ	1.025	5.5	1+	NG	TR	NG	NG	NG	NG	0.2	13.0
43368	DS	HAZ	1.024	6.0	1+	NG	TR	NG	TR	NG	NG	0.2	12.0
43369	DS	HAZ	1.036	6.0	2+	NG	NG	NG	NG	NG	NG	0.2	3.5
43379	DS	HAZ	1.042	6.0	2+	NG	TR	NG	NG	NG	NG	0.2	5.0
43391	DS	HAZ	1.020	5.5	TR	NG	NG	NG	NG	NG	NG	0.2	10.0
MEAN			1.029	5.8								0.2	8.7
S.D.			0.0092	0.27								0.00	4.24
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, DS=DARK STRAW, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, TR=TRACE

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 106 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43371	LA	HAZ	1.030	6.0	1+	NG	TR	NG	NG	NG	NG	0.2	8.0
43380	DS	CLD	1.024	6.0	1+	NG	TR	NG	NG	NG	NG	0.2	9.0
43382	DS	HAZ	1.030	6.0	1+	NG	TR	NG	NG	NG	NG	0.2	5.0
43384	S	CLD	1.017	6.5	1+	NG	NG	NG	NG	NG	NG	0.2	20.0
43386	S	HAZ	1.015	6.5	1+	NG	NG	NG	NG	NG	NG	0.2	16.0
MEAN			1.023	6.2								0.2	11.6
S.D.			0.0070	0.27								0.00	6.19
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, DS=DARK STRAW, LA=LIGHT AMBER, HAZ=HAZY, CLD=CLOUDY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, TR=TRACE

TABLE 106 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43363	LA	HAZ	1.024	6.5	1+	NG	TR	NG	3+	NG	NG	0.2	10.5
43383	LA	HAZ	1.025	6.0	1+	NG	TR	NG	NG	NG	NG	0.2	10.0
43385	DS	HAZ	1.038	6.0	2+	NG	TR	NG	NG	NG	NG	0.2	7.0
43388	LS	HAZ	1.013	6.5	TR	NG	NG	NG	NG	NG	NG	0.2	27.0
43392	A	CLD	1.030	6.0	1+	NG	NG	NG	NG	NG	NG	0.2	9.0
MEAN			1.026	6.2								0.2	12.7
S.D.			0.0091	0.27								0.00	8.11
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, LS=LIGHT STRAW, DS=DARK STRAW, A=ABUNDANT, LA=LIGHT AMBER, HAZ=HAZY, CLD=CLOUDY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, 3+=MODERATE TO ABUNDANT, TR=TRACE

TABLE 106 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43362	A	CLD	1.029	5.5	1+	NG	TR	NG	NG	NG	NG	0.2	10.0
43372	DA	CLD	1.046	6.0	2+	NG	TR	NG	NG	NG	NG	0.2	8.0
43373	S	HAZ	1.015	6.5	1+	NG	NG	NG	1+	TR	NG	0.2	19.0
43377	LS	HAZ	1.010	6.5	NG	NG	NG	NG	NG	NG	NG	0.2	30.0
43397	A	TRB	1.042	6.0	1+	NG	TR	NG	NG	NG	NG	0.2	7.0
MEAN			1.028	6.1								0.2	14.8
S.D.			0.0159	0.42								0.00	9.73
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, A=ABUNDANT, DA=DARK AMBER, HAZ=HAZY, CLD=CLOUDY, TRB=TURBID, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, TR=TRACE

TABLE 106 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY FEMALES

ANIMAL	MACLOR	MACAPP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43467	DS	HAZ	1.032	6.0	1+	NG	NG	NG	NG	NG	NG	0.2	5.0
43474	DS	HAZ	1.028	6.5	TR	NG	NG	NG	NG	NG	NG	0.2	7.0
43483	LA	HAZ	1.050	5.0	2+	NG	NG	1+	NG	NG	NG	0.2	2.0
43497	DS	HAZ	1.032	6.0	TR	NG	NG	NG	NG	NG	NG	0.2	7.5
43501	LA	HAZ	1.024	5.5	NG	NG	NG	NG	NG	NG	NG	0.2	10.5
MEAN			1.033	5.8								0.2	6.4
S.D.			0.0100	0.57								0.00	3.15
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, DS=DARK STRAW, LA=LIGHT AMBER, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, TR=TRACE

TABLE 106 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43486	LS	HAZ	1.026	5.0	1+	NG	NG	NG	NG	NG	NG	0.2	3.0
43489	DS	HAZ	1.056	5.5	3+	NG	NG	NG	NG	NG	NG	1.0	2.0
43502	S	CLR	1.026	6.0	TR	NG	NG	NG	NG	NG	NG	0.2	10.0
43511	LS	HAZ	1.015	6.0	NG	NG	NG	NG	1+	NG	NG	0.2	17.0
43515	S	HAZ	1.020	5.0	TR	NG	NG	NG	NG	NG	NG	0.2	10.0
MEAN			1.029	5.5								0.4	8.4
S.D.			0.0160	0.50								0.36	6.11
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, DS=DARK STRAW, CLR=CLEAR, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 3+=MODERATE TO ABUNDANT, TR=TRACE

TABLE 106 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43496	DS	HAZ	1.027	6.0	1+	NG	TR	NG	NG	NG	NG	0.2	11.0
43508	DS	HAZ	1.031	5.0	1+	NG	NG	NG	NG	NG	NG	0.2	6.0
43513	DS	HAZ	1.033	6.0	1+	NG	NG	NG	NG	NG	NG	0.2	5.0
43516	DS	HAZ	1.033	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	3.0
43517	DS	HAZ	1.027	5.5	TR	NG	NG	NG	NG	NG	NG	0.2	6.0
MEAN			1.030	5.6								0.2	6.2
S.D.			0.0030	0.42								0.00	2.95
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, DS=DARK STRAW, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, TR=TRACE

TABLE 106 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY FEMALES

ANIMAL	MACLOR	MACAPP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43479	DA	HAZ	1.074	5.5	3+	NG	NG	NG	NG	NG	NG	1.0	2.5
43481	LS	HAZ	1.014	5.5	NG	NG	NG	NG	NG	NG	NG	0.2	20.0
43484	LS	HAZ	1.013	6.0	NG	NG	NG	NG	NG	NG	NG	0.2	13.0
43492	DS	HAZ	1.046	6.0	1+	NG	TR	NG	NG	NG	NG	0.2	5.0
43503	S	HAZ	1.030	5.0	1+	NG	NG	NG	NG	NG	NG	0.2	5.0
MEAN			1.035	5.6								0.4	9.1
S.D.			0.0255	0.42								0.36	7.27
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, DS=DARK STRAW, DA=DARK AMBER, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 3+=MODERATE TO ABUNDANT, TR=TRACE

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 107 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY MALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43365	NG	NG	NG	F	NG	NG	F	NG	NG	
43368	NG	NG	NG	M	NG	NG	NG	NG	NG	
43369	NG	NG	NG	F	NG	NG	NG	NG	NG	
43379	NG	NG	NG	R	NG	NG	NG	NG	NG	M-SPERM
43391	NG	NG	NG	R	NG	NG	NG	NG	NG	F-SPERM

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW, M=MODERATE

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 107 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY MALES

ANIMAL	WBC	M I C R O RBC	EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43371	NG	0- 1	F	M	NG	NG	NG	NG	NG	M-SPERM
43380	0- 1	NG	F	F	NG	NG	F	NG	NG	A-SPERM
43382	0- 1	NG	F	M	NG	NG	NG	NG	NG	A-SPERM
43384	NG	NG	NG	F	NG	NG	F	NG	NG	M-SPERM
43386	NG	NG	NG	F	NG	NG	NG	NG	NG	

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, F=FEW, M=MODERATE, A=ABUNDANT

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 107 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY MALES

ANIMAL	WBC	MIC RBC	EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43363	0- 1	0- 1	NG	F	NG	NG	NG	NG	NG	F-SPERM
43383	NG	NG	A	NG	NG	NG	F	NG	NG	
43385	NG	NG	NG	R	NG	NG	NG	NG	NG	
43388	NG	NG	R	M	NG	NG	NG	NG	NG	F-SPERM M-FECAL CONTAM
43392	0- 1	NG	R	M	NG	NG	NG	NG	NG	A-SPERM M-FECAL CONTAM

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW, M=MODERATE, A=ABUNDANT

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 107 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY MALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43362	NG	NG	NG	F	NG	NG	M	NG	NG	M-SPERM
43372	NG	NG	F	NG	NG	NG	A	NG	NG	M-SPERM
43373	NG	NG	F	NG	NG	NG	NG	NG	NG	F-FECAL CONTAM
43377	NG	NG	NG	R	NG	NG	NG	NG	NG	
43397	NG	NG	NG	NG	NG	NG	M	NG	NG	R-SPERM

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW, M=MODERATE, A=ABUNDANT

TABLE 107 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

GROUP: 0 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC
43467	NG	NG	NG	F	NG	NG	NG	NG	NG
43474	NG	0- 1	F	F	NG	NG	NG	NG	NG
43483	NG	NG	R	F	NG	NG	NG	NG	NG
43497	NG	NG	R	NG	NG	NG	NG	NG	NG
43501	0- 1	NG	NG	F	NG	NG	NG	NG	NG

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW

TABLE 107 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC
43486	0- 1	0- 1	NG	M	NG	NG	NG	NG	NG
43489	NG	NG	NG	F	NG	NG	F	NG	NG
43502	NG	NG	F	F	NG	NG	NG	NG	NG
43511	NG	NG	NG	F	NG	NG	NG	NG	NG
43515	NG	0- 1	NG	R	NG	NG	NG	NG	NG

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW, M=MODERATE

TABLE 107 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC
43496	NG	0- 4	F	M	NG	NG	NG	NG	NG
43508	NG	NG	NG	F	NG	NG	NG	NG	NG
43513	NG	NG	NG	NG	NG	NG	NG	NG	NG
43516	NG	NG	F	NG	NG	NG	NG	NG	NG
43517	NG	NG	NG	F	NG	NG	NG	NG	NG

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, F=FEW, M=MODERATE

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 107 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43479	NG	NG	NG	NG	NG	NG	NG	NG	NG	F-FECAL CONTAM
43481	0- 1	0- 1	NG	NG	NG	NG	NG	NG	NG	F-FECAL CONTAM
43484	NG	NG	NG	F	NG	NG	NG	NG	NG	
43492	NG	NG	NG	F	NG	NG	NG	NG	NG	
43503	NG	NG	NG	F	NG	NG	NG	NG	NG	

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, F=FEW

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11/17/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 108 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43332	S	HAZ	1.033	5.0	2+	NG	NG	NG	NG	NG	NG	0.2	6.0
43334	S	HAZ	1.034	6.5	2+	NG	NG	NG	TR	NG	NG	0.2	6.5
43336	S	CLD	1.072	5.5	3+	NG	NG	1+	NG	NG	P+	0.2	3.0
43339	S	HAZ	1.020	6.0	1+	NG	NG	NG	TR	NG	NG	0.2	11.0
43349	S	HAZ	1.068	5.5	3+	NG	NG	1+	NG	NG	NG	0.2	2.0
43365	S	HAZ	1.056	6.0	3+	NG	NG	NG	2+	NG	NG	0.2	5.5
43368	S	HAZ	1.037	6.5	2+	NG	NG	NG	NG	NG	NG	0.2	7.0
43369	S	CLD	1.072	6.5	3+	NG	TR	1+	NG	NG	NG	1.0	1.5
43379	S	HAZ	1.030	6.5	1+	NG	TR	NG	NG	NG	NG	0.2	8.0
43391	S	HAZ	1.049	6.5	2+	NG	TR	NG	NG	NG	NG	0.2	4.5
MEAN			1.047	6.1								0.3	5.5
S.D.			0.0190	0.55								0.25	2.90
N			10	10								10	10

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, HAZ=HAZY, CLD=CLOUDY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, 3+=MODERATE TO ABUNDANT, TR=TRACE, P+=POSITIVE

TABLE 108 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43342	S	CLD	1.082	5.5	3+	NG	NG	1+	NG	NG	NG	1.0	2.5
43350	S	HAZ	1.084	5.5	3+	NG	TR	1+	NG	NG	NG	0.2	4.0
43351	S	HAZ	1.034	6.0	2+	NG	NG	NG	NG	NG	NG	0.2	8.0
43354	S	HAZ	1.032	6.5	3+	NG	NG	NG	NG	NG	NG	0.2	8.0
43364	S	HAZ	1.041	6.5	3+	NG	NG	NG	NG	NG	NG	0.2	5.0
43371	S	HAZ	1.021	6.0	1+	NG	NG	NG	NG	NG	NG	0.2	11.0
43380	S	HAZ	1.021	7.0	1+	NG	NG	NG	NG	NG	NG	0.2	13.0
43382	S	CLD	1.062	6.0	3+	NG	NG	NG	NG	NG	NG	0.2	3.5
43384	S	CLD	1.039	6.5	2+	NG	NG	NG	NG	NG	NG	0.2	7.0
43386	S	HAZ	1.016	6.5	1+	NG	NG	NG	NG	TR	NG	0.2	3.5
MEAN			1.043	6.2								0.3	6.6
S.D.			0.0247	0.48								0.25	3.49
N			10	10								10	10

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, HAZ=HAZY, CLD=CLOUDY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, 3+=MODERATE TO ABUNDANT, TR=TRACE

TABLE 108 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43323	S	HAZ	1.060	6.0	3+	NG	NG	NG	NG	NG	NG	0.2	2.5
43331	S	HAZ	1.054	6.0	3+	NG	1+	NG	NG	NG	NG	0.2	3.5
43341	S	HAZ	1.016	7.0	1+	NG	NG	NG	1+	NG	NG	0.2	27.0
43355	S	HAZ	1.041	5.5	3+	NG	NG	NG	TR	NG	NG	0.2	3.0
43361	S	HAZ	1.012	7.0	1+	NG	NG	NG	TR	NG	NG	0.2	30.0
43363	S	HAZ	1.036	6.0	2+	NG	TR	NG	NG	NG	NG	0.2	8.0
43383	LS	HAZ	1.010	7.0	1+	NG	NG	NG	NG	NG	NG	0.2	30.0
43385	S	HAZ	1.015	6.5	TR	NG	NG	NG	2+	NG	NG	0.2	17.0
43388	LS	HAZ	1.010	6.5	1+	NG	NG	NG	NG	NG	NG	0.2	30.0
43392	S	HAZ	1.020	6.5	1+	NG	NG	NG	TR	NG	NG	0.2	11.0
MEAN			1.027	6.4								0.2	16.2
S.D.			0.0189	0.52								0.00	12.05
N			10	10								10	10

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, 3+=MODERATE TO ABUNDANT, TR=TRACE

TABLE 108 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY MALES

ANIMAL	M A C R O CLOR	APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43297	S	HAZ	1.016	6.5	1+	NG	NG	NG	NG	1+	NG	0.2	22.0
43325	S	HAZ	1.041	5.5	2+	NG	NG	NG	1+	NG	NG	0.2	4.5
43328	S	CLD	1.036	6.0	3+	NG	NG	NG	NG	NG	NG	0.2	8.5
43346	S	HAZ	1.080	5.5	3+	NG	NG	NG	NG	NG	NG	0.2	3.5
43362	LS	HAZ	1.012	7.0	1+	NG	NG	NG	NG	NG	NG	0.2	29.0
43372	S	HAZ	1.025	6.5	1+	NG	NG	NG	NG	NG	NG	0.2	13.0
43373	S	HAZ	1.041	5.0	3+	NG	NG	NG	NG	NG	NG	0.2	5.5
43377	S	CLD	1.023	6.0	2+	NG	TR	NG	3+	TR	NG	0.2	13.0
43397	S	HAZ	1.066	5.5	3+	NG	NG	1+	NG	NG	NG	0.2	2.5
MEAN			1.038	5.9								0.2	11.3
S.D.			0.0227	0.63								0.00	9.08
N			9	9								9	9

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, HAZ=HAZY, CLD=CLOUDY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, 3+=MODERATE TO ABUNDANT, TR=TRACE

TABLE 108 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43433	S	HAZ	1.019	6.0	NG	NG	NG	NG	NG	NG	NG	0.2	10.0
43435	S	HAZ	1.033	6.0	1+	NG	NG	NG	NG	NG	NG	0.2	3.5
43436	S	HAZ	1.036	6.0	1+	NG	NG	NG	1+	NG	NG	0.2	5.0
43438	S	HAZ	1.026	6.0	TR	NG	NG	NG	NG	NG	NG	0.2	8.0
43449	S	HAZ	1.022	5.5	NG	NG	NG	NG	NG	NG	NG	0.2	9.5
43467	S	HAZ	1.023	5.5	TR	NG	NG	NG	NG	NG	NG	0.2	7.0
43474	S	HAZ	1.022	6.5	TR	NG	NG	NG	NG	NG	NG	0.2	8.0
43483	S	HAZ	1.040	5.5	2+	NG	NG	NG	NG	NG	NG	0.2	3.0
43497	S	HAZ	1.050	5.5	2+	NG	NG	NG	NG	NG	NG	0.2	3.0
43501	S	HAZ	1.076	5.0	3+	NG	NG	1+	NG	NG	NG	0.2	2.0
MEAN			1.035	5.8								0.2	5.9
S.D.			0.0175	0.42								0.00	2.95
N			10	10								10	10

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, 3+=MODERATE TO ABUNDANT, TR=TRACE

TABLE 108 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43420	S	HAZ	1.026	5.5	TR	NG	NG	NG	NG	NG	NG	0.2	8.5
43439	S	HAZ	1.033	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	4.0
43458	S	HAZ	1.018	6.0	NG	NG	NG	NG	NG	NG	NG	0.2	8.5
43462	S	HAZ	1.044	5.0	1+	NG	NG	NG	NG	NG	NG	0.2	3.5
43468	S	HAZ	1.040	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	5.5
43486	S	HAZ	1.064	5.0	3+	NG	NG	NG	NG	NG	NG	0.2	3.0
43489	S	HAZ	1.031	6.0	1+	NG	NG	NG	NG	NG	NG	0.2	6.5
43502	S	HAZ	1.021	6.0	NG	NG	NG	NG	NG	NG	NG	0.2	10.0
43511	S	HAZ	1.062	5.0	2+	NG	NG	NG	NG	NG	NG	0.2	3.5
43515	S	HAZ	1.064	5.0	3+	NG	NG	NG	NG	NG	NG	0.2	2.5
MEAN			1.040	5.5								0.2	5.6
S.D.			0.0177	0.44								0.00	2.68
N			10	10								10	10

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, 3+=MODERATE TO ABUNDANT, TR=TRACE

TABLE 108 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43463	S	HAZ	1.026	5.0	2+	NG	NG	NG	TR	NG	NG	0.2	5.5
43475	S	HAZ	1.033	6.5	1+	NG	NG	NG	NG	NG	NG	0.2	5.5
43478	S	HAZ	1.058	5.0	2+	NG	NG	NG	NG	NG	NG	0.2	5.0
43491	S	HAZ	1.039	5.0	1+	NG	NG	NG	NG	NG	NG	0.2	4.5
43495	S	HAZ	1.046	5.0	2+	NG	NG	NG	NG	NG	NG	0.2	2.5
43496	S	HAZ	1.025	6.0	2+	NG	NG	NG	1+	NG	NG	0.2	10.0
43508	S	HAZ	1.028	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	7.5
43513	S	HAZ	1.045	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	4.0
43516	S	HAZ	1.015	6.0	1+	NG	NG	NG	NG	TR	NG	0.2	18.0
43517	S	HAZ	1.040	5.0	1+	NG	NG	NG	NG	NG	NG	0.2	4.0
MEAN			1.036	5.5								0.2	6.7
S.D.			0.0126	0.55								0.00	4.50
N			10	10								10	10

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, TR=TRACE

TABLE 108 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43440	S	HAZ	1.043	5.0	1+	NG	NG	NG	NG	NG	NG	0.2	3.5
43456	S	HAZ	1.032	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	8.5
43460	LS	HAZ	1.015	6.0	NG	NG	NG	NG	NG	NG	NG	0.2	15.0
43466	S	HAZ	1.019	6.0	NG	NG	NG	NG	NG	NG	NG	0.2	15.0
43477	S	HAZ	1.037	5.0	2+	NG	NG	NG	NG	NG	NG	0.2	6.0
43479	S	HAZ	1.038	5.5	3+	NG	NG	NG	NG	1+	NG	0.2	5.0
43481	S	HAZ	1.011	6.0	NG	NG	NG	NG	NG	NG	NG	0.2	31.0
43484	S	HAZ	1.021	6.5	2+	NG	NG	NG	NG	TR	NG	0.2	9.5
43492	S	HAZ	1.080	5.0	3+	NG	NG	NG	NG	NG	NG	0.2	1.5
43503	LS	HAZ	1.009	7.0	NG	NG	NG	NG	NG	NG	NG	0.2	27.0
MEAN			1.031	5.8								0.2	12.2
S.D.			0.0211	0.68								0.00	9.94
N			10	10								10	10

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, 3+=MODERATE TO ABUNDANT, TR=TRACE

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 109 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY MALES

ANIMAL	WBC	M I C R O RBC	EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43332	NG	NG	NG	F	NG	NG	NG	NG	NG	A-SPERM
43334	NG	NG	NG	F	NG	NG	A	NG	NG	F-SPERM
43336	NG	NG	NG	NG	NG	NG	F	NG	NG	A-SPERM
43339	NG	NG	NG	M	NG	NG	NG	NG	NG	A-SPERM F-FECAL CONTAM
43349	NG	NG	NG	F	NG	NG	F	NG	NG	
43365	NG	6-10	NG	R	NG	NG	M	NG	NG	
43368	NG	NG	NG	F	NG	NG	F	NG	NG	
43369	0- 2	NG	NG	F	NG	NG	F	NG	NG	F-SPERM
43379	0- 1	NG	NG	F	NG	NG	NG	NG	NG	F-SPERM
43391	NG	NG	NG	F	NG	NG	F	NG	NG	F-SPERM

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW, M=MODERATE, A=ABUNDANT

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 109 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY MALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43342	NG	NG	NG	F	NG	NG	M	NG	NG	M-SPERM
43350	NG	NG	NG	F	NG	NG	F	NG	NG	F-SPERM
43351	NG	NG	NG	F	F	NG	NG	NG	NG	F-SPERM
43354	NG	NG	NG	F	NG	NG	F	NG	NG	M-SPERM
43364	NG	NG	NG	F	NG	NG	M	NG	NG	F-SPERM
43371	0- 2	0- 2	NG	F	NG	NG	NG	NG	NG	F-SPERM
43380	NG	NG	NG	NG	NG	NG	M	NG	NG	M-SPERM
43382	NG	NG	NG	F	F	NG	F	NG	NG	F-SPERM
43384	NG	NG	NG	F	NG	NG	M	NG	NG	F-SPERM
43386	NG	NG	NG	F	NG	NG	NG	NG	NG	

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TABLE 109 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY MALES

ANIMAL	WBC	MICRO RBC	MICRO EPI	MICRO BAC	MICRO AMC	MICRO HA	MICRO TPH	MICRO COX	MICRO UAC	OTHER
43323	NG	NG	NG	F	NG	NG	F	NG	NG	M-SPERM
43331	NG	NG	NG	F	NG	NG	A	NG	NG	
43341	NG	NG	NG	F	F	NG	NG	NG	NG	
43355	NG	NG	NG	F	NG	NG	NG	NG	NG	F-SPERM
43361	NG	NG	NG	M	NG	NG	M	NG	NG	F-FECAL CONTAM
43363	NG	NG	NG	F	NG	NG	M	NG	NG	F-SPERM
43383	NG	NG	NG	F	F	NG	NG	NG	NG	F-SPERM
43385	NG	6-10	NG	R	NG	NG	NG	NG	NG	
43388	NG	NG	NG	F	NG	NG	NG	NG	NG	F-SPERM
43392	NG	NG	NG	F	NG	NG	NG	NG	NG	M-SPERM

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TABLE 109 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY MALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43297	NG	NG	R	F	NG	NG	F	NG	NG	A-SPERM
43325	NG	NG	NG	F	NG	NG	M	NG	NG	F-SPERM
43328	NG	NG	NG	F	NG	NG	A	NG	NG	A-SPERM
43346	0- 1	NG	NG	NG	NG	NG	M	NG	NG	M-SPERM
43362	NG	NG	NG	F	F	NG	F	NG	NG	F-SPERM
43372	NG	NG	F	NG	NG	NG	F	NG	NG	M-SPERM
43373	NG	NG	NG	F	NG	NG	NG	NG	NG	F-SPERM
43377	1- 5	6-10	NG	M	NG	NG	NG	NG	NG	M-SPERM
43397	NG	NG	NG	F	NG	NG	R	NG	NG	

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TABLE 109 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC
43433	0- 2	0- 2	NG	R	NG	NG	NG	NG	NG
43435	NG	NG	NG	R	NG	NG	NG	NG	NG
43436	NG	0- 1	NG	M	NG	NG	F	R	NG
43438	0- 1	NG	R	F	NG	NG	NG	NG	NG
43449	NG	NG	NG	R	NG	NG	NG	NG	NG
43467	NG	NG	F	F	NG	NG	R	NG	NG
43474	NG	NG	NG	F	NG	NG	NG	NG	NG
43483	NG	0- 2	NG	F	NG	NG	NG	NG	NG
43497	NG	NG	NG	M	NG	NG	NG	NG	NG
43501	0- 1	NG	NG	M	NG	NG	NG	NG	NG

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TABLE 109 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC
43420	NG	NG	NG	F	NG	NG	NG	NG	NG
43439	0- 2	NG	NG	F	NG	NG	NG	NG	NG
43458	NG	NG	NG	R	NG	NG	NG	NG	NG
43462	NG	NG	NG	F	NG	NG	NG	NG	NG
43468	NG	NG	NG	F	NG	NG	NG	F	NG
43486	NG	NG	NG	F	F	NG	NG	NG	NG
43489	NG	NG	NG	F	NG	NG	NG	NG	NG
43502	NG	NG	NG	F	NG	NG	NG	NG	NG
43511	0- 3	NG	R	R	NG	NG	NG	NG	NG
43515	NG	NG	NG	F	NG	NG	NG	NG	NG

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TABLE 109 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43463	NG	NG	NG	M	NG	NG	NG	NG	NG	
43475	NG	10-15	NG	F	NG	NG	NG	NG	NG	
43478	NG	NG	R	R	NG	NG	NG	NG	NG	
43491	NG	NG	NG	NG	NG	NG	NG	NG	NG	
43495	NG	NG	NG	F	NG	NG	NG	NG	NG	
43496	NG	NG	NG	A	NG	NG	NG	NG	NG	F-FECAL CONTAM
43508	NG	NG	NG	F	NG	NG	NG	NG	NG	
43513	NG	NG	NG	F	NG	NG	R	R	NG	
43516	NG	NG	NG	F	NG	NG	NG	NG	NG	
43517	NG	NG	F	F	F	NG	NG	NG	NG	

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TABLE 109 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43440	NG	0- 2	NG	F	F	NG	NG	NG	NG	
43456	NG	NG	R	F	NG	NG	R	NG	NG	
43460	NG	NG	NG	F	F	NG	NG	NG	NG	
43466	NG	NG	NG	F	NG	NG	NG	NG	NG	
43477	NG	NG	NG	F	NG	NG	NG	NG	NG	
43479	NG	NG	NG	NG	NG	NG	NG	NG	NG	
43481	NG	NG	NG	NG	NG	NG	NG	NG	NG	
43484	NG	NG	R	R	NG	NG	NG	NG	NG	
43492	NG	NG	NG	F	NG	NG	F	NG	NG	
43503	NG	NG	NG	F	NG	NG	F	NG	NG	F-FECAL CONTAM

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EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 110 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43289	DS	HAZ	1.076	6.0	3+	NG	NG	NG	NG	NG	NG	0.2	3.0
43295	S	HAZ	1.049	6.5	2+	NG	TR	NG	NG	NG	NG	0.2	5.5
43308	S	HAZ	1.041	6.0	2+	NG	TR	NG	NG	NG	NG	0.2	6.0
43316	S	HAZ	1.040	6.5	2+	NG	NG	NG	NG	NG	NG	0.2	6.0
43326	S	HAZ	1.029	6.5	2+	NG	TR	NG	NG	NG	NG	0.2	9.0
MEAN			1.047	6.3								0.2	5.9
S.D.			0.0177	0.27								0.00	2.13
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, DS=DARK STRAW, HAZ=HAZY, NG=NEGATIVE, 2+=SLIGHT TO MODERATE, 3+=MODERATE TO ABUNDANT, TR=TRACE

TABLE 110 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43285	S	CLD	1.068	6.0	3+	NG	TR	1+	NG	NG	P+	0.2	3.0
43293	DS	HAZ	1.066	6.0	2+	NG	TR	NG	NG	NG	P+	0.2	4.0
43311	S	HAZ	1.032	6.5	1+	NG	TR	NG	NG	NG	NG	0.2	8.5
43320	S	HAZ	1.040	6.0	2+	NG	TR	NG	NG	NG	NG	0.2	8.0
43340	S	HAZ	1.072	5.5	3+	NG	NG	1+	NG	NG	NG	0.2	3.0
MEAN			1.056	6.0								0.2	5.3
S.D.			0.0182	0.35								0.00	2.73
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

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TABLE 110 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY MALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43290	S	HAZ	1.044	6.0	2+	NG	TR	NG	NG	NG	NG	0.2	5.0
43307	S	HAZ	1.044	6.5	2+	NG	TR	NG	NG	NG	NG	0.2	6.0
43309	S	HAZ	1.028	6.5	1+	NG	TR	NG	NG	NG	NG	0.2	11.0
43318	DS	HAZ	1.094	5.5	3+	NG	TR	NG	NG	NG	P+	1.0	3.0
43322	DS	CLD	1.078	5.5	3+	NG	NG	NG	NG	NG	P+	1.0	2.5
MEAN			1.058	6.0								0.5	5.5
S.D.			0.0273	0.50								0.44	3.39
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

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TABLE 110 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY MALES

ANIMAL	M A C R O CLOR	APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43277	S	HAZ	1.035	6.0	2+	NG	NG	NG	NG	NG	NG	0.2	5.0
43278	LS	HAZ	1.008	6.0	NG	NG	TR	NG	NG	NG	NG	0.2	32.0
43280	S	HAZ	1.018	6.5	1+	NG	TR	NG	NG	TR	NG	0.2	23.0
43281	S	CLD	1.064	5.5	3+	NG	NG	NG	TR	NG	NG	0.2	4.5
43282	S	HAZ	1.037	6.5	1+	NG	TR	NG	NG	NG	NG	0.2	7.0
MEAN			1.032	6.1								0.2	14.3
S.D.			0.0214	0.42								0.00	12.50
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

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TABLE 110 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43398	S	HAZ	1.041	5.0	1+	NG	NG	NG	NG	NG	NG	0.2	3.0
43405	LS	HAZ	1.007	5.0	NG	NG	NG	NG	NG	NG	NG	0.2	30.0
43409	S	HAZ	1.074	5.0	2+	NG	NG	NG	NG	NG	P+	0.2	1.5
43423	S	HAZ	1.035	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	5.0
43432	S	HAZ	1.040	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	4.5
MEAN			1.039	5.2								0.2	8.8
S.D.			0.0238	0.27								0.00	11.93
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

------- MACRO CODE -------

CLOR=COLOR, APP=APPEARANCE, SG=SPECIFIC GRAVITY, PRO=PROTEIN, GLU=GLUCOSE, KET=KETONE, BIL=BILIRUBIN, BLD=BLOOD, NIT=NITRITE, URO=UROBILINOGEN, S=STRAW, LS=LIGHT STRAW, HAZ=HAZY, NG=NEGATIVE, 1+=TRACE TO SLIGHT, 2+=SLIGHT TO MODERATE, P+=POSITIVE

TABLE 110 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43400	S	HAZ	1.024	6.0	NG	NG	NG	NG	NG	NG	NG	0.2	6.0
43407	DS	HAZ	1.064	5.0	2+	NG	NG	NG	NG	NG	P+	0.2	2.5
43413	S	HAZ	1.029	6.0	TR	NG	NG	NG	NG	NG	NG	0.2	5.0
43416	S	HAZ	1.031	6.0	1+	NG	NG	NG	NG	NG	NG	0.2	4.5
43419	S	CLD	1.036	6.0	1+	NG	NG	NG	TR	NG	P+	0.2	5.0
MEAN			1.037	5.8								0.2	4.6
S.D.			0.0158	0.45								0.00	1.29
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

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TABLE 110 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43402	S	HAZ	1.017	5.5	2+	NG	NG	NG	3+	TR	NG	0.2	14.0
43426	S	HAZ	1.036	6.0	1+	NG	NG	NG	1+	NG	P+	0.2	4.5
43442	DS	HAZ	1.086	5.5	3+	NG	NG	1+	NG	NG	P+	1.0	2.0
43446	S	HAZ	1.047	6.0	1+	NG	NG	NG	NG	NG	NG	0.2	3.5
43461	S	HAZ	1.043	5.5	1+	NG	NG	NG	1+	NG	P+	0.2	3.5
MEAN			1.046	5.7								0.4	5.5
S.D.			0.0253	0.27								0.36	4.83
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

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TABLE 110 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY FEMALES

ANIMAL	MACRO CLOR	MACRO APP	SG	PH	PRO	GLU	KET	BIL	BLD	LEU	NIT	URO	TVOL
												mg/dL	mL
43401	S	HAZ	1.036	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	5.0
43410	S	HAZ	1.022	6.0	NG	NG	NG	NG	NG	NG	NG	0.2	7.5
43421	S	HAZ	1.070	5.0	2+	NG	NG	NG	2+	NG	NG	0.2	2.0
43429	S	HAZ	1.064	5.0	3+	NG	NG	NG	NG	NG	NG	0.2	3.5
43430	S	HAZ	1.043	5.5	1+	NG	NG	NG	NG	NG	NG	0.2	5.0
MEAN			1.047	5.4								0.2	4.6
S.D.			0.0199	0.42								0.00	2.04
N			5	5								5	5

mg/dL = MILLIGRAMS/DECILITER, mL = MILLILITERS

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PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 111 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY MALES

ANIMAL	WBC	MICRO RBC	EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43289	NG	6-10	NG	R	R	NG	F	NG	NG	F-MUCOUS F-SPERM
43295	NG	NG	NG	R	NG	NG	F	NG	NG	R-MUCOUS R-SPERM
43308	NG	NG	NG	NG	R	NG	NG	NG	NG	
43316	NG	NG	NG	R	R	NG	R	NG	NG	R-MUCOUS R-SPERM
43326	NG	NG	NG	R	NG	NG	R	NG	NG	R-MUCOUS R-SPERM

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW

TABLE 111 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY MALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43285	NG	1- 5	NG	R	NG	NG	F	NG	NG	R-MUCOUS
43293	NG	0- 2	NG	R	R	NG	NG	NG	NG	
43311	NG	NG	NG	R	R	NG	F	NG	NG	
43320	NG	0- 2	NG	R	NG	NG	NG	NG	NG	R-MUCOUS F-SPERM
43340	NG	NG	NG	R	NG	NG	NG	NG	NG	R-MUCOUS F-SPERM

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 111 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY MALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43290	NG	NG	NG	R	R	NG	R	NG	NG	R-MUCOUS
43307	NG	6-10	NG	R	R	NG	F	NG	NG	R-MUCOUS
43309	NG	NG	NG	R	NG	NG	NG	NG	NG	F-SPERM
43318	0- 2	0- 2	NG	R	NG	NG	NG	NG	NG	
43322	NG	NG	NG	F	NG	NG	R	NG	NG	F-MUCOUS F-SPERM

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 111 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY MALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43277	NG	0- 2	R	R	NG	NG	NG	NG	NG	R-MUCOUS R-SPERM
43278	NG	NG	NG	R	NG	NG	NG	NG	NG	
43280	NG	NG	NG	R	R	NG	NG	NG	NG	R-MUCOUS
43281	NG	NG	NG	R	NG	NG	NG	NG	NG	R-MUCOUS F-SPERM
43282	NG	NG	NG	R	NG	NG	R	NG	NG	R-MUCOUS

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE, F=FEW

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 111 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 0 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43398	NG	NG	NG	R	NG	NG	NG	NG	NG	R-MUCOUS
43405	NG	NG	NG	NG	R	NG	NG	NG	NG	
43409	NG	NG	NG	R	R	NG	NG	NG	NG	
43423	NG	NG	NG	R	NG	NG	NG	NG	NG	
43432	0- 2	NG	NG	R	NG	NG	NG	NG	NG	

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 111 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 100 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43400	NG	NG	NG	NG	R	NG	NG	NG	NG	R-MUCOUS
43407	NG	NG	NG	R	R	NG	NG	NG	NG	R-MUCOUS
43413	NG	NG	NG	R	R	NG	NG	NG	NG	
43416	0- 2	NG	NG	R	R	NG	NG	NG	NG	
43419	NG	NG	NG	R	NG	NG	NG	NG	NG	R-MUCOUS

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 111 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 300 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43402	NG	11-25	NG	R	R	NG	NG	NG	NG	R-MUCOUS
43426	NG	NG	NG	R	NG	NG	NG	NG	NG	R-MUCOUS
43442	NG	NG	NG	R	NG	NG	R	NG	NG	R-MUCOUS
43446	NG	NG	NG	R	NG	NG	NG	NG	NG	R-MUCOUS
43461	NG	NG	NG	R	NG	NG	NG	NG	NG	R-MUCOUS

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE

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SPONSOR:CMA-BFRIP

TABLE 111 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MICROSCOPIC URINALYSIS VALUES

GROUP: 1000 MG/KG/DAY FEMALES

ANIMAL	WBC	M I RBC	C R O EPI	BAC	AMC	HA	TPH	COX	UAC	OTHER
43401	NG	NG	NG	R	NG	NG	NG	NG	NG	
43410	NG	NG	NG	R	R	NG	NG	NG	NG	R-MUCOUS
43421	NG	NG	NG	R	R	NG	NG	NG	NG	
43429	NG	NG	NG	R	R	NG	NG	NG	NG	R-MUCOUS
43430	NG	NG	NG	R	NG	NG	NG	NG	NG	R-MUCOUS

------- MICRO CODE -------

EPI=EPITHELIAL, BAC=BACTERIA, AMC=AMORPHOUS CRYSTALS, HA=HIPPURIC ACID, TPH=TRIPLE PHOSPHATES, COX=CALCIUM OXALATE, UAC=URIC ACID CRYSTALS, NG=NEGATIVE, R=RARE

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SPONSOR:CMA-BFRIP

TABLE 112 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 0 MG/KG/DAY		MALES	
43365	0.67	57.30	6.10
43368	1.60	72.70	12.00
43369	UR	77.60	7.90
43379	3.99	66.70	6.90
43391	1.37	77.10	6.30
MEAN	1.91	70.28	7.84
S.D.	1.444	8.474	2.429
N	4	5	5

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 112 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 100 MG/KG/DAY		MALES	
43371	12.17	74.30	7.80
43380	2.59	123.00	9.30
43382	3.09	79.90	6.80
43384	3.29	72.20	6.50
43386	1.50	102.00	6.70
MEAN	4.53	90.28	7.42
S.D.	4.328	21.783	1.165
N	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 112 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 300 MG/KG/DAY		MALES	
43363	UR	50.10	5.20
43383	UR	89.50	8.80
43385	3.07	68.10	8.00
43388	3.76	61.40	7.90
43392	5.68	57.90	5.20
MEAN	4.17	65.40	7.02
S.D.	1.352	14.954	1.698
N	3	5	5

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 112 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 1000 MG/KG/DAY		MALES	
43362	1.84	56.50	6.30
43372	4.90	97.00	6.30
43373	0.86	78.00	6.60
43377	1.71	62.00	8.10
43397	4.96	82.30	4.30
MEAN	2.85	75.16	6.32
S.D.	1.932	16.259	1.354
N	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 112 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 0 MG/KG/DAY		FEMALES	
43467	UR	92.70	7.90
43474	UR	77.50	5.50
43483	1.08	78.40	6.00
43497	UR	53.10	4.40
43501	UR	79.70	QNS
MEAN	1.08	76.28	5.95
S.D.	0.000	14.358	1.462
N	1	5	4

QNS = QUANTITY NOT SUFFICIENT, UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 112 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 100 MG/KG/DAY		FEMALES	
43486	0.84	59.90	6.60
43489	UR	58.30	6.70
43502	1.89	77.60	6.60
43511	1.19	75.80	6.50
43515	UR	85.40	3.90
MEAN	1.31	71.40	6.06
S.D.	0.535	11.807	1.210
N	3	5	5

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 112 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 300 MG/KG/DAY		FEMALES	
43496	5.62	75.20	6.80
43508	UR	72.60	7.30
43513	0.63	82.30	5.70
43516	0.84	82.70	4.80
43517	0.37	73.40	4.20
MEAN	1.87	77.24	5.76
S.D.	2.511	4.895	1.305
N	4	5	5

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 112 (WEEK 3 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 1000 MG/KG/DAY		FEMALES	
43479	2.31	94.60	5.70
43481	UR	67.60	5.00
43484	1.65	69.30	4.60
43492	1.57	88.70	6.50
43503	1.78	84.50	6.30
MEAN	1.83	80.94	5.62
S.D.	0.333	11.968	0.817
N	4	5	5

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 113 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 0 MG/KG/DAY		MALES	
43332	UR	76.40	7.10
43334	0.98	70.00	6.60
43336	0.10	67.50	7.80
43339	UR	63.40	7.10
43349	UR	41.50	6.60
43365	0.86	60.90	6.80
43368	UR	61.80	9.60
43369	0.18	73.40	9.70
43379	0.20	66.70	8.40
43391	UR	62.00	9.00
MEAN	0.46	64.36	7.87
S.D.	0.420	9.553	1.223
N	5	10	10

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 113 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 100 MG/KG/DAY		MALES	
43342	UR	48.50	4.00
43350	2.66	44.40	6.80
43351	0.37	72.80	6.50
43354	3.84	68.20	5.30
43364	11.91	68.70	6.00
43371	4.86	53.50	6.80
43380	1.67	74.10	6.70
43382	0.38	42.40	6.00
43384	0.61	45.50	8.80
43386	UR	69.70	6.50
MEAN	3.29	58.78	6.34
S.D.	3.859	13.007	1.222
N	8	10	10

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 113 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 300 MG/KG/DAY		MALES	
43323	4.59	59.30	7.30
43331	4.12	86.30	7.90
43341	3.20	46.00	5.90
43355	0.49	59.70	6.50
43361	5.95	74.40	6.90
43363	1.49	55.40	5.00
43383	0.32	40.90	5.80
43385	1.11	61.00	5.90
43388	0.52	53.20	7.00
43392	4.69	53.40	4.60
MEAN	2.65	58.96	6.28
S.D.	2.098	13.172	1.033
N	10	10	10

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 113 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 1000 MG/KG/DAY		MALES	
43297	4.47	67.60	4.30
43325	1.58	54.40	5.20
43328	6.93	48.60	4.30
43346	1.17	62.10	5.00
43362	3.69	69.30	4.50
43372	8.62	59.40	5.80
43373	1.15	75.50	6.50
43377	0.61	63.00	4.60
43397	6.74	78.20	4.50
MEAN	3.88	64.23	4.97
S.D.	2.981	9.549	0.755
N	9	9	9

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 113 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 0 MG/KG/DAY		FEMALES	
43433	0.85	107.00	5.80
43435	UR	66.80	5.40
43436	UR	64.10	6.20
43438	0.73	65.20	6.60
43449	0.34	88.90	4.60
43467	0.21	69.40	5.30
43474	0.17	60.40	4.70
43483	UR	82.90	5.00
43497	UR	61.40	6.60
43501	UR	67.90	4.10
MEAN	0.46	73.40	5.43
S.D.	0.311	14.967	0.860
N	5	10	10

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 113 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 100 MG/KG/DAY		FEMALES	
43420	0.48	72.70	5.00
43439	UR	74.90	5.10
43458	UR	103.00	4.80
43462	0.90	104.00	5.90
43468	1.05	67.60	5.10
43486	2.63	59.50	5.20
43489	1.03	68.40	4.60
43502	3.65	52.50	4.10
43511	0.70	54.70	5.80
43515	0.94	50.50	4.00
MEAN	1.42	70.78	4.96
S.D.	1.110	19.176	0.624
N	8	10	10

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 113 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 300 MG/KG/DAY		FEMALES	
43463	0.54	38.30	3.40
43475	6.16	57.20	5.30
43478	0.89	62.50	4.50
43491	1.79	53.10	6.00
43495	1.45	68.10	5.50
43496	7.66	74.30	4.90
43508	UR	100.00	4.40
43513	0.41	86.30	3.90
43516	15.77	62.80	3.70
43517	0.95	67.60	3.70
MEAN	3.96	67.02	4.53
S.D.	5.145	17.215	0.876
N	9	10	10

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 113 (WEEK 13 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 1000 MG/KG/DAY	FEMALES		
43440	2.09	QNS	QNS
43456	2.83	75.40	3.50
43460	1.49	91.70	4.00
43466	6.87	53.00	4.30
43477	0.96	83.70	4.20
43479	3.21	42.00	3.90
43481	2.66	81.30	4.40
43484	1.09	53.20	3.60
43492	1.79	77.90	4.90
43503	1.34	74.60	6.00
MEAN	2.43	70.31	4.31
S.D.	1.735	16.783	0.762
N	10	9	9

QNS = QUANTITY NOT SUFFICIENT

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

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TABLE 114 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 0 MG/KG/DAY		MALES	
43289	1.48	80.60	6.10
43295	1.23	69.30	6.80
43308	3.07	78.20	7.10
43316	0.92	42.30	4.60
43326	0.81	51.90	7.50
MEAN	1.50	64.46	6.42
S.D.	0.915	16.745	1.139
N	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 114 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 100 MG/KG/DAY		MALES	
43285	UR	101.00	7.20
43293	0.14	78.70	7.60
43311	0.23	67.90	7.70
43320	0.35	76.60	5.30
43340	1.14	69.20	5.00
MEAN	0.47	78.68	6.56
S.D.	0.458	13.310	1.305
N	4	5	5

UR = BELOW INSTRUMENT RANGE

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 114 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 300 MG/KG/DAY		MALES	
43290	0.28	71.00	5.80
43307	1.66	89.10	6.60
43309	0.26	68.40	8.00
43318	0.46	68.20	8.80
43322	0.53	61.10	6.00
MEAN	0.64	71.56	7.04
S.D.	0.583	10.472	1.307
N	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 114 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 1000 MG/KG/DAY		MALES	
43277	2.47	72.60	5.30
43278	1.44	120.00	5.20
43280	1.02	74.60	5.40
43281	0.34	88.50	5.50
43282	1.08	56.50	6.10
MEAN	1.27	82.44	5.50
S.D.	0.780	23.868	0.354
N	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 114 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 0 MG/KG/DAY		FEMALES	
43398	1.15	83.40	3.50
43405	0.07	64.40	3.10
43409	0.14	68.30	1.80
43423	0.27	81.70	2.90
43432	0.29	69.90	4.70
MEAN	0.38	73.54	3.20
S.D.	0.438	8.486	1.049
N	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 114 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 100 MG/KG/DAY		FEMALES	
43400	0.17	73.10	3.90
43407	0.54	81.60	3.50
43413	0.39	83.50	4.50
43416	0.32	63.90	3.00
43419	0.43	62.90	3.30
MEAN	0.37	73.00	3.64
S.D.	0.137	9.605	0.581
N	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 114 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 300 MG/KG/DAY		FEMALES	
43402	0.47	66.80	3.00
43426	0.20	77.70	3.90
43442	0.17	118.00	4.10
43446	0.24	52.80	3.90
43461	0.21	73.40	3.30
MEAN	0.26	77.74	3.64
S.D.	0.121	24.400	0.467
N	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

TABLE 114 (WEEK 17 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SERUM HORMONE VALUES

ANIMAL	TSH	TOTAL T3	TOTAL T4
	ng/ml	ng/dL	uG/dL
GROUP: 1000 MG/KG/DAY FEMALES			
43401	0.63	75.70	2.70
43410	0.68	85.30	5.30
43421	0.20	128.00	4.50
43429	0.27	87.50	3.80
43430	0.59	55.30	3.70
MEAN	0.47	86.36	4.00
S.D.	0.222	26.527	0.970
N	5	5	5

uG/dL = MICROGRAMS/DECILITER, ng/ml = NANOGRAMS/MILLILITER, ng/dL = NANOGRAMS/DECILITER

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 115 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 1(WEEK -1)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43289	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43295	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43308	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43316	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43326	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43332	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43334	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43336	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43339	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43349	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43365	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43368	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43369	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43379	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43391	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43285	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43293	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43311	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43320	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43340	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43342	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43350	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43351	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43354	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 115 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 1(WEEK -1)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43364	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43371	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43380	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43382	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43384	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43386	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43290	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43307	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43309	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43318	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43322	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43323	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43331	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43341	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43355	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43361	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43363	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43383	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43385	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43388	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43392	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43277	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43278	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43280	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 115 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 1(WEEK -1)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43281	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43282	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43297	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43325	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43328	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43346	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43359	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43362	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43372	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43373	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43377	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43397	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43398	0 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43405	0 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43409	0 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43423	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43432	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43433	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43435	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43436	0 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43438	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43449	0 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43467	0 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43474	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 115 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 1(WEEK -1)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43483	0 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43497	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43501	0 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43400	100 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43407	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43413	100 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43416	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43419	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43420	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43439	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43458	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43462	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43468	100 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43486	100 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43489	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43502	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43511	100 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43515	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43402	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43426	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43442	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43446	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43461	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43463	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 115 (WEEK -1 PRETEST EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 1(WEEK -1)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43475	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43478	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43491	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43495	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43496	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43508	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43513	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43516	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43517	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43401	1000 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43410	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43421	1000 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43429	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43430	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43440	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43456	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43460	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43466	1000 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43477	1000 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43479	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43481	1000 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43484	1000 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43492	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43503	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 116 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 2(WEEK 12)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43289	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43295	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43308	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43316	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43326	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43332	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43334	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43336	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43339	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43349	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43365	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43368	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43369	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43379	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43391	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43285	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43293	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43311	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43320	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43340	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43342	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43350	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43351	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43354	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 116 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 2(WEEK 12)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43364	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43371	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43380	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43382	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43384	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43386	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43290	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43307	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43309	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43318	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43322	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43323	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43331	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43341	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43355	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43361	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43363	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43383	300 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43385	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43388	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43392	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43277	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43278	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43280	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 116 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 2(WEEK 12)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43281	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43282	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43297	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43325	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43328	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43346	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43362	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43372	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43373	1000 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43377	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43397	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43398	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43405	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43409	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43423	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43432	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43433	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43435	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43436	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43438	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43449	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43467	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43474	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43483	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 116 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 2(WEEK 12)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43497	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43501	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43400	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43407	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43413	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43416	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43419	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43420	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43439	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43458	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43462	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43468	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43486	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43489	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43502	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43511	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43515	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43402	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43426	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43442	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43446	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43461	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43463	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43475	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 116 (WEEK 12 EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: DAW INPUT BY: HGG

EXAM 2(WEEK 12)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43478	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43491	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43495	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43496	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43508	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43513	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43516	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43517	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43401	1000 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43410	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43421	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43429	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43430	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43440	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43456	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43460	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43466	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43477	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43479	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43481	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43484	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43492	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43503	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 117 (WEEK 15 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: BCG INPUT BY: CLH

EXAM 3(WEEK 15)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43289	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43295	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43308	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43316	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43326	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1
43285	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43293	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43311	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43320	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43340	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43290	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43307	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43309	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43318	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43322	300 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43277	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43278	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43280	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43281	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43282	1000 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P
43398	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43405	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43409	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43423	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 117 (WEEK 15 RECOVERY EVALUATION)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL OPHTHALMOLOGICAL EXAMINATION FINDINGS

EXAMINER: BCG INPUT BY: CLH

EXAM 3(WEEK 15)

ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE
43432	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43400	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43407	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43413	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43416	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43419	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43402	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43426	300 MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
43442	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43446	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43461	300 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43401	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43410	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43421	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43429	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
43430	1000 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

TABLE 118
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ESTROUS CYCLE DATA

FEMALES FROM GROUP 1: 0 MG/KG/DAY

FEMALE NUMBER	DETERMINATION DAY: 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	INDIVIDUAL MEAN LENGTH OF ESTROUS CYCLE (IN DAYS)
43398	D	D	M	D	D	D	P	D	M	D	D	E	M	M	D	D	E	M	D	D	D	E	M	D	D	5.0
43405	D	D	M	D	D	D	D	D	D	D	D	P	M	D	D	D	P	E	D	D	D	D	D	D	D	6.0
43409	E	D	D	D	E	M	D	D	D	E	M	D	D	D	D	D	D	D	D	D	D	D	D	D	D	4.5
43423	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	4.0
43432	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	P	M	A
43433	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E		4.0
43435	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	4.0
43436	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	P	M	D	D	D	E	D	D	D	4.2
43438	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D			4.0
43449	E	D	D	D	D	E	D	D	D	P	M	D	D	D	E	M	D	D	D	E	D	D	D	D		4.8
43467	D	D	E	D	D	D	E	M	D	D	D	E	D	D	D	D	E	D	D	D	E	D	D			4.5
43474	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D			4.0
43483	E	D	D	D	E	M	D	D	D	E	D	D	D	E	D	D	D	P	E	D	D	D	P	E		4.5
43497	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A
43501	D	E	D	D	D	E	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	M	D	4.5
																									MEAN	4.5
																									S.D.	0.57
																									N	13

ESTROUS STAGE CODE: E = ESTRUS, D = DIESTRUS, M = METESTRUS, P = PROESTRUS
A = ONE OCCURRENCE OR NO ESTRUS RECORDED DURING THE OBSERVATION PERIOD, NOT INCLUDED IN CALCULATION OF MEAN

TABLE 118
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ESTROUS CYCLE DATA

FEMALES FROM GROUP 2: 100 MG/KG/DAY

FEMALE NUMBER	DETERMINATION DAY: 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	INDIVIDUAL MEAN LENGTH OF ESTROUS CYCLE (IN DAYS)
43400	D	D	P	E	D	D	D	P	E	D	D	D	P	E	D	D	D	P	E	D	D	D	D	E	D	5.0
43407	D	M	D	D	D	E	D	D	P	E	D	D	P	E	D	D	D	E	D	D	P	E	M	D	D	4.0
43413	D	D	D	D	E	D	D	D	E	D	D	D	D	D	D	D	D	E	M	D	D	D	E	M	D	6.0
43416	D	P	E	D	D	D	E	D	D	P	E	D	D	D	D	D	D	D	D	D	D	D	M	D	D	4.0
43419	D	D	D	D	D	D	D	D	P	M	D	D	D	E	D	P	M	D	D	D	D	D	D	D	D	3.5
43420	M	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D			A
43439	M	D	D	D	E	D	D	D	D	E	M	D	D	E	D	D	D	P	E	M	D	D	D	E	M	4.8
43458	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E		4.0
43462	D	D	D	D	D	E	D	D	P	D	M	D	P	E	D	D	P	E	D	D	D	E	D			4.0
43468	M	D	D	D	D	D	M	D	D	D	D	D	D	D	D	D	D	M	D	D	D	D	M	D		A
43486	D	E	D	D	D	E	D	D	D	D	E	M	D	D	D	E	M	D	D	D	D	M	D	D		4.7
43489	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D		4.0
43502	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	P	E	4.0
43511	D	E	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	E	D	D	D	D	D	9.0
43515	E	D	D	D	E	D	D	D	E	D	D	D	E	M	D	D	D	D	D	D	D	D	D			4.0
																									MEAN	4.7
																									S.D.	1.45
																									N	13

ESTROUS STAGE CODE: E = ESTRUS, D = DIESTRUS, M = METESTRUS, P = PROESTRUS
A = ONE OCCURRENCE OR NO ESTRUS RECORDED DURING THE OBSERVATION PERIOD, NOT INCLUDED IN CALCULATION OF MEAN

TABLE 118
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ESTROUS CYCLE DATA

FEMALES FROM GROUP 3: 300 MG/KG/DAY

FEMALE NUMBER	DETERMINATION DAY: 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	INDIVIDUAL MEAN LENGTH OF ESTROUS CYCLE (IN DAYS)
43402	M	D	D	D	D	E	D	D	D	D	D	D	D	D	E	E	M	D	D	D	E	D	M	D	D	7.5
43426	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	M	D	D	D	E	D	D	D	D	4.3
43442	D	D	D	E	M	D	D	D	E	M	M	D	D	E	M	M	D	D	E	D	D	D	D	P	M	5.0
43446	D	D	D	E	M	D	D	D	P	M	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	4.5
43461	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	4.0
43463	P	E	D	D	D	E	E	D	D	D	E	E	D	D	D	E	E	D	D	D	D	E	D			5.0
43475	M	D	D	D	D	E	D	D	D	P	M	D	D	D	D	E	D	D	D	D	E	D	D			5.0
43478	D	P	D	D	P	D	D	P	D	D	D	D	D	D	D	D	E	D	D	E	D	D	D	N		4.5
43491	D	M	D	D	D	E	M	D	D	D	E	M	D	D	D	D	E	M	D	D	D	D	E			5.5
43495	D	D	M	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	E	M	D	11.0
43496	M	M	D	D	M	D	D	D	M	D	D	D	D	D	M	D	D	D	D	D	D	D	M	M	M	A
43508	D	E	D	D	D	E	D	D	P	M	M	D	D	E	D	D	D	E	D	D	D	E	D	D		4.0
43513	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	P	E	D	D	D	E	D	D		4.0
43516	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A
43517	P	M	D	D	P	M	D	D	P	M	D	D	P	M	D	D	P	E	D	D	D	D	E	M		4.4
																									MEAN	5.3
																									S.D.	1.95
																									N	13

ESTROUS STAGE CODE: E = ESTRUS, D = DIESTRUS, M = METESTRUS, P = PROESTRUS
N = NOT ENTERED
A = ONE OCCURRENCE OR NO ESTRUS RECORDED DURING THE OBSERVATION PERIOD, NOT INCLUDED IN CALCULATION OF MEAN

TABLE 118
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ESTROUS CYCLE DATA

FEMALES FROM GROUP 4: 1000 MG/KG/DAY

FEMALE NUMBER	DETERMINATION DAY: 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	INDIVIDUAL MEAN LENGTH OF ESTROUS CYCLE (IN DAYS)
43401	D	D	D	D	D	D	M	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	M	A
43410	P	P	M	D	D	E	D	D	D	D	P	M	D	D	D	P	M	D	D	D	E	M	D	D	D	4.8
43421	D	D	D	D	D	D	M	M	D	D	D	M	M	D	D	D	D	D	D	D	D	D	D	D	D	A
43429	D	D	D	E	D	D	D	E	E	D	D	D	D	D	D	D	D	D	E	D	D	D	E	E	D	6.7
43430	D	D	E	D	D	P	E	D	D	P	E	D	D	P	E	D	D	D	E	D	D	D	E	D	D	4.0
43440	D	D	D	D	D	D	D	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D		4.0
43456	P	D	D	D	D	D	D	D	D	E	M	D	D	D	D	E	D	D	D	D	D	D	E	D	D	7.3
43460	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E	D	D		4.0
43466	D	D	D	D	D	D	D	M	M	D	D	D	D	D	D	D	D	D	D	D	D	D	D			A
43477	M	D	D	D	D	E	M	D	D	E	M	D	D	D	D	E	M	D	D	D	P	E	D	D	D	5.3
43479	D	D	D	E	M	D	D	D	D	E	D	D	D	D	E	M	D	D	D	E	D	D	D	E		5.3
43481	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D			A
43484	D	D	D	M	D	D	D	E	M	M	D	D	P	M	D	D	D	D	D	D	D	D	D			5.0
43492	E	D	D	D	E	D	D	D	E	M	D	D	D	D	D	D	D	P	E	M	D	D	D	E	M	5.8
43503	M	D	D	D	E	M	D	D	D	E	M	D	D	D	D	E	D	D	D	E	E	M	D	D	D	5.3

MEAN	5.2
S.D.	1.08
N	11

ESTROUS STAGE CODE: E = ESTRUS, D = DIESTRUS, M = METESTRUS, P = PROESTRUS
A = ONE OCCURRENCE OR NO ESTRUS RECORDED DURING THE OBSERVATION PERIOD, NOT INCLUDED IN CALCULATION OF MEAN

PCYCv4.0
11/09/2000
R:12/11/2001

TABLE 119 (UNSCHEDULED DEATH)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
GROSS AND MICROSCOPIC DESCRIPTION OF ORGANS

ANIMAL NO. 43359 GROUP 4: 1000 MG/KG/DAY MALE FOUND DEAD 05/07/00 DATE OF DEATH: 05/07/00 STUDY DAY: 11

		GRADE
KIDNEYS	GROSS: DILATED PELVIS BILATERAL	1
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE	1
	BASOPHILIC TUBULES	1
	HYDRONEPHROSIS CORRELATES WITH GROSS DILATED PELVIS	2
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	PAS STAIN, POSITIVE MOSTLY CENTRILOBULAR; STAIN LOST WITH DIASTASE TREATMENT	3
	OIL RED O, POSITIVE PERIPORTAL TO MIDZONAL	2
LUNGS	GROSS: DARK RED AREA(S) MULTIPLE, IRREGULARLY SHAPED, ALL LOBES	P
LUNGS	MICRO: HEMORRHAGE CORRELATES WITH GROSS DARK RED AREA(S)	3
STOMACH, GLD	MICRO: NO SIGNIFICANT CHANGES OBSERVED NO CORRELATE TO GROSS RED CONTENTS	
STOMACH, NONGLD	MICRO: NO SIGNIFICANT CHANGES OBSERVED NO CORRELATE TO GROSS RED CONTENTS	
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
SKIN	GROSS: RED MATTING NASAL; BUCCAL	P
SPLEEN	MICRO: HEMATOPOIESIS, EXTRAMEDULLARY	1
STOMACH	GROSS: DARK RED CONTENTS	P

ANIMAL NO. 43359 GROUP 4: 1000 MG/KG/DAY MALE FOUND DEAD 05/07/00 DATE OF DEATH: 05/07/00 STUDY DAY: 11

						GRADE
THYMUS GLAND	MICRO: HEMORRHAGE					1
CAUSE DEATH/MORB	MICRO: UNKNOWN					P
NO SIGNIFICANT CHANGES OBSERVED	GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN	
		CECUM	COLON	DUODENUM	ESOPHAGUS	
		EYES/OPTIC N.	HEART	ILEUM	JEJUNUM	
		LIVER	LYMPH NODE, MES	NERVE,SCIATIC	PANCREAS	
		RT EPIDIDYMIS	LT EPIDIDYMIS	RECTUM	PITUITARY	
		PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE	
		SPINAL CORD	SPLEEN	LYMPH NODE, MAND	THYMUS GLAND	
		THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA	
		VAS DEFERENS	URINARY BLADDER			
	MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM	
		COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.	
		HEART	JEJUNUM	LYMPH NODE, MES	ADRENAL CORTEX	
		ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD	
		MARROW, STERN	PANCREAS	PARATHYROID	RT EPIDIDYMIS	
		RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND	
		SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD	
		LYMPH NODE, MAND	THYROID GLANDS	RT TESTIS	TRACHEA	
		VAS DEFERENS	URINARY BLADDER			
TOO AUTOLYZED FOR DIAGNOSIS	MICRO: ILEUM					

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

PGRHv4.27
03/12/2001
R:07/18/2001

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43332 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.96	0.363
LIVER	14.03	2.598
KIDNEYS	4.30	0.796
HEART	1.59	0.294
SPLEEN	0.67	0.124
PROSTATE	0.93	0.172
RT TESTIS	1.67	0.309
LT TESTIS	1.80	0.333
RT EPIDIDYMIS	0.64	0.119
LT EPIDIDYMIS	0.70	0.130
RT CAUDA EPID	0.3239	0.060
LT CAUDA EPID	0.3261	0.060
THYMUS GLAND	0.2885	0.053
ADRENAL GLANDS	0.0531	0.010
THYROIDS/PARA	0.0303	0.006
FINAL BODY WT(G)	540.	

		GRADE
HEART	MICRO: CARDIOMYOPATHY	1
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	PAS STAIN, NEGATIVE	P
	OIL RED O, POSITIVE	3
	PERIPORTAL TO MIDZONAL	
LUNGS	GROSS: DARK RED	P
	ALL LOBES	
LUNGS	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	NO CORRELATE TO GROSS RED DISCOLORATION	
RECTUM	MICRO: PARASITES, NEMATODES	P
	PINWORMS	
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	2
SKELETAL MUSCLE	MICRO: DEGENERATION	1
THYMUS GLAND	MICRO: HEMORRHAGE	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	NERVE,SCIATIC
	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS	RECTUM
	PITUITARY	PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	RT TESTIS	LT TESTIS	TRACHEA	VAS DEFERENS
	URINARY BLADDER			
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	ILEUM	JEJUNUM	LYMPH NODE, MES	ADRENAL CORTEX

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43332 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

			GRADE
LUNGS	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID
RT EPIDIDYMIS	PITUITARY	SAL. GLAND MAND	SEMINAL VESICLES
SKIN	SPINAL CORD	SPLEEN	LYMPH NODE, MAND
THYROID GLANDS	RT TESTIS	TRACHEA	VAS DEFERENS
URINARY BLADDER			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43334 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.14	0.404
LIVER	14.34	2.706
KIDNEYS	3.39	0.640
HEART	1.78	0.336
SPLEEN	1.01	0.191
PROSTATE	1.00	0.189
RT TESTIS	1.76	0.332
LT TESTIS	1.69	0.319
RT EPIDIDYMIS	0.72	0.136
LT EPIDIDYMIS	0.70	0.132
RT CAUDA EPID	0.2919	0.055
LT CAUDA EPID	0.3338	0.063
THYMUS GLAND	0.3474	0.066
ADRENAL GLANDS	0.0611	0.012
THYROIDS/PARA	0.0202	0.004
FINAL BODY WT(G)	530.	

NO SIGNIFICANT CHANGES OBSERVED

		GRADE
CECUM	MICRO: INFLAMMATION, SUBACUTE	2
KIDNEYS	MICRO: BASOPHILIC TUBULES	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
PANCREAS	MICRO: INFILTRATE, FATTY	1
PROSTATE	MICRO: INFLAMMATION, CHRONIC ACTIVE	2
SPLEEN	MICRO: VACUOLATION	1
THYMUS GLAND	MICRO: ATROPHY	1
	HEMORRHAGE	1

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	AORTA	STERNEBRAE	BRAIN	COLON
	DUODENUM	ESOPHAGUS	EYES/OPTIC N.	HEART
	ILEUM	JEJUNUM	LYMPH NODE, MES	ADRENAL CORTEX
	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD
	MARROW, STERN	PARATHYROID	RT EPIDIDYMIS	RECTUM
	PITUITARY	SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE
	SKIN	SPINAL CORD	LYMPH NODE, MAND	THYROID GLANDS
	RT TESTIS	TRACHEA	VAS DEFERENS	URINARY BLADDER

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43336 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.19	0.474
LIVER	12.11	2.621
KIDNEYS	3.24	0.701
HEART	1.58	0.342
SPLEEN	0.67	0.145
PROSTATE	0.90	0.195
RT TESTIS	1.74	0.377
LT TESTIS	1.77	0.383
RT EPIDIDYMIS	0.76	0.165
LT EPIDIDYMIS	0.71	0.154
RT CAUDA EPID	0.3033	0.066
LT CAUDA EPID	0.2652	0.057
THYMUS GLAND	0.3706	0.080
ADRENAL GLANDS	0.0463	0.010
THYROIDS/PARA	0.0261	0.006
FINAL BODY WT(G)	462.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	HISTIOCYTOSIS, ALVEOLAR	1
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	1
LYMPH NODE, MAND	GROSS: ENLARGED	P
	RIGHT	
LYMPH NODE, MAND	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	NO CORRELATE TO GROSS ENLARGEMENT	
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
THYROID GLANDS	MICRO: INFLAMMATION, SUBACUTE	2

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	THYMUS GLAND	THYROID GLANDS
RT TESTIS	LT TESTIS	TRACHEA	VAS DEFERENS
URINARY BLADDER			

MICRO:

AORTA	STERNEBRAE	BRAIN	CECUM
COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
HEART	ILEUM	JEJUNUM	KIDNEYS
LYMPH NODE, MES	ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC
STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN	PANCREAS
PARATHYROID	RT EPIDIDYMIS	RECTUM	PITUITARY
SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN
SPINAL CORD	SPLEEN	LYMPH NODE, MAND	RT TESTIS
TRACHEA	VAS DEFERENS	URINARY BLADDER	

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43336 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

GRADE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43339 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.06	0.380
LIVER	15.56	2.871
KIDNEYS	4.06	0.749
HEART	1.88	0.347
SPLEEN	0.78	0.144
PROSTATE	1.06	0.196
RT TESTIS	1.68	0.310
LT TESTIS	1.63	0.301
RT EPIDIDYMIS	0.61	0.113
LT EPIDIDYMIS	0.70	0.129
RT CAUDA EPID	0.2868	0.053
LT CAUDA EPID	0.3018	0.056
THYMUS GLAND	0.3390	0.063
ADRENAL GLANDS	0.0766	0.014
THYROIDS/PARA	0.0174	0.003
FINAL BODY WT(G)	542.	

KIDNEYS
LIVER
ADRENAL CORTEX
LUNGS

PROSTATE
SPINAL CORD

THYMUS GLAND

NO SIGNIFICANT CHANGES OBSERVED

		GRADE
MICRO:	BASOPHILIC TUBULES	2
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	VACUOLATION	2
MICRO:	MINERALIZATION, VASCULAR	1
	HISTIOCYTOSIS, ALVEOLAR	1
	INFLAMMATION, SUBACUTE	1
MICRO:	INFLAMMATION, SUBACUTE	2
MICRO:	HEMORRHAGE	1
	PERACUTE	
MICRO:	HEMORRHAGE	2
	ATROPHY	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

MICRO:

AORTA	STERNEBRAE	BRAIN	CECUM
COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
HEART	ILEUM	JEJUNUM	LYMPH NODE, MES
ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD
MARROW, STERN	PANCREAS	PARATHYROID	RT EPIDIDYMIS
RECTUM	PITUITARY	SAL. GLAND MAND	SEMINAL VESICLES
SKELETAL MUSCLE	SKIN	SPLEEN	LYMPH NODE, MAND
THYROID GLANDS	RT TESTIS	TRACHEA	VAS DEFERENS
URINARY BLADDER			

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43339 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

GRADE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43349 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.15	0.397
LIVER	13.77	2.545
KIDNEYS	3.22	0.595
HEART	1.58	0.292
SPLEEN	0.90	0.166
PROSTATE	1.17	0.216
RT TESTIS	1.66	0.307
LT TESTIS	1.60	0.296
RT EPIDIDYMIS	0.68	0.126
LT EPIDIDYMIS	0.67	0.124
RT CAUDA EPID	0.2538	0.047
LT CAUDA EPID	0.3056	0.056
THYMUS GLAND	0.3275	0.061
ADRENAL GLANDS	0.0578	0.011
THYROIDS/PARA	0.0215	0.004
FINAL BODY WT(G)	541.	

		GRADE
KIDNEYS	MICRO: BASOPHILIC TUBULES	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: HISTIOCYTOSIS, ALVEOLAR	2
	MINERALIZATION, VASCULAR	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
SPLEEN	MICRO: DEPLETION, LYMPHOID	1
LYMPH NODE, MAND	GROSS: ENLARGED	P
	RIGHT	
LYMPH NODE, MAND	MICRO: HEMORRHAGE	2
	PLASMACYTOSIS, MEDULLARY	2
	CORRELATES WITH GROSS ENLARGEMENT	
THYMUS GLAND	MICRO: ATROPHY	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
	SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	

NO SIGNIFICANT CHANGES OBSERVED

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	THYMUS GLAND	THYROID GLANDS
	RT TESTIS	LT TESTIS	TRACHEA	VAS DEFERENS
	URINARY BLADDER			
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43349 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

			GRADE
COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
HEART	ILEUM	JEJUNUM	LYMPH NODE, MES
ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID
RT EPIDIDYMIS	RECTUM	PITUITARY	PROSTATE
SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN
SPINAL CORD	RT TESTIS	TRACHEA	VAS DEFERENS
URINARY BLADDER			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43365 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.88	0.382
LIVER	12.85	2.612
KIDNEYS	3.20	0.650
HEART	1.44	0.293
SPLEEN	0.60	0.122
PROSTATE	0.54	0.110
RT TESTIS	0.57	0.116
LT TESTIS	0.53	0.108
RT EPIDIDYMIS	0.10	0.021
LT EPIDIDYMIS	0.30	0.061
RT CAUDA EPID	0.1047	0.021
LT CAUDA EPID	0.1216	0.025
THYMUS GLAND	0.2151	0.044
ADRENAL GLANDS	0.0526	0.011
THYROIDS/PARA	0.0138	0.003
FINAL BODY WT(G)	492.	

		GRADE
EPIDIDYMIDES	GROSS: SMALL BILATERAL	P
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	HEMATOPOIESIS, EXTRAMEDULLARY	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
RT EPIDIDYMIS	MICRO: LUMINAL DEBRIS, CELLULAR	3
	HYPOSPERMIA CORRELATES WITH GROSS OBSERVATION OF SMALL	4
SKIN	GROSS: RED MATTING NASAL	P
LYMPH NODE, MAND	GROSS: REDDENED BILATERAL	P
LYMPH NODE, MAND	MICRO: HEMORRHAGE CORRELATES WITH GROSS REDNESS	2
TESTES	GROSS: SOFT BILATERAL	P
TESTES	GROSS: SMALL BILATERAL	P
THYMUS GLAND	MICRO: ATROPHY	1
RT TESTIS	MICRO: DEGENERATION, SEMINIFEROUS TUBULES CORRELATES WITH GROSS APPEARANCE OF SMALL AND SOFT	3
TAIL	GROSS: BROWN MATTING BASE	P
TEETH	GROSS: MALALIGNED UPPER INCISOR, BILATERAL	P
NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS AORTA STERNEBRAE BRAIN	

ANIMAL NO. 43365 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

				GRADE
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SPINAL CORD	SPLEEN
	STOMACH	THYMUS GLAND	THYROID GLANDS	RT TESTIS
	LT TESTIS	TRACHEA	VAS DEFERENS	URINARY BLADDER
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	HEART	ILEUM	JEJUNUM	KIDNEYS
	LYMPH NODE, MES	ADRENAL CORTEX	LUNGS	ADRENAL MEDULLA
	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN
	PANCREAS	PARATHYROID	RECTUM	PITUITARY
	PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE
	SKIN	SPINAL CORD	SPLEEN	THYROID GLANDS
	TRACHEA	VAS DEFERENS	URINARY BLADDER	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43368 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.97	0.325
LIVER	16.13	2.657
KIDNEYS	3.39	0.558
HEART	1.72	0.283
SPLEEN	0.98	0.161
PROSTATE	1.12	0.185
RT TESTIS	1.64	0.270
LT TESTIS	1.69	0.278
RT EPIDIDYMIS	0.72	0.119
LT EPIDIDYMIS	0.69	0.114
RT CAUDA EPID	0.3268	0.054
LT CAUDA EPID	0.3562	0.059
THYMUS GLAND	0.3374	0.056
ADRENAL GLANDS	0.0534	0.009
THYROIDS/PARA	0.0254	0.004
FINAL BODY WT(G)	607.	

		GRADE
HEART	MICRO: CARDIOMYOPATHY	1
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE	2
	BASOPHILIC TUBULES	2
	CYST, CORTICAL	2
LIVER	MICRO: VACUOLATION, HEPATOCELLULAR	2
	PAS STAIN, POSITIVE	1
	MOSTLY CENTRILOBULAR; STAIN LOST WITH DIASTASE TREATMENT	
	OIL RED O, POSITIVE	3
	PERIPORTAL TO MIDZONAL	
LUNGS	MICRO: INFLAMMATION, CHRONIC	2
	HISTIOCYTOSIS, ALVEOLAR	1
SKELETAL MUSCLE	MICRO: DEGENERATION	1
THYMUS GLAND	MICRO: HEMORRHAGE	2
	ATROPHY	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	2

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

MICRO:

AORTA	STERNEBRAE	BRAIN	CECUM
COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
ILEUM	JEJUNUM	LYMPH NODE, MES	ADRENAL CORTEX
ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43368 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

			GRADE
MARROW, STERN	PANCREAS	PARATHYROID	RT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKIN	SPINAL CORD	SPLEEN
LYMPH NODE, MAND	RT TESTIS	TRACHEA	VAS DEFERENS
URINARY BLADDER			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43369 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.09	0.403
LIVER	14.68	2.829
KIDNEYS	3.34	0.644
HEART	1.47	0.283
SPLEEN	0.85	0.164
PROSTATE	0.94	0.181
RT TESTIS	1.62	0.312
LT TESTIS	1.54	0.297
RT EPIDIDYMIS	0.70	0.135
LT EPIDIDYMIS	0.53	0.102
RT CAUDA EPID	0.2843	0.055
LT CAUDA EPID	0.2564	0.049
THYMUS GLAND	0.3230	0.062
ADRENAL GLANDS	0.0457	0.009
THYROIDS/PARA	0.0217	0.004
FINAL BODY WT(G)	519.	

		GRADE
HEART	MICRO: CARDIOMYOPATHY	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	PAS STAIN, POSITIVE	1
	MOSTLY CENTRILOBULAR; STAIN LOST WITH DIASTASE TREATMENT	
	OIL RED O, POSITIVE	2
	PERIPORTAL TO MIDZONAL	
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	1
LYMPH NODE, MAND	GROSS: ENLARGED	P
	BILATERAL	
LYMPH NODE, MAND	MICRO: PLASMACYTOSIS, MEDULLARY	3
	CORRELATES WITH GROSS ENLARGEMENT	
THYMUS GLAND	MICRO: HEMORRHAGE	2
	ATROPHY	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

MICRO: AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., ILEUM, JEJUNUM, KIDNEYS, LYMPH NODE, MES, ADRENAL CORTEX, ADRENAL MEDULLA, NERVE,SCIATIC, STOMACH, GLD

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43369 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

			GRADE
STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID
RT EPIDIDYMIS	RECTUM	PITUITARY	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	THYROID GLANDS	RT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43379 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.04	0.383
LIVER	14.94	2.803
KIDNEYS	3.34	0.627
HEART	1.63	0.306
SPLEEN	0.69	0.129
PROSTATE	1.08	0.203
RT TESTIS	1.92	0.360
LT TESTIS	1.94	0.364
RT EPIDIDYMIS	0.82	0.154
LT EPIDIDYMIS	0.66	0.124
RT CAUDA EPID	0.3798	0.071
LT CAUDA EPID	0.2956	0.055
THYMUS GLAND	0.3212	0.060
ADRENAL GLANDS	0.0461	0.009
THYROIDS/PARA	0.0262	0.005
FINAL BODY WT(G)	533.	

		GRADE
HEART	MICRO: CARDIOMYOPATHY	1
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE	2
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
	PAS STAIN, NEGATIVE	P
	OIL RED O, POSITIVE	2
	PERIPORTAL TO MIDZONAL	
LUNGS	MICRO: INFLAMMATION, CHRONIC	2
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	2
LYMPH NODE, MAND	MICRO: PLASMACYTOSIS, MEDULLARY	1
THYMUS GLAND	MICRO: HEMORRHAGE	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	2
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	ILEUM	JEJUNUM	LYMPH NODE, MES	ADRENAL CORTEX
	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD
	MARROW, STERN	PANCREAS	PARATHYROID	RT EPIDIDYMIS

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43379 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

			GRADE
RECTUM	PITUITARY	SAL. GLAND MAND	SEMINAL VESICLES
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
RT TESTIS	TRACHEA	VAS DEFERENS	URINARY BLADDER

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43391 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.99	0.381
LIVER	14.87	2.849
KIDNEYS	3.52	0.674
HEART	1.66	0.318
SPLEEN	0.91	0.174
PROSTATE	0.78	0.149
RT TESTIS	1.87	0.358
LT TESTIS	1.76	0.337
RT EPIDIDYMIS	0.71	0.136
LT EPIDIDYMIS	0.65	0.125
RT CAUDA EPID	0.3087	0.059
LT CAUDA EPID	0.2779	0.053
THYMUS GLAND	0.2339	0.045
ADRENAL GLANDS	0.0636	0.012
THYROIDS/PARA	0.0296	0.006
FINAL BODY WT(G)	522.	

		GRADE
HEART	MICRO: CARDIOMYOPATHY	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	PAS STAIN, NEGATIVE	P
	OIL RED O, POSITIVE	3
	PERIPORTAL TO MIDZONAL	
LUNGS	MICRO: HISTIOCYTOSIS, ALVEOLAR	2
	CONTAIN BROWN PIGMENT	
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	2
SKELETAL MUSCLE	MICRO: DEGENERATION	1
THYMUS GLAND	MICRO: HEMORRHAGE	2
	ATROPHY	1
TRACHEA	MICRO: DILATATION, GLANDULAR	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	ILEUM	JEJUNUM	KIDNEYS	LYMPH NODE, MES
	ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
	STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID
	RT EPIDIDYMIS	RECTUM	PITUITARY	SAL. GLAND MAND
	SEMINAL VESICLES	SKIN	SPINAL CORD	SPLEEN

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43391 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

	GRADE
LYMPH NODE, MAND	
THYROID GLANDS	
RT TESTIS	
VAS DEFERENS	
URINARY BLADDER	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43342 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.	GENERAL COMMENT		GRADE
BRAIN	2.10	0.399		GROSS: ORGAN DAMAGED AT NECROPSY	P
				PITUITARY	
LIVER	14.65	2.785	LIVER	MICRO: VACUOLATION, HEPATOCELLULAR	1
KIDNEYS	3.88	0.738	LUNGS	GROSS: WHITE AREA(S)	P
HEART	1.66	0.316		MULTIPLE, IRREGULARLY SHAPED, ALL LOBES	
SPLEEN	0.72	0.137	LUNGS	MICRO: INFLAMMATION, CHRONIC	2
PROSTATE	1.00	0.190		CORRELATES WITH GROSS WHITE AREAS	
RT TESTIS	1.67	0.317		HISTIOCYTOSIS, ALVEOLAR	2
LT TESTIS	1.59	0.302		CORRELATES WITH GROSS WHITE AREAS	
RT EPIDIDYMIS	0.71	0.135		INFLAMMATION, GRANULOMATOUS	2
LT EPIDIDYMIS	0.67	0.127	SKIN	GROSS: MASS	P
RT CAUDA EPID	0.3081	0.059		7 X 5 X 5 MM, GREEN, LOWER LIP, MASS #1	
LT CAUDA EPID	0.2779	0.053	SKIN	MICRO: INFLAMMATION, CHRONIC ACTIVE	3
THYMUS GLAND	0.3675	0.070		FOCAL IN DEEP DERMIS, SUBCUTIS AND SKELETAL MUSCLE;	
ADRENAL GLANDS	0.0597	0.011		CORRELATES WITH MASS #1	
THYROIDS/PARA	0.0483	0.009	NO SIGNIFICANT		
FINAL BODY WT(G)	526.		CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	NERVE,SCIATIC
	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS	RECTUM
	PITUITARY	PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES
	SKELETAL MUSCLE	SPINAL CORD	SPLEEN	STOMACH
	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS	RT TESTIS
	LT TESTIS	TRACHEA	VAS DEFERENS	URINARY BLADDER
MICRO:	PROSTATE	THYROID GLANDS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43350 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.06	0.364
LIVER	17.45	3.083
KIDNEYS	3.33	0.588
HEART	1.67	0.295
SPLEEN	0.76	0.134
PROSTATE	0.91	0.161
RT TESTIS	1.68	0.297
LT TESTIS	1.79	0.316
RT EPIDIDYMIS	0.70	0.124
LT EPIDIDYMIS	0.75	0.133
RT CAUDA EPID	0.2618	0.046
LT CAUDA EPID	0.3267	0.058
THYMUS GLAND	0.3185	0.056
ADRENAL GLANDS	0.0565	0.010
THYROIDS/PARA	0.0206	0.004
FINAL BODY WT(G)	566.	

GENERAL COMMENT		GRADE
	GROSS: ORGAN LOST AT NECROPSY URINARY BLADDER	P
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	2
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	LUNGS	PROSTATE		

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43350 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

GRADE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43351 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.07	0.405
LIVER	15.29	2.992
KIDNEYS	3.41	0.667
HEART	1.51	0.295
SPLEEN	0.74	0.145
PROSTATE	1.03	0.202
RT TESTIS	1.54	0.301
LT TESTIS	1.58	0.309
RT EPIDIDYMIS	0.66	0.129
LT EPIDIDYMIS	0.65	0.127
RT CAUDA EPID	0.2477	0.048
LT CAUDA EPID	0.2773	0.054
THYMUS GLAND	0.2458	0.048
ADRENAL GLANDS	0.0581	0.011
THYROIDS/PARA	0.0232	0.005
FINAL BODY WT(G)	511.	

LIVER
PROSTATE
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	INFLAMMATION, CHRONIC ACTIVE	1
MICRO:	HYPERTROPHY, FOLLICULAR CELL	1

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

MICRO: LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43354 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.03	0.430
LIVER	15.99	3.388
KIDNEYS	3.28	0.695
HEART	1.56	0.331
SPLEEN	0.94	0.199
PROSTATE	1.00	0.212
RT TESTIS	1.75	0.371
LT TESTIS	1.77	0.375
RT EPIDIDYMIS	0.72	0.153
LT EPIDIDYMIS	0.73	0.155
RT CAUDA EPID	0.3194	0.068
LT CAUDA EPID	0.3291	0.070
THYMUS GLAND	0.2582	0.055
ADRENAL GLANDS	0.0510	0.011
THYROIDS/PARA	0.0253	0.005
FINAL BODY WT(G)	472.	

LIVER
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
MICRO:	CYST, ULTIMOBRANCHIAL	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

MICRO:

LUNGS	PROSTATE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43364 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.95	0.381
LIVER	16.63	3.248
KIDNEYS	3.49	0.682
HEART	1.60	0.313
SPLEEN	0.65	0.127
PROSTATE	1.04	0.203
RT TESTIS	1.17	0.229
LT TESTIS	1.34	0.262
RT EPIDIDYMIS	0.63	0.123
LT EPIDIDYMIS	0.57	0.111
RT CAUDA EPID	0.2760	0.054
LT CAUDA EPID	0.2661	0.052
THYMUS GLAND	0.2435	0.048
ADRENAL GLANDS	0.0637	0.012
THYROIDS/PARA	0.0249	0.005
FINAL BODY WT(G)	512.	

LIVER
PROSTATE
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	VACUOLATION, HEPATOCELLULAR	2
MICRO:	INFLAMMATION, CHRONIC ACTIVE	1
MICRO:	CYST, ULTIMOBRANCHIAL	1

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	LUNGS			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43371 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.07	0.378
LIVER	18.70	3.419
KIDNEYS	3.95	0.722
HEART	1.58	0.289
SPLEEN	0.63	0.115
PROSTATE	1.07	0.196
RT TESTIS	1.64	0.300
LT TESTIS	1.63	0.298
RT EPIDIDYMIS	0.70	0.128
LT EPIDIDYMIS	0.67	0.122
RT CAUDA EPID	0.2939	0.054
LT CAUDA EPID	0.2888	0.053
THYMUS GLAND	0.4153	0.076
ADRENAL GLANDS	0.0632	0.012
THYROIDS/PARA	0.0383	0.007
FINAL BODY WT(G)	547.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
LUNGS	MICRO: INFLAMMATION, GRANULOMATOUS MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	1
	HISTIOCYTOSIS, ALVEOLAR	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	PROSTATE	THYROID GLANDS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43380 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.08	0.371
LIVER	17.69	3.153
KIDNEYS	3.26	0.581
HEART	1.56	0.278
SPLEEN	0.77	0.137
PROSTATE	0.64	0.114
RT TESTIS	1.69	0.301
LT TESTIS	1.76	0.314
RT EPIDIDYMIS	0.73	0.130
LT EPIDIDYMIS	0.69	0.123
RT CAUDA EPID	0.3300	0.059
LT CAUDA EPID	0.3279	0.058
THYMUS GLAND	0.2859	0.051
ADRENAL GLANDS	0.0613	0.011
THYROIDS/PARA	0.0267	0.005
FINAL BODY WT(G)	561.	

LIVER
LUNGS
PROSTATE
NO SIGNIFICANT CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
MICRO: HISTIOCYTOSIS, ALVEOLAR	1
MICRO: INFLAMMATION, SUBACUTE	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

MICRO:THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43382 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.05	0.384
LIVER	15.98	2.993
KIDNEYS	3.62	0.678
HEART	1.50	0.281
SPLEEN	0.63	0.118
PROSTATE	0.85	0.159
RT TESTIS	1.86	0.348
LT TESTIS	1.90	0.356
RT EPIDIDYMIS	0.71	0.133
LT EPIDIDYMIS	0.76	0.142
RT CAUDA EPID	0.2990	0.056
LT CAUDA EPID	0.3319	0.062
THYMUS GLAND	0.2613	0.049
ADRENAL GLANDS	0.0545	0.010
THYROIDS/PARA	0.0240	0.004
FINAL BODY WT(G)	534.	

LIVER
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	LUNGS	PROSTATE	THYROID GLANDS	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43384 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.18	0.343
LIVER	22.53	3.542
KIDNEYS	4.20	0.660
HEART	1.72	0.270
SPLEEN	1.00	0.157
PROSTATE	1.51	0.237
RT TESTIS	1.67	0.263
LT TESTIS	1.69	0.266
RT EPIDIDYMIS	0.75	0.118
LT EPIDIDYMIS	0.74	0.116
RT CAUDA EPID	0.3498	0.055
LT CAUDA EPID	0.3307	0.052
THYMUS GLAND	0.2875	0.045
ADRENAL GLANDS	0.0633	0.010
THYROIDS/PARA	0.0231	0.004
FINAL BODY WT(G)	636.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	1
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
PROSTATE	MICRO: INFLAMMATION, CHRONIC ACTIVE	1
SKIN	GROSS: MASS 6 MM IN DIAMETER, TAN, LEFT LOWER LIP, MASS #1	P
SKIN	MICRO: INFLAMMATION, CHRONIC ACTIVE FOCAL IN DEEP DERMIS, SUBCUTIS AND SKELETAL MUSCLE; CORRELATES WITH MASS #1	3
NO SIGNIFICANT CHANGES OBSERVED		

GROSS: ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
RT TESTIS	LT TESTIS	TRACHEA	VAS DEFERENS
URINARY BLADDER			
MICRO: THYROID GLANDS			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43386 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.10	0.436
LIVER	15.17	3.147
KIDNEYS	3.40	0.705
HEART	1.37	0.284
SPLEEN	0.73	0.151
PROSTATE	0.86	0.178
RT TESTIS	1.58	0.328
LT TESTIS	1.58	0.328
RT EPIDIDYMIS	0.70	0.145
LT EPIDIDYMIS	0.69	0.143
RT CAUDA EPID	0.3322	0.069
LT CAUDA EPID	0.3283	0.068
THYMUS GLAND	0.3654	0.076
ADRENAL GLANDS	0.0543	0.011
THYROIDS/PARA	0.0239	0.005
FINAL BODY WT(G)	482.	

LIVER
LUNGS
PROSTATE
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
MICRO:	MINERALIZATION, VASCULAR	1
MICRO:	INFLAMMATION, CHRONIC ACTIVE	1

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	THYROID GLANDS			

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43386 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

GRADE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43323 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.06	0.478
LIVER	13.37	3.102
KIDNEYS	3.28	0.761
HEART	1.30	0.302
SPLEEN	0.71	0.165
PROSTATE	1.08	0.251
RT TESTIS	1.55	0.360
LT TESTIS	1.57	0.364
RT EPIDIDYMIS	0.53	0.123
LT EPIDIDYMIS	0.59	0.137
RT CAUDA EPID	0.2434	0.056
LT CAUDA EPID	0.2419	0.056
THYMUS GLAND	0.2237	0.052
ADRENAL GLANDS	0.0445	0.010
THYROIDS/PARA	0.0370	0.009
FINAL BODY WT(G)	431.	

LIVER
LUNGS
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	MINERALIZATION, VASCULAR	1
MICRO:	CYST, ULTIMOBRANCHIAL	1

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

MICRO: PROSTATE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43331 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.97	0.367
LIVER	16.47	3.067
KIDNEYS	3.52	0.655
HEART	1.70	0.317
SPLEEN	0.70	0.130
PROSTATE	1.48	0.276
RT TESTIS	1.69	0.315
LT TESTIS	1.58	0.294
RT EPIDIDYMIS	0.78	0.145
LT EPIDIDYMIS	0.82	0.153
RT CAUDA EPID	0.3887	0.072
LT CAUDA EPID	0.3310	0.062
THYMUS GLAND	0.2640	0.049
ADRENAL GLANDS	0.0421	0.008
THYROIDS/PARA	0.0259	0.005
FINAL BODY WT(G)	537.	

		GRADE
LIVER	MICRO: VACUOLATION, HEPATOCELLULAR	2
	INFLAMMATION, SUBACUTE	1
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	1
THYROID GLANDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONLY SMALL PORTION OF THYROIDS EXAMINED; MOST NOT IN PLANE; RECUT EVALUATED	
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	LUNGS	THYROID GLANDS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43341 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.93	0.360
LIVER	15.41	2.875
KIDNEYS	3.49	0.651
HEART	1.81	0.338
SPLEEN	0.62	0.116
PROSTATE	1.07	0.200
RT TESTIS	1.93	0.360
LT TESTIS	1.95	0.364
RT EPIDIDYMIS	0.67	0.125
LT EPIDIDYMIS	0.73	0.136
RT CAUDA EPID	0.2922	0.055
LT CAUDA EPID	0.3445	0.064
THYMUS GLAND	0.2883	0.054
ADRENAL GLANDS	0.0474	0.009
THYROIDS/PARA	0.0233	0.004
FINAL BODY WT(G)	536.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	1
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	1
	HYPERTROPHY, FOLLICULAR CELL	1
	SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43355 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.00	0.355
LIVER	18.91	3.353
KIDNEYS	3.62	0.642
HEART	1.68	0.298
SPLEEN	0.66	0.117
PROSTATE	1.24	0.220
RT TESTIS	1.57	0.278
LT TESTIS	1.55	0.275
RT EPIDIDYMIS	0.62	0.110
LT EPIDIDYMIS	0.59	0.105
RT CAUDA EPID	0.2959	0.052
LT CAUDA EPID	0.2905	0.052
THYMUS GLAND	0.3818	0.068
ADRENAL GLANDS	0.0715	0.013
THYROIDS/PARA	0.0266	0.005
FINAL BODY WT(G)	564.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	2
	HYPERTROPHY, FOLLICULAR CELL	1
	SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	

NO SIGNIFICANT CHANGES OBSERVED

GROSS: ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		
MICRO: PROSTATE			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43361 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.17	0.339
LIVER	23.79	3.711
KIDNEYS	4.67	0.729
HEART	1.71	0.267
SPLEEN	0.90	0.140
PROSTATE	1.21	0.189
RT TESTIS	1.69	0.264
LT TESTIS	1.73	0.270
RT EPIDIDYMIS	0.70	0.109
LT EPIDIDYMIS	0.61	0.095
RT CAUDA EPID	0.3457	0.054
LT CAUDA EPID	0.2725	0.043
THYMUS GLAND	0.2167	0.034
ADRENAL GLANDS	0.0552	0.009
THYROIDS/PARA	0.0338	0.005
FINAL BODY WT(G)	641.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	1
	NECROSIS FOCAL	1
LUNGS	MICRO: INFLAMMATION, GRANULOMATOUS	1
PROSTATE	MICRO: INFLAMMATION, CHRONIC ACTIVE	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43363 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.01	0.405
LIVER	14.91	3.006
KIDNEYS	3.24	0.653
HEART	1.51	0.304
SPLEEN	0.37	0.075
PROSTATE	0.70	0.141
RT TESTIS	1.41	0.284
LT TESTIS	1.42	0.286
RT EPIDIDYMIS	0.66	0.133
LT EPIDIDYMIS	0.53	0.107
RT CAUDA EPID	0.3000	0.060
LT CAUDA EPID	0.2180	0.044
THYMUS GLAND	0.3906	0.079
ADRENAL GLANDS	0.0448	0.009
THYROIDS/PARA	0.0183	0.004
FINAL BODY WT(G)	496.	

LIVER
LUNGS
PROSTATE
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
VACUOLATION, HEPATOCELLULAR	1
MICRO: MINERALIZATION, VASCULAR	1
MICRO: INFLAMMATION, SUBACUTE	2

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

MICRO:THYROID GLANDS

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43363 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

GRADE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43383 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.97	0.379
LIVER	16.01	3.079
KIDNEYS	3.38	0.650
HEART	1.67	0.321
SPLEEN	0.80	0.154
PROSTATE	0.96	0.185
RT TESTIS	1.80	0.346
LT TESTIS	1.75	0.337
RT EPIDIDYMIS	0.74	0.142
LT EPIDIDYMIS	0.70	0.135
RT CAUDA EPID	0.2956	0.057
LT CAUDA EPID	0.3312	0.064
THYMUS GLAND	0.2845	0.055
ADRENAL GLANDS	0.0586	0.011
THYROIDS/PARA	0.0306	0.006
FINAL BODY WT(G)	520.	

LIVER
PROSTATE
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
MICRO: INFLAMMATION, GRANULOMATOUS	1
MICRO: INFLAMMATION, SUBACUTE	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

MICRO:THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43385 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.96	0.359
LIVER	16.34	2.993
KIDNEYS	3.14	0.575
HEART	1.60	0.293
SPLEEN	0.74	0.136
PROSTATE	1.13	0.207
RT TESTIS	1.47	0.269
LT TESTIS	1.52	0.278
RT EPIDIDYMIS	0.63	0.115
LT EPIDIDYMIS	0.57	0.104
RT CAUDA EPID	0.2703	0.050
LT CAUDA EPID	0.2955	0.054
THYMUS GLAND	0.2163	0.040
ADRENAL GLANDS	0.0537	0.010
THYROIDS/PARA	0.0199	0.004
FINAL BODY WT(G)	546.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
LUNGS	MICRO: INFLAMMATION, GRANULOMATOUS	1
PROSTATE	MICRO: INFLAMMATION, CHRONIC ACTIVE	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	2
	HYPERTROPHY, FOLLICULAR CELL	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43388 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.14	0.368
LIVER	20.59	3.538
KIDNEYS	4.26	0.732
HEART	1.76	0.302
SPLEEN	0.92	0.158
PROSTATE	1.24	0.213
RT TESTIS	1.66	0.285
LT TESTIS	1.70	0.292
RT EPIDIDYMIS	0.70	0.120
LT EPIDIDYMIS	0.81	0.139
RT CAUDA EPID	0.2761	0.047
LT CAUDA EPID	0.3593	0.062
THYMUS GLAND	0.2762	0.047
ADRENAL GLANDS	0.0637	0.011
THYROIDS/PARA	0.0251	0.004
FINAL BODY WT(G)	582.	

		GRADE
KIDNEYS	GROSS: DEPRESSED AREA(S)	P
	SEVERAL, 2 X 2 X 1 MM, IN CORTEX, BILATERAL	
KIDNEYS	MICRO: BASOPHILIC TUBULES	1
	FOCAL; CORRELATES WITH GROSS DEPRESSED AREA(S)	
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	GROSS: WHITE AREA(S)	P
	MULTIPLE, IRREGULARLY SHAPED, ALL LOBES	
LUNGS	MICRO: HISTIOCYTOSIS, ALVEOLAR	2
	CORRELATES WITH GROSS WHITE AREAS	
	INFLAMMATION, ACUTE	1
	CORRELATES WITH GROSS WHITE AREAS	
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, LIVER, LYMPH NODE, MES, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43392 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.02	0.394
LIVER	15.91	3.101
KIDNEYS	3.54	0.690
HEART	1.45	0.283
SPLEEN	0.79	0.154
PROSTATE	1.11	0.216
RT TESTIS	1.65	0.322
LT TESTIS	1.65	0.322
RT EPIDIDYMIS	0.68	0.133
LT EPIDIDYMIS	0.67	0.131
RT CAUDA EPID	0.3056	0.060
LT CAUDA EPID	0.2827	0.055
THYMUS GLAND	0.2779	0.054
ADRENAL GLANDS	0.0549	0.011
THYROIDS/PARA	0.0194	0.004
FINAL BODY WT(G)	513.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	INFLAMMATION, GRANULOMATOUS	1
	INFLAMMATION, CHRONIC	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	PROSTATE	THYROID GLANDS		

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43392 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

GRADE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43297 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.00	0.388
LIVER	20.27	3.928
KIDNEYS	3.47	0.672
HEART	1.54	0.298
SPLEEN	0.76	0.147
PROSTATE	1.11	0.215
RT TESTIS	1.48	0.287
LT TESTIS	1.60	0.310
RT EPIDIDYMIS	0.59	0.114
LT EPIDIDYMIS	0.62	0.120
RT CAUDA EPID	0.2637	0.051
LT CAUDA EPID	0.2853	0.055
THYMUS GLAND	0.1827	0.035
ADRENAL GLANDS	0.0589	0.011
THYROIDS/PARA	0.0204	0.004
FINAL BODY WT(G)	516.	

		GRADE
HEART	MICRO: CARDIOMYOPATHY	1
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE	2
	BASOPHILIC TUBULES	2
LIVER	MICRO: VACUOLATION, HEPATOCELLULAR	1
	PAS STAIN, POSITIVE	2
	MOSTLY CENTRILOBULAR; STAIN LOST WITH DIASTASE TREATMENT	
	OIL RED O, POSITIVE	3
	PERIPORTAL TO MIDZONAL	
ADRENAL CORTEX	MICRO: VACUOLATION	1
PANCREAS	MICRO: INFILTRATE, FATTY	1
SKELETAL MUSCLE	MICRO: DEGENERATION	1
SPLEEN	MICRO: VACUOLATION	1
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	1
	HYPERTROPHY, FOLLICULAR CELL	1
	SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43297 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

GRADE

	VAS DEFERENS	URINARY BLADDER		
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	ILEUM	JEJUNUM	LYMPH NODE, MES	LUNGS
	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD
	MARROW, STERN	PARATHYROID	RT EPIDIDYMIS	RECTUM
	PITUITARY	PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES
	SKIN	SPINAL CORD	LYMPH NODE, MAND	RT TESTIS
	TRACHEA	VAS DEFERENS	URINARY BLADDER	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43325 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.03	0.444
LIVER	17.29	3.783
KIDNEYS	3.04	0.665
HEART	1.46	0.319
SPLEEN	0.68	0.149
PROSTATE	0.90	0.197
RT TESTIS	1.39	0.304
LT TESTIS	1.42	0.311
RT EPIDIDYMIS	0.63	0.138
LT EPIDIDYMIS	0.61	0.133
RT CAUDA EPID	0.2629	0.058
LT CAUDA EPID	0.2607	0.057
THYMUS GLAND	0.2119	0.046
ADRENAL GLANDS	0.0517	0.011
THYROIDS/PARA	0.0276	0.006
FINAL BODY WT(G)	457.	

		GRADE
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE	1
	BASOPHILIC TUBULES	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	2
	VACUOLATION, HEPATOCELLULAR	1
ADRENAL CORTEX	MICRO: VACUOLATION	1
PROSTATE	MICRO: INFLAMMATION, ACUTE	1
SKIN	GROSS: MASS	P
	4 MM IN DIAMETER, RED, UROGENITAL, MASS #1	
SKIN	MICRO: INFLAMMATION, CHRONIC ACTIVE	3
	FOCAL IN DEEP DERMIS & SUBCUTIS; CORRELATES WITH MASS #1	
THYMUS GLAND	MICRO: HEMORRHAGE	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	2
	HYPERTROPHY, FOLLICULAR CELL	1
	SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	

NO SIGNIFICANT CHANGES OBSERVED

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	RT TESTIS	LT TESTIS	TRACHEA	VAS DEFERENS
	URINARY BLADDER			
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	HEART	ILEUM	JEJUNUM	LYMPH NODE, MES

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43325 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

			GRADE
LUNGS	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID
RT EPIDIDYMIS	RECTUM	PITUITARY	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SPINAL CORD	SPLEEN
LYMPH NODE, MAND	RT TESTIS	TRACHEA	VAS DEFERENS
URINARY BLADDER			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43328 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.			GRADE
BRAIN	1.99	0.394	KIDNEYS	MICRO: BASOPHILIC TUBULES	1
LIVER	19.30	3.822	LIVER	MICRO: VACUOLATION, HEPATOCELLULAR	1
KIDNEYS	3.76	0.745		INFLAMMATION, SUBACUTE	2
HEART	1.58	0.313		PAS STAIN, POSITIVE	1
SPLEEN	0.73	0.145		MOSTLY CENTRILOBULAR; STAIN LOST WITH DIASTASE TREATMENT	
PROSTATE	1.56	0.309		OIL RED O, POSITIVE	2
RT TESTIS	1.78	0.352	LUNGS	PERIPORTAL TO MIDZONAL	
LT TESTIS	1.76	0.349		GROSS: MOTTLED	P
RT EPIDIDYMIS	0.72	0.143	LUNGS	ALL LOBES	
LT EPIDIDYMIS	0.70	0.139		MICRO: MINERALIZATION, VASCULAR	1
RT CAUDA EPID	0.3545	0.070		HEMORRHAGE	1
LT CAUDA EPID	0.2964	0.059		CORRELATES TO GROSS MOTTLED APPEARANCE	
THYMUS GLAND	0.2816	0.056		INFLAMMATION, CHRONIC	1
ADRENAL GLANDS	0.0673	0.013		INFLAMMATION, GRANULOMATOUS	1
THYROIDS/PARA	0.0272	0.005		MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS	
FINAL BODY WT(G)	505.			AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	
			SKIN	GROSS: MASS	P
				3 X 2 X 2 MM, TAN, RIGHT UPPER LIP, MASS #1	
			SKIN	MICRO: INFLAMMATION, CHRONIC	3
				FOCAL IN DEEP DERMIS, SUBCUTIS AND SKELETAL MUSCLE;	
				CORRELATES WITH MASS #1	
			THYMUS GLAND	MICRO: HEMORRHAGE	1
			THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	2
			NO SIGNIFICANT		
			CHANGES OBSERVED	GROSS:ADRENAL GLANDS AORTA STERNEBRAE BRAIN	

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43328 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

GRADE

	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	NERVE,SCIATIC
	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS	RECTUM
	PITUITARY	PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES
	SKELETAL MUSCLE	SPINAL CORD	SPLEEN	STOMACH
	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS	RT TESTIS
	LT TESTIS	TRACHEA	VAS DEFERENS	URINARY BLADDER
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	HEART	ILEUM	JEJUNUM	LYMPH NODE, MES
	ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
	STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID
	RT EPIDIDYMIS	RECTUM	PITUITARY	PROSTATE
	SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE	SPINAL CORD
	SPLEEN	LYMPH NODE, MAND	RT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

ANIMAL NO. 43346 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.94	0.449
LIVER	16.75	3.877
KIDNEYS	2.99	0.692
HEART	1.26	0.292
SPLEEN	0.59	0.137
PROSTATE	1.07	0.248
RT TESTIS	1.82	0.421
LT TESTIS	1.81	0.419
RT EPIDIDYMIS	0.73	0.169
LT EPIDIDYMIS	0.72	0.167
RT CAUDA EPID	0.3219	0.075
LT CAUDA EPID	0.3342	0.077
THYMUS GLAND	0.2125	0.049
ADRENAL GLANDS	0.0480	0.011
THYROIDS/PARA	0.0219	0.005
FINAL BODY WT(G)	432.	

		GRADE
HEART	MICRO: CARDIOMYOPATHY	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	2
	PAS STAIN, POSITIVE	2
	MOSTLY CENTRILOBULAR; STAIN LOST WITH DIASTASE TREATMENT	
	OIL RED O, POSITIVE	3
	PERIPORTAL TO MID-ZONAL; VACUOLES ARE OIL RED O POSITIVE	
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	HEMORRHAGE	1
	INFLAMMATION, GRANULOMATOUS	1
	MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS	
	AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	
THYMUS GLAND	MICRO: ATROPHY	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	ILEUM	JEJUNUM	KIDNEYS	LYMPH NODE, MES
	ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43346 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

GRADE

STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID
RT EPIDIDYMIS	RECTUM	PITUITARY	PROSTATE
SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN
SPINAL CORD	SPLEEN	LYMPH NODE, MAND	RT TESTIS
TRACHEA	VAS DEFERENS	URINARY BLADDER	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43362 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.01	0.406
LIVER	18.38	3.713
KIDNEYS	3.22	0.651
HEART	1.34	0.271
SPLEEN	0.83	0.168
PROSTATE	1.18	0.238
RT TESTIS	1.62	0.327
LT TESTIS	1.61	0.325
RT EPIDIDYMIS	0.65	0.131
LT EPIDIDYMIS	0.69	0.139
RT CAUDA EPID	0.2517	0.051
LT CAUDA EPID	0.3203	0.065
THYMUS GLAND	0.2943	0.059
ADRENAL GLANDS	0.0558	0.011
THYROIDS/PARA	0.0286	0.006
FINAL BODY WT(G)	495.	

		GRADE
ESOPHAGUS	MICRO: DEGENERATION FOCAL IN MUSCLE WALL	1
LIVER	MICRO: VACUOLATION, HEPATOCELLULAR	2
LUNGS	MICRO: INFLAMMATION, CHRONIC	2
	INFLAMMATION, GRANULOMATOUS MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	2
RT EPIDIDYMIS	MICRO: INFILTRATE, MONONUCLEAR INTERSTITIAL	1
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	1
SKELETAL MUSCLE	MICRO: INFLAMMATION, SUBACUTE	1
THYMUS GLAND	MICRO: ATROPHY	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43362 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

				GRADE
MICRO: AORTA	STERNEBRAE	BRAIN	CECUM	
COLON	DUODENUM	EYES/OPTIC N.	HEART	
ILEUM	JEJUNUM	KIDNEYS	LYMPH NODE, MES	
ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	
STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID	
RECTUM	PITUITARY	SAL. GLAND MAND	SEMINAL VESICLES	
SKIN	SPINAL CORD	SPLEEN	LYMPH NODE, MAND	
RT TESTIS	TRACHEA	VAS DEFERENS	URINARY BLADDER	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43372 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.13	0.358
LIVER	24.94	4.192
KIDNEYS	3.57	0.600
HEART	1.66	0.279
SPLEEN	0.80	0.134
PROSTATE	1.46	0.245
RT TESTIS	1.60	0.269
LT TESTIS	1.63	0.274
RT EPIDIDYMIS	0.75	0.126
LT EPIDIDYMIS	0.72	0.121
RT CAUDA EPID	0.3181	0.053
LT CAUDA EPID	0.3336	0.056
THYMUS GLAND	0.3051	0.051
ADRENAL GLANDS	0.0643	0.011
THYROIDS/PARA	0.0160	0.003
FINAL BODY WT(G)	595.	

		GRADE
COLON	MICRO: HYPERPLASIA, LYMPHOID	2
EYES/OPTIC N.	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE OPTIC NERVE EXAMINED; OTHER NOT IN PLANE; RECUT EVALUATED	
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	GROSS: DARK RED ALL LOBES	P
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	INFLAMMATION, SUBACUTE NO CORRELATE TO GROSS RED DISCOLORATION	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	1
TRACHEA	MICRO: DILATATION, GLANDULAR	2
NO SIGNIFICANT CHANGES OBSERVED	GROSS:	

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	NERVE,SCIATIC
PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS	RECTUM
PITUITARY	PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
RT TESTIS	LT TESTIS	TRACHEA	VAS DEFERENS

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43372 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

GRADE

	URINARY BLADDER			
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	DUODENUM	ESOPHAGUS	EYES/OPTIC N.	HEART
	ILEUM	JEJUNUM	KIDNEYS	LYMPH NODE, MES
	ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
	STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID
	RT EPIDIDYMIS	RECTUM	PITUITARY	PROSTATE
	SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN
	SPINAL CORD	SPLEEN	LYMPH NODE, MAND	RT TESTIS
	VAS DEFERENS	URINARY BLADDER		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43373 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.95	0.462
LIVER	15.35	3.637
KIDNEYS	3.18	0.754
HEART	1.34	0.318
SPLEEN	0.65	0.154
PROSTATE	1.22	0.289
RT TESTIS	1.18	0.280
LT TESTIS	1.21	0.287
RT EPIDIDYMIS	0.72	0.171
LT EPIDIDYMIS	0.58	0.137
RT CAUDA EPID	0.3745	0.089
LT CAUDA EPID	0.2589	0.061
THYMUS GLAND	0.2913	0.069
ADRENAL GLANDS	0.0554	0.013
THYROIDS/PARA	0.0159	0.004
FINAL BODY WT(G)	422.	

		GRADE
HEART	MICRO: CARDIOMYOPATHY	1
KIDNEYS	GROSS: DEPRESSED AREA(S) SEVERAL, PINPOINT TO 5 X 3 X 1 MM, IN CORTEX, RIGHT	P
KIDNEYS	MICRO: NO SIGNIFICANT CHANGES OBSERVED GROSS DEPRESSED AREAS HAVE HISTOLOGICALLY NORMAL TISSUE	
LIVER	GROSS: MASS 9 X 7 X 5 MM, RED, MEDIAN LOBE, MASS #1	P
LIVER	MICRO: INFLAMMATION, SUBACUTE PROTUBERANT TISSUE IDENTIFIED GROSSLY AS MASS #1 IS NORMAL LIVER TISSUE	1
LUNGS	GROSS: DARK RED AREA(S) MULTIPLE, IRREGULARLY SHAPED, ALL LOBES	P
LUNGS	MICRO: MINERALIZATION, VASCULAR NO CORRELATE TO GROSS RED AREAS	1
STOMACH, NONGLD	MICRO: NOT EXAMINED NOT IN PLANE; RECUT EVALUATED	
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
PROSTATE	MICRO: HYPERTROPHY, EPITHELIAL	2
LYMPH NODE, MAND	MICRO: HYPERPLASIA, LYMPHOID	1
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
NO SIGNIFICANT CHANGES OBSERVED	GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS	

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43373 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

					GRADE
		EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
		LYMPH NODE, MES	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS
		LT EPIDIDYMIS	RECTUM	PITUITARY	PROSTATE
		SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN
		SPINAL CORD	SPLEEN	STOMACH	LYMPH NODE, MAND
		THYMUS GLAND	THYROID GLANDS	RT TESTIS	LT TESTIS
		TRACHEA	VAS DEFERENS	URINARY BLADDER	
	MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
		COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
		ILEUM	JEJUNUM	KIDNEYS	LYMPH NODE, MES
		ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
		MARROW, STERN	PANCREAS	PARATHYROID	RT EPIDIDYMIS
		RECTUM	PITUITARY	SAL. GLAND MAND	SEMINAL VESICLES
		SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
		RT TESTIS	TRACHEA	VAS DEFERENS	URINARY BLADDER
NOT EXAMINED					
	MICRO:	STOMACH, NONGLD			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43377 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.02	0.427
LIVER	18.35	3.879
KIDNEYS	3.57	0.755
HEART	1.40	0.296
SPLEEN	0.75	0.159
PROSTATE	1.57	0.332
RT TESTIS	1.71	0.362
LT TESTIS	1.57	0.332
RT EPIDIDYMIS	0.67	0.142
LT EPIDIDYMIS	0.62	0.131
RT CAUDA EPID	0.2509	0.053
LT CAUDA EPID	0.2710	0.057
THYMUS GLAND	0.2617	0.055
ADRENAL GLANDS	0.0467	0.010
THYROIDS/PARA	0.0315	0.007
FINAL BODY WT(G)	473.	

		GRADE
KIDNEYS	MICRO: BASOPHILIC TUBULES	1
LIVER	MICRO: VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	1
	NECROSIS FOCAL	1
	PAS STAIN, NEGATIVE	P
	OIL RED O, POSITIVE PERIPORTAL TO MID-ZONAL; VACUOLES ARE OIL RED O POSITIVE	3
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	1
SKIN	GROSS: BROWN MATTING ANOGENITAL	P
SKIN	GROSS: CLEAR MATTING VENTRAL NECK	P
THYMUS GLAND	MICRO: ATROPHY	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
NO SIGNIFICANT CHANGES OBSERVED	GROSS:	

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
RT TESTIS	LT TESTIS	TRACHEA	VAS DEFERENS

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43377 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

GRADE

	URINARY BLADDER			
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	HEART	ILEUM	JEJUNUM	LYMPH NODE, MES
	ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
	STOMACH, NONGLD	MARROW, STERN	PANCREAS	PARATHYROID
	RT EPIDIDYMIS	RECTUM	PITUITARY	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	LYMPH NODE, MAND	RT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43397 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.87	0.352
LIVER	20.51	3.863
KIDNEYS	3.58	0.674
HEART	1.72	0.324
SPLEEN	1.03	0.194
PROSTATE	1.19	0.224
RT TESTIS	1.60	0.301
LT TESTIS	1.64	0.309
RT EPIDIDYMIS	0.75	0.141
LT EPIDIDYMIS	0.70	0.132
RT CAUDA EPID	0.3593	0.068
LT CAUDA EPID	0.3147	0.059
THYMUS GLAND	0.2877	0.054
ADRENAL GLANDS	0.0563	0.011
THYROIDS/PARA	0.0214	0.004
FINAL BODY WT(G)	531.	

		GRADE
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE	1
	BASOPHILIC TUBULES	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
	HEMATOPOIESIS, EXTRAMEDULLARY	1
ADRENAL CORTEX	MICRO: VACUOLATION	1
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	INFLAMMATION, CHRONIC	1
STOMACH, NONGLD	MICRO: CYST, KERATIN AT LIMITING RIDGE	2
PANCREAS	MICRO: HYPERPLASIA, DUCTAL FOCAL	1
SPLEEN	MICRO: HEMATOPOIESIS, EXTRAMEDULLARY	1
THYMUS GLAND	MICRO: HEMORRHAGE	2
	ATROPHY	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	AORTA	STERNEBRAE	BRAIN	CECUM
	COLON	DUODENUM	ESOPHAGUS	EYES/OPTIC N.
	HEART	ILEUM	JEJUNUM	LYMPH NODE, MES

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43397 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

			GRADE
ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	MARROW, STERN
PARATHYROID	RT EPIDIDYMIS	RECTUM	PITUITARY
PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE
SKIN	SPINAL CORD	LYMPH NODE, MAND	RT TESTIS
TRACHEA	VAS DEFERENS	URINARY BLADDER	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43433 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.82	0.628
LIVER	8.79	3.031
KIDNEYS	2.15	0.741
HEART	1.21	0.417
SPLEEN	0.46	0.159
UTERUS/CX	0.77	0.266
OVARIES/OVIDUCTS	0.1393	0.048
THYMUS GLAND	0.2537	0.087
ADRENAL GLANDS	0.0809	0.028
THYROIDS/PARA	0.0210	0.007
FINAL BODY WT(G)	290.	

LIVER

	GRADE
MICRO: VACUOLATION, HEPATOCELLULAR	1
INFLAMMATION, SUBACUTE	1
PAS STAIN, NEGATIVE	P
OIL RED O, POSITIVE	2
PERIPORTAL TO MIDZONAL	

PARATHYROID

MICRO: NOT EXAMINED
NEITHER PARATHYROID IN PLANE OF SECTION

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:

AORTA	STERNEBRAE	OVIDUCTS	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LYMPH NODE, MES	ADRENAL CORTEX	LUNGS
MAMMARY GLAND	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
STOMACH, NONGLD	MARROW, STERN	OVARIES	PANCREAS
RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
SKIN	SPINAL CORD	SPLEEN	LYMPH NODE, MAND
THYMUS GLAND	THYROID GLANDS	TRACHEA	URINARY BLADDER
UTERUS	VAGINA	CERVIX	

NOT EXAMINED

MICRO:PARATHYROID

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43433 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

GRADE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43435 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.01	0.638
LIVER	8.72	2.768
KIDNEYS	2.25	0.714
HEART	1.00	0.317
SPLEEN	0.58	0.184
UTERUS/CX	1.23	0.390
OVARIES/OVIDUCTS	0.1510	0.048
THYMUS GLAND	0.3599	0.114
ADRENAL GLANDS	0.0553	0.018
THYROIDS/PARA	0.0184	0.006
FINAL BODY WT(G)	315.	

		GRADE
KIDNEYS	GROSS: DARK RED AREA(S)	P
	MULTIPLE, IRREGULARLY SHAPED, IN CORTEX, BILATERAL	
KIDNEYS	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	NO CORRELATE TO GROSS RED AREAS	
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: INFLAMMATION, SUBACUTE	1
	MINERALIZATION, VASCULAR	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
LYMPH NODE, MAND	MICRO: HYPERPLASIA, LYMPHOID	1
THYMUS GLAND	MICRO: ATROPHY	1
	HEMORRHAGE	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	2
UTERUS	GROSS: CLEAR FLUID CONTENTS	P
	BOTH HORNS	
UTERUS	MICRO: DILATATION, LUMEN	2
	CORRELATES WITH GROSS FLUID CONTENTS	

NO SIGNIFICANT CHANGES OBSERVED

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	LIVER	LYMPH NODE, MES	LUNGS
	MAMMARY GLAND	NERVE,SCIATIC	OVARIES	PANCREAS
	RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
	SKIN	SPINAL CORD	SPLEEN	STOMACH
	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS	TRACHEA
	URINARY BLADDER	VAGINA	CERVIX	
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43435 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

			GRADE
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND
ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD
MARROW, STERN	OVARIES	PANCREAS	PARATHYROID
RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
SKIN	SPINAL CORD	SPLEEN	TRACHEA
URINARY BLADDER	VAGINA	CERVIX	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43436 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.87	0.625
LIVER	8.54	2.856
KIDNEYS	2.27	0.759
HEART	1.24	0.415
SPLEEN	0.63	0.211
UTERUS/CX	0.84	0.281
OVARIES/OVIDUCTS	0.1664	0.056
THYMUS GLAND	0.2525	0.084
ADRENAL GLANDS	0.0782	0.026
THYROIDS/PARA	0.0200	0.007
FINAL BODY WT(G)	299.	

		GRADE
GENERAL COMMENT	GROSS: MECHANICAL TRAUMA DISTAL TAIL BROKEN	P
ESOPHAGUS	MICRO: DEGENERATION FOCAL IN MUSCLE WALL	2
HARDERIAN GLANDS	GROSS: DARK RED AREA(S) MULTIPLE, PINPOINT, BILATERAL	P
KIDNEYS	MICRO: MULTILAMELLAR BODY	1
	MINERALIZATION, PELVIC	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	2
	PAS STAIN, NEGATIVE	P
	OIL RED O, POSITIVE	2
	PERIPORTAL TO MIDZONAL	
LUNGS	MICRO: INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	1
OVARIES	MICRO: CYST	1
THYMUS GLAND	MICRO: ATROPHY	2
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	EYES/OPTIC N.
	HEART	ILEUM	JEJUNUM	LYMPH NODE, MES

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43436 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

			GRADE
ADRENAL CORTEX	MAMMARY GLAND	ADRENAL MEDULLA	NERVE,SCIATIC
STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN	PANCREAS
PARATHYROID	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
LYMPH NODE, MAND	THYROID GLANDS	TRACHEA	URINARY BLADDER
UTERUS	VAGINA	CERVIX	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43449 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.86	0.715
LIVER	6.99	2.688
KIDNEYS	1.79	0.688
HEART	0.85	0.327
SPLEEN	0.43	0.165
UTERUS/CX	0.85	0.327
OVARIES/OVIDUCTS	0.1266	0.049
THYMUS GLAND	0.1879	0.072
ADRENAL GLANDS	0.0632	0.024
THYROIDS/PARA	0.0144	0.006
FINAL BODY WT(G)	260.	

		GRADE
LUNGS	MICRO: INFLAMMATION, CHRONIC	2
	HISTIOCYTOSIS, ALVEOLAR	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE PARATHYROID EXAMINED; OTHER NOT PRESENT ON SLIDE; NOT FOUND IN WET TISSUES	
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
THYROID GLANDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE THYROID EXAMINED; OTHER NOT PRESENT ON SLIDE; NOT FOUND IN WET TISSUES	
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:

AORTA	STERNEBRAE	OVIDUCTS	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	ADRENAL CORTEX
MAMMARY GLAND	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
STOMACH, NONGLD	MARROW, STERN	OVARIES	PANCREAS
PARATHYROID	RECTUM	PITUITARY	SAL. GLAND MAND

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43467 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.01	0.684
LIVER	8.95	3.044
KIDNEYS	2.67	0.908
HEART	1.09	0.371
SPLEEN	0.63	0.214
UTERUS/CX	0.58	0.197
OVARIES/OVIDUCTS	0.1519	0.052
THYMUS GLAND	0.3199	0.109
ADRENAL GLANDS	0.0810	0.028
THYROIDS/PARA	0.0189	0.006
FINAL BODY WT(G)	294.	

		GRADE
EYES/OPTIC N.	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONE OPTIC NERVE EXAMINED; OTHER NOT IN PLANE; RECUT EVALUATED	
KIDNEYS	GROSS: DEPRESSED AREA(S)	P
	SEVERAL, PINPOINT TO 1 MM IN DIAMETER, IN CORTEX, RIGHT	
KIDNEYS	MICRO: BASOPHILIC TUBULES	1
	MINERALIZATION, PAPILLARY TUBULAR	1
	INFLAMMATION, SUBACUTE	1
	GROSS DEPRESSED AREAS HAVE HISTOLOGICALLY NORMAL TISSUE	
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
LYMPH NODE, MAND	MICRO: HYPERPLASIA, LYMPHOID	1
THYMUS GLAND	MICRO: ATROPHY	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	LIVER	LYMPH NODE, MES	LUNGS
	MAMMARY GLAND	NERVE,SCIATIC	OVARIES	PANCREAS
	RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
	SKIN	SPINAL CORD	SPLEEN	STOMACH
	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS	TRACHEA
	URINARY BLADDER	UTERUS	VAGINA	CERVIX
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND	ADRENAL MEDULLA

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43467 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

			GRADE
NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN
OVARIES	PANCREAS	PARATHYROID	RECTUM
PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE	SKIN
SPINAL CORD	SPLEEN	THYROID GLANDS	TRACHEA
URINARY BLADDER	UTERUS	VAGINA	CERVIX

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43474 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.68	0.734
LIVER	6.68	2.917
KIDNEYS	1.87	0.817
HEART	0.90	0.393
SPLEEN	0.44	0.192
UTERUS/CX	0.43	0.188
OVARIES/OVIDUCTS	0.1192	0.052
THYMUS GLAND	0.1848	0.081
ADRENAL GLANDS	0.0666	0.029
THYROIDS/PARA	0.0151	0.007
FINAL BODY WT(G)	229.	

KIDNEYS
LIVER
LUNGS
MAMMARY GLAND
PARATHYROID
THYMUS GLAND
NO SIGNIFICANT CHANGES OBSERVED

		GRADE
MICRO:	MINERALIZATION, PAPILLARY TUBULAR	3
MICRO:	VACUOLATION, HEPATOCELLULAR	1
	INFLAMMATION, SUBACUTE	1
MICRO:	MINERALIZATION, VASCULAR	1
MICRO:	NOT EXAMINED	
	NOT IN PLANE; RECUT EVALUATED	
MICRO:	NO SIGNIFICANT CHANGES OBSERVED	
	ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
MICRO:	HEMORRHAGE	1
	ATROPHY	1

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	LYMPH NODE, MES	ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC
	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN	OVARIES
	PANCREAS	PARATHYROID	RECTUM	PITUITARY
	SAL. GLAND MAND	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	LYMPH NODE, MAND	THYROID GLANDS	TRACHEA
	URINARY BLADDER	UTERUS	VAGINA	CERVIX

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43474 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

GRADE

NOT EXAMINED

MICRO:MAMMARY GLAND

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43483 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.90	0.717
LIVER	8.17	3.083
KIDNEYS	1.95	0.736
HEART	1.07	0.404
SPLEEN	0.39	0.147
UTERUS/CX	0.57	0.215
OVARIES/OVIDUCTS	0.1369	0.052
THYMUS GLAND	0.2017	0.076
ADRENAL GLANDS	0.0718	0.027
THYROIDS/PARA	0.0220	0.008
FINAL BODY WT(G)	265.	

		GRADE
ESOPHAGUS	MICRO: DEGENERATION FOCAL IN MUSCLE WALL	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR AGGREGATES PRESENT	1
	INFLAMMATION, GRANULOMATOUS MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
THYMUS GLAND	MICRO: ATROPHY	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	EYES/OPTIC N.
	HEART	ILEUM	JEJUNUM	KIDNEYS
	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND	ADRENAL MEDULLA

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43483 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

			GRADE
NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN
OVARIES	PANCREAS	PARATHYROID	RECTUM
PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE	SKIN
SPINAL CORD	SPLEEN	LYMPH NODE, MAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43497 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.85	0.645
LIVER	8.19	2.854
KIDNEYS	2.02	0.704
HEART	1.07	0.373
SPLEEN	0.56	0.195
UTERUS/CX	1.13	0.394
OVARIES/OVIDUCTS	0.2050	0.071
THYMUS GLAND	0.1640	0.057
ADRENAL GLANDS	0.0777	0.027
THYROIDS/PARA	0.0127	0.004
FINAL BODY WT(G)	287.	

		GRADE
HEART	MICRO: INFLAMMATION	2
	FOCAL	
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	PAS STAIN, NEGATIVE	P
	OIL RED O, POSITIVE	1
	PERIPORTAL TO MIDZONAL	
PARATHYROID	MICRO: NOT EXAMINED	
	NEITHER PARATHYROID IN PLANE OF SECTION	
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
UTERUS	MICRO: DILATATION, LUMEN	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:

AORTA	STERNEBRAE	OVIDUCTS	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	ILEUM	JEJUNUM	KIDNEYS
LYMPH NODE, MES	ADRENAL CORTEX	LUNGS	MAMMARY GLAND
ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD
MARROW, STERN	OVARIES	PANCREAS	RECTUM
PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE	SKIN

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43497 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

			GRADE
SPINAL CORD	SPLEEN	LYMPH NODE, MAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	VAGINA	CERVIX

NOT EXAMINED

MICRO:PARATHYROID

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43501 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.80	0.610
LIVER	9.31	3.156
KIDNEYS	2.04	0.692
HEART	1.48	0.502
SPLEEN	0.49	0.166
UTERUS/CX	0.76	0.258
OVARIES/OVIDUCTS	0.1033	0.035
THYMUS GLAND	0.2699	0.091
ADRENAL GLANDS	0.0698	0.024
THYROIDS/PARA	0.0140	0.005
FINAL BODY WT(G)	295.	

		GRADE
ADRENAL GLANDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	NEITHER ADRENAL MEDULLA EXAMINED; NOT IN PLANE; RECUT EVALUATED	
HEART	MICRO: CARDIOMYOPATHY	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	PAS STAIN, POSITIVE	1
	MOSTLY CENTRILOBULAR; STAIN LOST WITH DIASTASE TREATMENT	
	OIL RED O, NEGATIVE	P
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	1
ADRENAL MEDULLA	MICRO: NOT EXAMINED	
	NEITHER ADRENAL MEDULLA EXAMINED; NOT IN PLANE; RECUT EXAMINED	
PARATHYROID	MICRO: NOT EXAMINED	
	NEITHER PARATHYROID IN PLANE OF SECTION	
SKELETAL MUSCLE	MICRO: INFLAMMATION, SUBACUTE	1
THYMUS GLAND	MICRO: ATROPHY	1
NO SIGNIFICANT CHANGES OBSERVED	GROSS:	

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43501 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

GRADE

	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	ILEUM	JEJUNUM
	KIDNEYS	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND
	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN
	OVARIES	PANCREAS	RECTUM	PITUITARY
	SAL. GLAND MAND	SKIN	SPINAL CORD	SPLEEN
	LYMPH NODE, MAND	THYROID GLANDS	TRACHEA	URINARY BLADDER
	UTERUS	VAGINA	CERVIX	

NOT EXAMINED

MICRO:	ADRENAL MEDULLA	PARATHYROID

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43420 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.77	0.681
LIVER	11.03	4.242
KIDNEYS	2.17	0.835
HEART	0.95	0.365
SPLEEN	0.48	0.185
UTERUS/CX	0.72	0.277
OVARIES/OVIDUCTS	0.1087	0.042
THYMUS GLAND	0.2884	0.111
ADRENAL GLANDS	0.0744	0.029
THYROIDS/PARA	0.0152	0.006
FINAL BODY WT(G)	260.	

LIVER
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO: LUNGS THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43439 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.91	0.718
LIVER	8.83	3.320
KIDNEYS	1.67	0.628
HEART	0.83	0.312
SPLEEN	0.42	0.158
UTERUS/CX	0.46	0.173
OVARIES/OVIDUCTS	0.1366	0.051
THYMUS GLAND	0.2537	0.095
ADRENAL GLANDS	0.0599	0.023
THYROIDS/PARA	0.0233	0.009
FINAL BODY WT(G)	266.	

LIVER
LUNGS
NO SIGNIFICANT CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
MICRO:	INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	1
	MINERALIZATION, VASCULAR	1

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	THYROID GLANDS			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43458 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.83	0.775
LIVER	8.33	3.530
KIDNEYS	1.72	0.729
HEART	1.03	0.436
SPLEEN	0.40	0.169
UTERUS/CX	0.55	0.233
OVARIES/OVIDUCTS	0.1351	0.057
THYMUS GLAND	0.2855	0.121
ADRENAL GLANDS	0.0642	0.027
THYROIDS/PARA	0.0163	0.007
FINAL BODY WT(G)	236.	

GENERAL COMMENT

LIVER

THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
GROSS:	ORGAN DAMAGED AT NECROPSY BRAIN	P
MICRO:	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
MICRO:	CYST, ULTIMOBRANCHIAL	1

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX, AORTA, CECUM, EYES/OPTIC N., KIDNEYS, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, STERNEBRAE, COLON, HEART, LIVER, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, OVIDUCTS, DUODENUM, ILEUM, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA

MICRO: LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43462 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.75	0.768
LIVER	8.05	3.531
KIDNEYS	1.71	0.750
HEART	0.89	0.390
SPLEEN	0.47	0.206
UTERUS/CX	0.44	0.193
OVARIES/OVIDUCTS	0.1167	0.051
THYMUS GLAND	0.3171	0.139
ADRENAL GLANDS	0.0562	0.025
THYROIDS/PARA	0.0173	0.008
FINAL BODY WT(G)	228.	

LIVER
LUNGS
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
MICRO: MINERALIZATION, VASCULAR	1
MICRO: CYST, ULTIMOBRANCHIAL	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43468 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.90	0.646
LIVER	10.25	3.486
KIDNEYS	2.22	0.755
HEART	1.24	0.422
SPLEEN	0.56	0.190
UTERUS/CX	0.60	0.204
OVARIES/OVIDUCTS	0.0897	0.031
THYMUS GLAND	0.3005	0.102
ADRENAL GLANDS	0.0671	0.023
THYROIDS/PARA	0.0290	0.010
FINAL BODY WT(G)	294.	

LIVER
NO SIGNIFICANT CHANGES OBSERVED

THYROID GLANDS

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
MICRO:	CYST, ULTIMOBRANCHIAL	1
	ONE THYROID EXAMINED; OTHER NOT PRESENT; RECUT EVALUATED	

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX, AORTA, CECUM, EYES/OPTIC N., KIDNEYS, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, STERNEBRAE, COLON, HEART, LIVER, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, OVIDUCTS, DUODENUM, ILEUM, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA

MICRO: LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43486 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.88	0.633
LIVER	10.76	3.623
KIDNEYS	2.00	0.673
HEART	1.10	0.370
SPLEEN	0.47	0.158
UTERUS/CX	0.77	0.259
OVARIES/OVIDUCTS	0.1600	0.054
THYMUS GLAND	0.2391	0.081
ADRENAL GLANDS	0.0783	0.026
THYROIDS/PARA	0.0167	0.006
FINAL BODY WT(G)	297.	

LIVER
LUNGS
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
VACUOLATION, HEPATOCELLULAR	1
MICRO: MINERALIZATION, VASCULAR	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43489 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.88	0.637
LIVER	10.30	3.492
KIDNEYS	2.15	0.729
HEART	1.20	0.407
SPLEEN	0.57	0.193
UTERUS/CX	0.86	0.292
OVARIES/OVIDUCTS	0.1483	0.050
THYMUS GLAND	0.2228	0.076
ADRENAL GLANDS	0.0843	0.029
THYROIDS/PARA	0.0190	0.006
FINAL BODY WT(G)	295.	

LIVER
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
VACUOLATION, HEPATOCELLULAR	1
MICRO: CYST, ULTIMOBRANCHIAL	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43502 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.80	0.657
LIVER	9.51	3.471
KIDNEYS	1.88	0.686
HEART	1.12	0.409
SPLEEN	0.49	0.179
UTERUS/CX	0.51	0.186
OVARIES/OVIDUCTS	0.1101	0.040
THYMUS GLAND	0.2149	0.078
ADRENAL GLANDS	0.0851	0.031
THYROIDS/PARA	0.0258	0.009
FINAL BODY WT(G)	274.	

LIVER

NO SIGNIFICANT CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
VACUOLATION, HEPATOCELLULAR	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:LUNGS THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43511 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.85	0.609
LIVER	10.07	3.312
KIDNEYS	2.21	0.727
HEART	1.07	0.352
SPLEEN	0.52	0.171
UTERUS/CX	0.55	0.181
OVARIES/OVIDUCTS	0.1760	0.058
THYMUS GLAND	0.3339	0.110
ADRENAL GLANDS	0.0765	0.025
THYROIDS/PARA	0.0167	0.005
FINAL BODY WT(G)	304.	

LIVER
LUNGS

NO SIGNIFICANT CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
MICRO: INFLAMMATION, CHRONIC	1
HISTIOCYTOSIS, ALVEOLAR	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43515 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.81	0.573
LIVER	12.09	3.826
KIDNEYS	2.14	0.677
HEART	1.16	0.367
SPLEEN	0.54	0.171
UTERUS/CX	0.89	0.282
OVARIES/OVIDUCTS	0.1161	0.037
THYMUS GLAND	0.2867	0.091
ADRENAL GLANDS	0.0749	0.024
THYROIDS/PARA	0.0165	0.005
FINAL BODY WT(G)	316.	

LUNGS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	2

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	LIVER	THYROID GLANDS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43463 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.69	0.687
LIVER	8.85	3.598
KIDNEYS	1.77	0.720
HEART	0.85	0.346
SPLEEN	0.47	0.191
UTERUS/CX	0.45	0.183
OVARIES/OVIDUCTS	0.1287	0.052
THYMUS GLAND	0.1072	0.044
ADRENAL GLANDS	0.0641	0.026
THYROIDS/PARA	0.0164	0.007
FINAL BODY WT(G)	246.	

LIVER
NO SIGNIFICANT CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	2

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	LUNGS	THYROID GLANDS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43475 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.			GRADE
BRAIN	1.90	0.617	LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LIVER	9.56	3.104	LUNGS	MICRO: INFLAMMATION, CHRONIC ACTIVE	3
KIDNEYS	1.90	0.617		FOCALLY SEVERE	
HEART	1.06	0.344	EAR(S)	GROSS: SWOLLEN	P
SPLEEN	0.51	0.166		RIGHT	
UTERUS/CX	0.58	0.188	EAR(S)	MICRO: CHONDROPATHY, AURICULAR	2
OVARIES/OVIDUCTS	0.1351	0.044		CORRELATES WITH GROSS SWOLLEN APPEARANCE	
THYMUS GLAND	0.2178	0.071	NO SIGNIFICANT		
ADRENAL GLANDS	0.0544	0.018	CHANGES OBSERVED		
THYROIDS/PARA	0.0160	0.005			
FINAL BODY WT(G)	308.				

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, OVIDUCTS, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, MAMMARY GLAND, NERVE,SCIATIC, OVARIES, PANCREAS, RECTUM, PITUITARY, SAL. GLAND MAND, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, TRACHEA, URINARY BLADDER, UTERUS, VAGINA, CERVIX

MICRO: THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43478 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.93	0.538
LIVER	12.82	3.571
KIDNEYS	2.06	0.574
HEART	1.16	0.323
SPLEEN	0.56	0.156
UTERUS/CX	0.60	0.167
OVARIES/OVIDUCTS	0.0935	0.026
THYMUS GLAND	0.3124	0.087
ADRENAL GLANDS	0.0693	0.019
THYROIDS/PARA	0.0149	0.004
FINAL BODY WT(G)	359.	

LIVER
LUNGS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	MINERALIZATION, VASCULAR	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43491 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.73	0.562
LIVER	9.52	3.091
KIDNEYS	1.98	0.643
HEART	1.05	0.341
SPLEEN	0.40	0.130
UTERUS/CX	0.86	0.279
OVARIES/OVIDUCTS	0.1311	0.043
THYMUS GLAND	0.2712	0.088
ADRENAL GLANDS	0.0840	0.027
THYROIDS/PARA	0.0178	0.006
FINAL BODY WT(G)	308.	

LIVER
THYROID GLANDS
NO SIGNIFICANT CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	CYST, ULTIMOBRANCHIAL	1
	HYPERTROPHY, FOLLICULAR CELL	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43495 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.96	0.718
LIVER	10.93	4.004
KIDNEYS	1.93	0.707
HEART	1.05	0.385
SPLEEN	0.41	0.150
UTERUS/CX	0.68	0.249
OVARIES/OVIDUCTS	0.1223	0.045
THYMUS GLAND	0.2317	0.085
ADRENAL GLANDS	0.0814	0.030
THYROIDS/PARA	0.0181	0.007
FINAL BODY WT(G)	273.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
LUNGS	MICRO: INFLAMMATION, GRANULOMATOUS	1
	HISTIOCYTOSIS, ALVEOLAR	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	1
	HYPERTROPHY, FOLLICULAR CELL	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43496 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.90	0.601
LIVER	12.38	3.918
KIDNEYS	2.53	0.801
HEART	1.28	0.405
SPLEEN	0.82	0.259
UTERUS/CX	0.83	0.263
OVARIES/OVIDUCTS	0.1046	0.033
THYMUS GLAND	0.2451	0.078
ADRENAL GLANDS	0.0877	0.028
THYROIDS/PARA	0.0207	0.007
FINAL BODY WT(G)	316.	

		GRADE
GENERAL COMMENT	GROSS: MECHANICAL TRAUMA DISTAL TAIL MISSING	P
HARDERIAN GLANDS	GROSS: DARK RED AREA(S) MULTIPLE, PINPOINT, BILATERAL	P
HARDERIAN GLANDS	MICRO: PIGMENT CORRELATES WITH GROSS RED AREA(S)	1
LIVER	MICRO: VACUOLATION, HEPATOCELLULAR	1
LUNGS	MICRO: INFLAMMATION, GRANULOMATOUS	1
OVARIES	GROSS: WHITE AREA(S) MULTIPLE, PINPOINT, BILATERAL	P
OVARIES	MICRO: ATROPHY NO HISTOLOGIC CORRELATE TO GROSS WHITE AREA(S)	1
SKIN	GROSS: RED MATTING NASAL	P
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	1
UTERUS	MICRO: METAPLASIA, SQUAMOUS ON SLIDE WITH OVARIES	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	PANCREAS
RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
SPINAL CORD	SPLEEN	STOMACH	LYMPH NODE, MAND
THYMUS GLAND	THYROID GLANDS	TRACHEA	URINARY BLADDER
UTERUS	VAGINA	CERVIX	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43508 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.88	0.681
LIVER	10.48	3.797
KIDNEYS	2.04	0.739
HEART	1.02	0.370
SPLEEN	0.59	0.214
UTERUS/CX	0.57	0.207
OVARIES/OVIDUCTS	0.1644	0.060
THYMUS GLAND	0.2768	0.100
ADRENAL GLANDS	0.0826	0.030
THYROIDS/PARA	0.0231	0.008
FINAL BODY WT(G)	276.	

LIVER
NO SIGNIFICANT CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	3

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO: LUNGS THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43513 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.96	0.653
LIVER	9.96	3.320
KIDNEYS	2.05	0.683
HEART	1.21	0.403
SPLEEN	0.72	0.240
UTERUS/CX	0.58	0.193
OVARIES/OVIDUCTS	0.1929	0.064
THYMUS GLAND	0.4368	0.146
ADRENAL GLANDS	0.0781	0.026
THYROIDS/PARA	0.0201	0.007
FINAL BODY WT(G)	300.	

LIVER
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
VACUOLATION, HEPATOCELLULAR	1

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	LUNGS	THYROID GLANDS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43516 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.77	0.582
LIVER	12.11	3.984
KIDNEYS	2.46	0.809
HEART	1.05	0.345
SPLEEN	0.47	0.155
UTERUS/CX	0.86	0.283
OVARIES/OVIDUCTS	0.1065	0.035
THYMUS GLAND	0.3539	0.116
ADRENAL GLANDS	0.0818	0.027
THYROIDS/PARA	0.0176	0.006
FINAL BODY WT(G)	304.	

		GRADE
KIDNEYS	GROSS: WHITE AREA(S) ONE, 3 MM IN DIAMETER, IN CORTEX, LEFT	P
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE CORRELATES WITH GROSS WHITE AREA(S)	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, AORTA, CECUM, EYES/OPTIC N., LIVER, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, STERNEBRAE, COLON, HEART, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA, OVIDUCTS, DUODENUM, ILEUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43517 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.90	0.688
LIVER	9.36	3.391
KIDNEYS	1.99	0.721
HEART	1.04	0.377
SPLEEN	0.62	0.225
UTERUS/CX	0.64	0.232
OVARIES/OVIDUCTS	0.1228	0.044
THYMUS GLAND	0.2483	0.090
ADRENAL GLANDS	0.0694	0.025
THYROIDS/PARA	0.0171	0.006
FINAL BODY WT(G)	276.	

NO SIGNIFICANT CHANGES OBSERVED

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: HISTIOCYTOSIS, ALVEOLAR	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
EAR(S)	GROSS: SWOLLEN RIGHT	P
EAR(S)	MICRO: CHONDROPATHY, AURICULAR CORRELATES WITH GROSS SWOLLEN APPEARANCE	2

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX, AORTA, CECUM, EYES/OPTIC N., KIDNEYS, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, STERNEBRAE, COLON, HEART, LIVER, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, OVIDUCTS, DUODENUM, ILEUM, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43440 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.77	0.660
LIVER	11.81	4.407
KIDNEYS	1.97	0.735
HEART	0.96	0.358
SPLEEN	0.37	0.138
UTERUS/CX	0.41	0.153
OVARIES/OVIDUCTS	0.1382	0.052
THYMUS GLAND	0.2648	0.099
ADRENAL GLANDS	0.0722	0.027
THYROIDS/PARA	0.0217	0.008
FINAL BODY WT(G)	268.	

		GRADE
ESOPHAGUS	MICRO: DEGENERATION	2
	FOCAL IN MUSCLE WALL	
KIDNEYS	GROSS: DEPRESSED AREA(S)	P
	FEW, PINPOINT, IN CORTEX, LEFT	
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE	1
	FOCAL; CORRELATES WITH GROSS DEPRESSED AREA(S)	
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	2
	PERIPORTAL TO MIDZONAL	
	HYPERTROPHY, HEPATOCELLULAR, CENTRILOBULAR	1
	PAS STAIN, NEGATIVE	P
	PERIPORTAL TO MIDZONAL	
	OIL RED O, POSITIVE	2
	PERIPORTAL TO MID-ZONAL; VACUOLES ARE OIL RED O POSITIVE	
LUNGS	GROSS: DARK RED AREA(S)	P
	SEVERAL, IRREGULARLY SHAPED, ALL LOBES	
LUNGS	GROSS: WHITE AREA(S)	P
	SEVERAL, IRREGULARLY SHAPED, ALL LOBES	
LUNGS	MICRO: INFLAMMATION, CHRONIC	1
	NO CORRELATE TO GROSS RED DISCOLORATION	
	HISTIOCYTOSIS, ALVEOLAR	1
	CORRELATES WITH GROSS WHITE AREAS	
	INFLAMMATION, GRANULOMATOUS	1
	MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS	

ANIMAL NO. 43440 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

			GRADE
		AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	
SPLEEN	MICRO:	PIGMENT, BROWN	1
THYMUS GLAND	MICRO:	ATROPHY	1
THYROID GLANDS	MICRO:	CYST, ULTIMOBRANCHIAL	1
NO SIGNIFICANT CHANGES OBSERVED	GROSS:	ADRENAL GLANDS, AORTA, STERNEBRAE, OVIDUCTS, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, LIVER, LYMPH NODE, MES, MAMMARY GLAND, NERVE,SCIATIC, OVARIES, PANCREAS, RECTUM, PITUITARY, SAL. GLAND MAND, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, TRACHEA, URINARY BLADDER, UTERUS, VAGINA, CERVIX	
	MICRO:	AORTA, STERNEBRAE, OVIDUCTS, BRAIN, CECUM, COLON, DUODENUM, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, LYMPH NODE, MES, ADRENAL CORTEX, MAMMARY GLAND, ADRENAL MEDULLA, NERVE,SCIATIC, STOMACH, GLD, STOMACH, NONGLD, MARROW, STERN, OVARIES, PANCREAS, PARATHYROID, RECTUM, PITUITARY, SAL. GLAND MAND, SKELETAL MUSCLE, SKIN, SPINAL CORD, LYMPH NODE, MAND, TRACHEA, URINARY BLADDER, UTERUS, VAGINA, CERVIX	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43456 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.78	0.481
LIVER	15.03	4.062
KIDNEYS	2.25	0.608
HEART	1.32	0.357
SPLEEN	0.65	0.176
UTERUS/CX	0.55	0.149
OVARIES/OVIDUCTS	0.1301	0.035
THYMUS GLAND	0.2686	0.073
ADRENAL GLANDS	0.0794	0.021
THYROIDS/PARA	0.0199	0.005
FINAL BODY WT(G)	370.	

		GRADE
HEART	MICRO: CARDIOMYOPATHY	1
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE	1
	MINERALIZATION, PELVIC	1
LIVER	MICRO: HYPERTROPHY, HEPATOCELLULAR, CENTRILOBULAR	2
	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
	PAS STAIN, POSITIVE	1
	MOSTLY CENTRILOBULAR; STAIN LOST WITH DIASTASE TREATMENT	
	OIL RED O, POSITIVE	2
	PERIPORTAL TO MID-ZONAL; VACUOLES ARE OIL RED O POSITIVE	
LUNGS	MICRO: INFLAMMATION, CHRONIC	2
	HISTIOCYTOSIS, ALVEOLAR	1
	INFLAMMATION, GRANULOMATOUS	1
	MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	
PANCREAS	MICRO: INFLAMMATION, SUBACUTE	1
SKELETAL MUSCLE	MICRO: DEGENERATION	1
SPLEEN	MICRO: HEMATOPOIESIS, EXTRAMEDULLARY	1
LYMPH NODE, MAND	MICRO: HYPERPLASIA, LYMPHOID	1
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	2
VAGINA	MICRO: INFLAMMATION, CHRONIC ACTIVE	1
CERVIX	MICRO: INFLAMMATION, ACUTE	1
NO SIGNIFICANT CHANGES OBSERVED	GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, OVIDUCTS, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM	

ANIMAL NO. 43456 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

				GRADE
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	ILEUM	JEJUNUM	LYMPH NODE, MES
	ADRENAL CORTEX	MAMMARY GLAND	ADRENAL MEDULLA	NERVE,SCIATIC
	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN	OVARIES
	PARATHYROID	RECTUM	PITUITARY	SAL. GLAND MAND
	SKIN	SPINAL CORD	TRACHEA	URINARY BLADDER
	UTERUS			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43460 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.91	0.816
LIVER	9.86	4.214
KIDNEYS	1.73	0.739
HEART	1.02	0.436
SPLEEN	0.48	0.205
UTERUS/CX	0.56	0.239
OVARIES/OVIDUCTS	0.1442	0.062
THYMUS GLAND	0.1375	0.059
ADRENAL GLANDS	0.0833	0.036
THYROIDS/PARA	0.0166	0.007
FINAL BODY WT(G)	234.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	1
	HYPERTROPHY, HEPATOCELLULAR, CENTRILOBULAR	2
LUNGS	MICRO: INFLAMMATION, CHRONIC	1
	INFLAMMATION, GRANULOMATOUS MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
LYMPH NODE, MAND	MICRO: HYPERPLASIA, LYMPHOID	1
THYMUS GLAND	MICRO: ATROPHY	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	1
	HYPERTROPHY, FOLLICULAR CELL SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	1
TRACHEA	MICRO: DILATATION, GLANDULAR	1
VAGINA	MICRO: INFLAMMATION, SUBACUTE	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43460 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

GRADE

	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND
	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD
	MARROW, STERN	OVARIES	PANCREAS	PARATHYROID
	RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
	SKIN	SPINAL CORD	SPLEEN	URINARY BLADDER
	UTERUS	CERVIX		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43466 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.82	0.547
LIVER	14.43	4.333
KIDNEYS	2.35	0.706
HEART	1.21	0.363
SPLEEN	0.57	0.171
UTERUS/CX	0.51	0.153
OVARIES/OVIDUCTS	0.1650	0.050
THYMUS GLAND	0.2219	0.067
ADRENAL GLANDS	0.0652	0.020
THYROIDS/PARA	0.0246	0.007
FINAL BODY WT(G)	333.	

EYES/OPTIC N.
KIDNEYS
LIVER
LUNGS
MAMMARY GLAND
THYMUS GLAND
THYROID GLANDS
NO SIGNIFICANT CHANGES OBSERVED

		GRADE
MICRO:	NO SIGNIFICANT CHANGES OBSERVED ONE OPTIC NERVE EXAMINED; OTHER NOT IN PLANE; RECUT EVALUATED	
MICRO:	MINERALIZATION, PELVIC	1
MICRO:	INFLAMMATION, SUBACUTE	2
	VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	3
MICRO:	INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	1
MICRO:	HYPERPLASIA, LOBULAR	1
MICRO:	ATROPHY	1
MICRO:	HYPERTROPHY, FOLLICULAR CELL	2

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	LYMPH NODE, MES	ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC
	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN	OVARIES
	PANCREAS	PARATHYROID	RECTUM	PITUITARY
	SAL. GLAND MAND	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	LYMPH NODE, MAND	TRACHEA	URINARY BLADDER

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43466 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

	GRADE
UTERUS	
VAGINA	
CERVIX	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43477 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.87	0.693
LIVER	11.83	4.381
KIDNEYS	2.13	0.789
HEART	1.01	0.374
SPLEEN	0.78	0.289
UTERUS/CX	0.77	0.285
OVARIES/OVIDUCTS	0.1224	0.045
THYMUS GLAND	0.2561	0.095
ADRENAL GLANDS	0.0686	0.025
THYROIDS/PARA	0.0157	0.006
FINAL BODY WT(G)	270.	

		GRADE
KIDNEYS	GROSS: DEPRESSED AREA(S) ONE, LESS THAN 1 MM IN DIAMETER, IN CORTEX, LEFT	P
KIDNEYS	MICRO: INFLAMMATION, SUBACUTE GROSS DEPRESSED AREAS HAVE HISTOLOGICALLY NORMAL TISSUE	1
	MINERALIZATION, PELVIC	1
LIVER	MICRO: HYPERTROPHY, HEPATOCELLULAR, CENTRILOBULAR	2
	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	2
LUNGS	MICRO: HISTIOCYTOSIS, ALVEOLAR	1
	MINERALIZATION, VASCULAR	1
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
SKIN	GROSS: MASS 30 X 20 X 8 MM, RED, SCABBED, LEFT DORSAL FORELIMB, MASS #1	P
SKIN	MICRO: INFLAMMATION, CHRONIC ACTIVE FOCAL IN DEEP DERMIS & SUBCUTIS; CORRELATES WITH MASS #1	3
SPLEEN	MICRO: HEMATOPOIESIS, EXTRAMEDULLARY	1
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS: ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43477 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

GRADE

	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	LIVER	LYMPH NODE, MES	LUNGS
	MAMMARY GLAND	NERVE,SCIATIC	OVARIES	PANCREAS
	RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
	SPINAL CORD	SPLEEN	STOMACH	LYMPH NODE, MAND
	THYMUS GLAND	THYROID GLANDS	TRACHEA	URINARY BLADDER
	UTERUS	VAGINA	CERVIX	
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND	ADRENAL MEDULLA
	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN
	OVARIES	PANCREAS	PARATHYROID	RECTUM
	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE	SPINAL CORD
	LYMPH NODE, MAND	TRACHEA	URINARY BLADDER	UTERUS
	VAGINA	CERVIX		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43479 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.86	0.679
LIVER	12.84	4.686
KIDNEYS	2.27	0.828
HEART	0.96	0.350
SPLEEN	0.43	0.157
UTERUS/CX	0.87	0.318
OVARIES/OVIDUCTS	0.1817	0.066
THYMUS GLAND	0.2173	0.079
ADRENAL GLANDS	0.0617	0.023
THYROIDS/PARA	0.0127	0.005
FINAL BODY WT(G)	274.	

		GRADE
KIDNEYS	MICRO: BASOPHILIC TUBULES	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	HISTIOCYTOSIS, ALVEOLAR	1
	AGGREGATES PRESENT	
	INFLAMMATION, GRANULOMATOUS	1
	MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
SPLEEN	MICRO: PIGMENT, BROWN	1
	GOLDEN-BROWN; DIFFUSE	
LYMPH NODE, MAND	MICRO: HYPERPLASIA, LYMPHOID	1
THYMUS GLAND	MICRO: ATROPHY	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	2
UTERUS	MICRO: DILATATION, LUMEN	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43479 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/27/00 DATE OF DEATH: 07/27/00 STUDY DAY: 92

				GRADE
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND	ADRENAL MEDULLA
	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN
	OVARIES	PANCREAS	PARATHYROID	RECTUM
	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE	SKIN
	SPINAL CORD	TRACHEA	URINARY BLADDER	VAGINA
	CERVIX			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43481 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.92	0.561
LIVER	13.92	4.070
KIDNEYS	2.29	0.670
HEART	1.19	0.348
SPLEEN	0.47	0.137
UTERUS/CX	0.79	0.231
OVARIES/OVIDUCTS	0.1469	0.043
THYMUS GLAND	0.2510	0.073
ADRENAL GLANDS	0.0655	0.019
THYROIDS/PARA	0.0198	0.006
FINAL BODY WT(G)	342.	

		GRADE
EYES/OPTIC N.	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONE OPTIC NERVE EXAMINED; OTHER NOT IN PLANE; RECUT EVALUATED	
HEART	MICRO: CARDIOMYOPATHY	2
KIDNEYS	MICRO: MINERALIZATION, PAPILLARY TUBULAR	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	1
MAMMARY GLAND	MICRO: HYPERPLASIA, LOBULAR	2
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
LYMPH NODE, MAND	MICRO: HYPERPLASIA, LYMPHOID	1
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	2
UTERUS	MICRO: DILATATION, LUMEN	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43481 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

			GRADE
EYES/OPTIC N.	ILEUM	JEJUNUM	LYMPH NODE, MES
ADRENAL CORTEX	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD
STOMACH, NONGLD	MARROW, STERN	OVARIES	PANCREAS
PARATHYROID	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
TRACHEA	URINARY BLADDER	VAGINA	CERVIX

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43484 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.90	0.664
LIVER	11.38	3.979
KIDNEYS	1.85	0.647
HEART	1.06	0.371
SPLEEN	0.52	0.182
UTERUS/CX	0.43	0.150
OVARIES/OVIDUCTS	0.1290	0.045
THYMUS GLAND	0.1611	0.056
ADRENAL GLANDS	0.0451	0.016
THYROIDS/PARA	0.0196	0.007
FINAL BODY WT(G)	286.	

		GRADE
KIDNEYS	GROSS: WHITE AREA(S) SEVERAL, PINPOINT TO 1 MM IN DIAMETER, IN CORTEX AND MEDULLA, RIGHT	P
KIDNEYS	MICRO: MINERALIZATION, PELVIC NO HISTOLOGIC CORRELATE TO GROSS WHITE AREA(S)	1
LIVER	MICRO: INFLAMMATION, SUBACUTE	2
	VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	1
	PAS STAIN, NEGATIVE	P
	OIL RED O, POSITIVE PERIPORTAL TO MID-ZONAL; VACUOLES ARE OIL RED O POSITIVE	3
LUNGS	MICRO: INFLAMMATION, GRANULOMATOUS MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	1
	INFLAMMATION, CHRONIC	2
	HISTIOCYTOSIS, ALVEOLAR AGGREGATES PRESENT	1
THYMUS GLAND	MICRO: ATROPHY	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	1
TRACHEA	MICRO: DILATATION, GLANDULAR	1
VAGINA	MICRO: INFLAMMATION, SUBACUTE	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	LIVER	LYMPH NODE, MES	LUNGS

ANIMAL NO. 43484 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/26/00 DATE OF DEATH: 07/26/00 STUDY DAY: 91

GRADE

	MAMMARY GLAND	NERVE,SCIATIC	OVARIES	PANCREAS
	RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
	SKIN	SPINAL CORD	SPLEEN	STOMACH
	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS	TRACHEA
	URINARY BLADDER	UTERUS	VAGINA	CERVIX
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND	ADRENAL MEDULLA
	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD	MARROW, STERN
	OVARIES	PANCREAS	PARATHYROID	RECTUM
	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE	SKIN
	SPINAL CORD	SPLEEN	LYMPH NODE, MAND	URINARY BLADDER
	UTERUS	CERVIX		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43492 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.83	0.726
LIVER	12.28	4.873
KIDNEYS	1.96	0.778
HEART	1.05	0.417
SPLEEN	0.59	0.234
UTERUS/CX	0.51	0.202
OVARIES/OVIDUCTS	0.1706	0.068
THYMUS GLAND	0.1830	0.073
ADRENAL GLANDS	0.0827	0.033
THYROIDS/PARA	0.0236	0.009
FINAL BODY WT(G)	252.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
	HYPERTROPHY, HEPATOCELLULAR, CENTRILOBULAR	1
	PAS STAIN, NEGATIVE	P
	OIL RED O, POSITIVE	2
	PERIPORTAL TO MIDZONAL	
LUNGS	GROSS: WHITE AREA(S)	P
	SEVERAL, PINPOINT, ALL LOBES	
LUNGS	MICRO: INFLAMMATION, CHRONIC	1
	CORRELATES WITH GROSS WHITE AREAS	
	HISTIOCYTOSIS, ALVEOLAR	1
	CORRELATES WITH GROSS WHITE AREAS	
	INFLAMMATION, GRANULOMATOUS	1
	MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	
PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	ONE PARATHYROID EXAMINED; OTHER NOT IN PLANE OF SECTION	
SPLEEN	MICRO: HYPERPLASIA, LYMPHOID	1
THYMUS GLAND	MICRO: HEMORRHAGE	1
	ATROPHY	1
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	1
	HYPERTROPHY, FOLLICULAR CELL	1
	SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43492 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

					GRADE
NO SIGNIFICANT CHANGES OBSERVED	GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
		BRAIN	CECUM	COLON	DUODENUM
		ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
		JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
		MAMMARY GLAND	NERVE,SCIATIC	OVARIES	PANCREAS
		RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
		SKIN	SPINAL CORD	SPLEEN	STOMACH
		LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS	TRACHEA
		URINARY BLADDER	UTERUS	VAGINA	CERVIX
	MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
		CECUM	COLON	DUODENUM	ESOPHAGUS
		EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
		KIDNEYS	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND
		ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD
		MARROW, STERN	OVARIES	PANCREAS	PARATHYROID
		RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
		SKIN	SPINAL CORD	LYMPH NODE, MAND	TRACHEA
		URINARY BLADDER	UTERUS	VAGINA	CERVIX

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43503 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.66	0.634
LIVER	10.84	4.137
KIDNEYS	1.71	0.653
HEART	0.91	0.347
SPLEEN	0.39	0.149
UTERUS/CX	0.81	0.309
OVARIES/OVIDUCTS	0.1500	0.057
THYMUS GLAND	0.2959	0.113
ADRENAL GLANDS	0.0743	0.028
THYROIDS/PARA	0.0231	0.009
FINAL BODY WT(G)	262.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR PERIPORTAL TO MIDZONAL	3
	PAS STAIN, POSITIVE MOSTLY CENTRILOBULAR; STAIN LOST WITH DIASTASE TREATMENT	1
	OIL RED O, POSITIVE PERIPORTAL TO MID-ZONAL; VACUOLES ARE OIL RED O POSITIVE	3
LUNGS	MICRO: INFLAMMATION, GRANULOMATOUS MULTIPLE LAYERS OF HISTIOCYTES RIMMING BRONCHIOLAR LUMENS AND/OR GIANT CELLS IN AIRWAYS OR ALVEOLAR SPACES	1
	MINERALIZATION, VASCULAR	1
THYMUS GLAND	MICRO: ATROPHY	1
	HEMORRHAGE	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	2
UTERUS	MICRO: DILATATION, LUMEN	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN

TABLE 120 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43503 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 07/28/00 DATE OF DEATH: 07/28/00 STUDY DAY: 93

GRADE

	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	AORTA	STERNEBRAE	OVIDUCTS	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LYMPH NODE, MES	ADRENAL CORTEX	MAMMARY GLAND
	ADRENAL MEDULLA	NERVE,SCIATIC	STOMACH, GLD	STOMACH, NONGLD
	MARROW, STERN	OVARIES	PANCREAS	PARATHYROID
	RECTUM	PITUITARY	SAL. GLAND MAND	SKELETAL MUSCLE
	SKIN	SPINAL CORD	SPLEEN	LYMPH NODE, MAND
	TRACHEA	URINARY BLADDER	VAGINA	CERVIX

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43289 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.99	0.355
LIVER	15.04	2.681
KIDNEYS	3.61	0.643
HEART	1.84	0.328
SPLEEN	0.62	0.111
PROSTATE	1.03	0.184
RT TESTIS	1.73	0.308
LT TESTIS	1.71	0.305
RT EPIDIDYMIS	0.75	0.134
LT EPIDIDYMIS	0.78	0.139
RT CAUDA EPID	0.3544	0.063
LT CAUDA EPID	0.3636	0.065
THYMUS GLAND	0.2074	0.037
ADRENAL GLANDS	0.0540	0.010
THYROIDS/PARA	0.0273	0.005
FINAL BODY WT(G)	561.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
LUNGS	GROSS: DARK RED AREA(S)	P
	FEW, IRREGULARLY SHAPED, ALL LOBES	
LUNGS	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	NO CORRELATE TO GROSS RED AREAS	
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
	ONE THYROID EXAMINED; OTHER NOT PRESENT; RECUT EVALUATED	
NO SIGNIFICANT CHANGES OBSERVED	GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER	
	MICRO: LUNGS, PROSTATE	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43295 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.98	0.345
LIVER	15.58	2.714
KIDNEYS	4.06	0.707
HEART	1.61	0.280
SPLEEN	0.65	0.113
PROSTATE	1.29	0.225
RT TESTIS	1.70	0.296
LT TESTIS	1.71	0.298
RT EPIDIDYMIS	0.74	0.129
LT EPIDIDYMIS	0.72	0.125
RT CAUDA EPID	0.3007	0.052
LT CAUDA EPID	0.3127	0.054
THYMUS GLAND	0.3309	0.058
ADRENAL GLANDS	0.0636	0.011
THYROIDS/PARA	0.0313	0.005
FINAL BODY WT(G)	574.	

LIVER
NO SIGNIFICANT
CHANGES OBSERVED

				GRADE
MICRO: INFLAMMATION, SUBACUTE				1
GROSS: ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN	
CECUM	COLON	DUODENUM	ESOPHAGUS	
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM	
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS	
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS	
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND	
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD	
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA	
VAS DEFERENS	URINARY BLADDER			
MICRO: LUNGS	PROSTATE	THYROID GLANDS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43308 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.91	0.345
LIVER	14.92	2.693
KIDNEYS	3.53	0.637
HEART	1.69	0.305
SPLEEN	0.69	0.125
PROSTATE	1.49	0.269
RT TESTIS	1.42	0.256
LT TESTIS	1.35	0.244
RT EPIDIDYMIS	0.74	0.134
LT EPIDIDYMIS	0.71	0.128
RT CAUDA EPID	0.3278	0.059
LT CAUDA EPID	0.3340	0.060
THYMUS GLAND	0.2840	0.051
ADRENAL GLANDS	0.0569	0.010
THYROIDS/PARA	0.0243	0.004
FINAL BODY WT(G)	554.	

		GRADE
KIDNEYS	GROSS: DEPRESSED AREA(S) TWO, LESS THAN 1 MM IN DIAMETER, IN CORTEX, RIGHT	P
LIVER	MICRO: VACUOLATION, HEPATOCELLULAR	1
	INFLAMMATION, SUBACUTE	1
LUNGS	GROSS: DARK RED AREA(S) ONE, 2 MM IN DIAMETER, RIGHT DIAPHRAGMATIC LOBE	P
LUNGS	MICRO: MINERALIZATION, VASCULAR NO CORRELATE TO GROSS RED AREAS	1
PROSTATE	MICRO: INFLAMMATION, CHRONIC ACTIVE	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, LIVER, LYMPH NODE, MES, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

MICRO: THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43316 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.17	0.425
LIVER	13.22	2.587
KIDNEYS	3.30	0.646
HEART	1.46	0.286
SPLEEN	0.70	0.137
PROSTATE	0.99	0.194
RT TESTIS	1.74	0.341
LT TESTIS	1.65	0.323
RT EPIDIDYMIS	0.71	0.139
LT EPIDIDYMIS	0.73	0.143
RT CAUDA EPID	0.2863	0.056
LT CAUDA EPID	0.2963	0.058
THYMUS GLAND	0.4229	0.083
ADRENAL GLANDS	0.0823	0.016
THYROIDS/PARA	0.0294	0.006
FINAL BODY WT(G)	511.	

LIVER
LUNGS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	MINERALIZATION, VASCULAR	1

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

MICRO: PROSTATE, THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43326 GROUP 1: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.80	0.354
LIVER	13.17	2.587
KIDNEYS	2.80	0.550
HEART	1.61	0.316
SPLEEN	0.56	0.110
PROSTATE	1.27	0.250
RT TESTIS	1.54	0.303
LT TESTIS	1.40	0.275
RT EPIDIDYMIS	0.62	0.122
LT EPIDIDYMIS	0.53	0.104
RT CAUDA EPID	0.2418	0.048
LT CAUDA EPID	0.2355	0.046
THYMUS GLAND	0.2999	0.059
ADRENAL GLANDS	0.0714	0.014
THYROIDS/PARA	0.0317	0.006
FINAL BODY WT(G)	509.	

GENERAL COMMENT			GRADE
	GROSS:	MECHANICAL TRAUMA PROXIMAL TAIL BROKEN	P
LIVER	MICRO:	INFLAMMATION, SUBACUTE	1
		VACUOLATION, HEPATOCELLULAR	1
LUNGS	MICRO:	MINERALIZATION, VASCULAR	1
		INFLAMMATION, CHRONIC	1
		HISTIOCYTOSIS, ALVEOLAR	1
PROSTATE	MICRO:	INFLAMMATION, CHRONIC ACTIVE	1
THYROID GLANDS	MICRO:	CYST, ULTIMOBRANCHIAL	1
		HYPERTROPHY, FOLLICULAR CELL	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43285 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.11	0.351
LIVER	17.35	2.887
KIDNEYS	3.87	0.644
HEART	1.72	0.286
SPLEEN	0.78	0.130
PROSTATE	0.68	0.113
RT TESTIS	1.70	0.283
LT TESTIS	1.76	0.293
RT EPIDIDYMIS	0.73	0.121
LT EPIDIDYMIS	0.74	0.123
RT CAUDA EPID	0.3264	0.054
LT CAUDA EPID	0.3583	0.060
THYMUS GLAND	0.2941	0.049
ADRENAL GLANDS	0.0686	0.011
THYROIDS/PARA	0.0416	0.007
FINAL BODY WT(G)	601.	

LIVER
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	CYST, ULTIMOBRANCHIAL	2

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
	SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
	THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
	VAS DEFERENS	URINARY BLADDER		
MICRO:	LUNGS	PROSTATE		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43293 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.13	0.373
LIVER	17.06	2.988
KIDNEYS	4.35	0.762
HEART	1.80	0.315
SPLEEN	0.79	0.138
PROSTATE	0.89	0.156
RT TESTIS	1.53	0.268
LT TESTIS	1.58	0.277
RT EPIDIDYMIS	0.72	0.126
LT EPIDIDYMIS	0.81	0.142
RT CAUDA EPID	0.3224	0.056
LT CAUDA EPID	0.4092	0.072
THYMUS GLAND	0.2672	0.047
ADRENAL GLANDS	0.0609	0.011
THYROIDS/PARA	0.0273	0.005
FINAL BODY WT(G)	571.	

LIVER
PROSTATE
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	HYPERTROPHY, EPITHELIAL	1

GROSS: ADRENAL GLANDS, CECUM, EYES/OPTIC N., KIDNEYS, NERVE,SCIATIC, RECTUM, SEMINAL VESICLES, SPLEEN, THYROID GLANDS, VAS DEFERENS, AORTA, COLON, HEART, LIVER, PANCREAS, PITUITARY, SKELETAL MUSCLE, STOMACH, RT TESTIS, URINARY BLADDER, STERNEBRAE, DUODENUM, ILEUM, LYMPH NODE, MES, RT EPIDIDYMIS, PROSTATE, SKIN, LYMPH NODE, MAND, LT TESTIS, BRAIN, ESOPHAGUS, JEJUNUM, LUNGS, LT EPIDIDYMIS, SAL. GLAND MAND, SPINAL CORD, THYMUS GLAND, TRACHEA

MICRO: LUNGS, THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43311 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.14	0.451
LIVER	14.10	2.968
KIDNEYS	3.55	0.747
HEART	1.56	0.328
SPLEEN	0.83	0.175
PROSTATE	0.93	0.196
RT TESTIS	1.68	0.354
LT TESTIS	1.69	0.356
RT EPIDIDYMIS	0.83	0.175
LT EPIDIDYMIS	0.77	0.162
RT CAUDA EPID	0.3558	0.075
LT CAUDA EPID	0.3440	0.072
THYMUS GLAND	0.2363	0.050
ADRENAL GLANDS	0.0688	0.014
THYROIDS/PARA	0.0291	0.006
FINAL BODY WT(G)	475.	

LIVER
NO SIGNIFICANT
CHANGES OBSERVED

				GRADE
MICRO: INFLAMMATION, SUBACUTE				1
GROSS:ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN	
CECUM	COLON	DUODENUM	ESOPHAGUS	
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM	
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS	
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS	
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND	
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD	
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA	
VAS DEFERENS	URINARY BLADDER			
MICRO:LUNGS	PROSTATE	THYROID GLANDS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43320 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.95	0.412
LIVER	13.09	2.767
KIDNEYS	3.54	0.748
HEART	1.47	0.311
SPLEEN	0.68	0.144
PROSTATE	1.00	0.211
RT TESTIS	1.42	0.300
LT TESTIS	1.42	0.300
RT EPIDIDYMIS	0.60	0.127
LT EPIDIDYMIS	0.62	0.131
RT CAUDA EPID	0.2486	0.053
LT CAUDA EPID	0.2944	0.062
THYMUS GLAND	0.1383	0.029
ADRENAL GLANDS	0.0526	0.011
THYROIDS/PARA	0.0303	0.006
FINAL BODY WT(G)	473.	

LIVER
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	CYST, ULTIMOBRANCHIAL	2

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

MICRO:

LUNGS	PROSTATE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43340 GROUP 2: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.01	0.533
LIVER	12.00	3.183
KIDNEYS	2.86	0.759
HEART	1.47	0.390
SPLEEN	0.65	0.172
PROSTATE	0.74	0.196
RT TESTIS	0.20	0.053
LT TESTIS	1.04	0.276
RT EPIDIDYMIS	0.06	0.016
LT EPIDIDYMIS	0.53	0.141
LT CAUDA EPID	0.2047	0.054
THYMUS GLAND	0.1939	0.051
ADRENAL GLANDS	0.0716	0.019
THYROIDS/PARA	0.0252	0.007
FINAL BODY WT(G)	377.	

GENERAL COMMENT		GRADE
	GROSS: ORGAN NOT POSITIVELY IDENTIFIED RIGHT EPIDIDYMIS	P
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
SEMINAL VESICLES	GROSS: SMALL RIGHT	P
RT TESTIS	GROSS: SMALL	P
COAGULATING GL	GROSS: SMALL RIGHT	P

NO SIGNIFICANT CHANGES OBSERVED

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
	NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
	RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	LT TESTIS	TRACHEA	VAS DEFERENS	URINARY BLADDER
MICRO:	LUNGS	PROSTATE	THYROID GLANDS	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43290 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.01	0.423
LIVER	13.03	2.743
KIDNEYS	3.32	0.699
HEART	1.46	0.307
SPLEEN	0.70	0.147
PROSTATE	0.50	0.105
RT TESTIS	1.47	0.309
LT TESTIS	1.52	0.320
RT EPIDIDYMIS	0.69	0.145
LT EPIDIDYMIS	0.69	0.145
RT CAUDA EPID	0.2892	0.061
LT CAUDA EPID	0.3178	0.067
THYMUS GLAND	0.2907	0.061
ADRENAL GLANDS	0.0650	0.014
THYROIDS/PARA	0.0350	0.007
FINAL BODY WT(G)	475.	

GENERAL COMMENT		GRADE
	GROSS: ORGAN DAMAGED AT NECROPSY ADRENAL GLAND, RIGHT	P
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	GROSS: DARK RED AREA(S) MULTIPLE, IRREGULARLY SHAPED, ALL LOBES	P
LUNGS	MICRO: NO SIGNIFICANT CHANGES OBSERVED NO CORRELATE TO GROSS RED AREAS	
THYROID GLANDS	MICRO: CYST, ULTIMOBRANCHIAL	2
TEETH	GROSS: MALALIGNED UPPER INCISOR, BILATERAL	P
TEETH	GROSS: BROKEN UPPER INCISOR, BILATERAL	P
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
	CECUM	COLON	DUODENUM	ESOPHAGUS
	EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
	KIDNEYS	LIVER	LYMPH NODE, MES	NERVE,SCIATIC
	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS	RECTUM
	PITUITARY	PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	RT TESTIS	LT TESTIS	TRACHEA	VAS DEFERENS
	URINARY BLADDER			
MICRO:	LUNGS	PROSTATE		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43307 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.02	0.374
LIVER	16.69	3.091
KIDNEYS	4.19	0.776
HEART	1.70	0.315
SPLEEN	0.70	0.130
PROSTATE	1.20	0.222
RT TESTIS	1.59	0.294
LT TESTIS	1.62	0.300
RT EPIDIDYMIS	0.66	0.122
LT EPIDIDYMIS	0.70	0.130
RT CAUDA EPID	0.2854	0.053
LT CAUDA EPID	0.3102	0.057
THYMUS GLAND	0.3679	0.068
ADRENAL GLANDS	0.0536	0.010
THYROIDS/PARA	0.0288	0.005
FINAL BODY WT(G)	540.	

		GRADE
LIVER	MICRO: VACUOLATION, HEPATOCELLULAR	1
	INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: HISTIOCYTOSIS, ALVEOLAR	2
	MINERALIZATION, VASCULAR	1
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1
	CYST, ULTIMOBRANCHIAL	2
NO SIGNIFICANT CHANGES OBSERVED		

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43309 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.05	0.341
LIVER	17.85	2.970
KIDNEYS	4.75	0.790
HEART	1.84	0.306
SPLEEN	0.90	0.150
PROSTATE	1.25	0.208
RT TESTIS	1.91	0.318
LT TESTIS	1.98	0.329
RT EPIDIDYMIS	0.84	0.140
LT EPIDIDYMIS	0.80	0.133
RT CAUDA EPID	0.4189	0.070
LT CAUDA EPID	0.4033	0.067
THYMUS GLAND	0.3740	0.062
ADRENAL GLANDS	0.0560	0.009
THYROIDS/PARA	0.0319	0.005
FINAL BODY WT(G)	601.	

LIVER
NO SIGNIFICANT CHANGES OBSERVED

LUNGS

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
MICRO:	INFLAMMATION, CHRONIC	1
	HISTIOCYTOSIS, ALVEOLAR	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

MICRO: PROSTATE THYROID GLANDS

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43309 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

GRADE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43318 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.99	0.341
LIVER	16.16	2.772
KIDNEYS	4.00	0.686
HEART	1.79	0.307
SPLEEN	0.91	0.156
PROSTATE	1.39	0.238
RT TESTIS	1.56	0.268
LT TESTIS	1.52	0.261
RT EPIDIDYMIS	0.74	0.127
LT EPIDIDYMIS	0.62	0.106
RT CAUDA EPID	0.2988	0.051
LT CAUDA EPID	0.2614	0.045
THYMUS GLAND	0.1868	0.032
ADRENAL GLANDS	0.0485	0.008
THYROIDS/PARA	0.0206	0.004
FINAL BODY WT(G)	583.	

KIDNEYS
LIVER
LUNGS
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
GROSS:	WHITE AREA(S) IRREGULARLY SHAPED, BILATERAL	P
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	MINERALIZATION, VASCULAR	1
MICRO:	HYPERTROPHY, FOLLICULAR CELL	1

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, LIVER, LYMPH NODE, MES, LUNGS, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

MICRO: PROSTATE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43322 GROUP 3: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.18	0.447
LIVER	14.58	2.988
KIDNEYS	3.47	0.711
HEART	1.62	0.332
SPLEEN	0.86	0.176
PROSTATE	0.99	0.203
RT TESTIS	1.67	0.342
LT TESTIS	1.64	0.336
RT EPIDIDYMIS	0.73	0.150
LT EPIDIDYMIS	0.78	0.160
RT CAUDA EPID	0.3295	0.068
LT CAUDA EPID	0.3805	0.078
THYMUS GLAND	0.2866	0.059
ADRENAL GLANDS	0.0613	0.013
THYROIDS/PARA	0.0242	0.005
FINAL BODY WT(G)	488.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	MICRO: INFLAMMATION, SUBACUTE	1
PROSTATE	MICRO: INFLAMMATION, ACUTE	1
THYROID GLANDS	MICRO: INFLAMMATION, SUBACUTE	1
	HYPERTROPHY, FOLLICULAR CELL	1
	SMALL FOLLICLES; RELATIVELY TALLER EPITHELIUM; DECREASED COLLOID	

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43277 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.92	0.389
LIVER	13.53	2.744
KIDNEYS	3.24	0.657
HEART	1.54	0.312
SPLEEN	0.54	0.110
PROSTATE	1.29	0.262
RT TESTIS	1.50	0.304
LT TESTIS	1.56	0.316
RT EPIDIDYMIS	0.70	0.142
LT EPIDIDYMIS	0.69	0.140
RT CAUDA EPID	0.3075	0.062
LT CAUDA EPID	0.2863	0.058
THYMUS GLAND	0.2603	0.053
ADRENAL GLANDS	0.0419	0.008
THYROIDS/PARA	0.0338	0.007
FINAL BODY WT(G)	493.	

LIVER
NO SIGNIFICANT CHANGES OBSERVED

LUNGS
NO SIGNIFICANT CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
	VACUOLATION, HEPATOCELLULAR	1
MICRO:	INFLAMMATION, GRANULOMATOUS	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
KIDNEYS	LIVER	LYMPH NODE, MES	LUNGS
NERVE,SCIATIC	PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS
RECTUM	PITUITARY	PROSTATE	SAL. GLAND MAND
SEMINAL VESICLES	SKELETAL MUSCLE	SKIN	SPINAL CORD
SPLEEN	STOMACH	LYMPH NODE, MAND	THYMUS GLAND
THYROID GLANDS	RT TESTIS	LT TESTIS	TRACHEA
VAS DEFERENS	URINARY BLADDER		

MICRO: PROSTATE THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43278 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.91	0.399
LIVER	12.42	2.593
KIDNEYS	3.38	0.706
HEART	1.74	0.363
SPLEEN	0.53	0.111
PROSTATE	1.38	0.288
RT TESTIS	1.46	0.305
LT TESTIS	1.45	0.303
RT EPIDIDYMIS	0.72	0.150
LT EPIDIDYMIS	0.67	0.140
RT CAUDA EPID	0.2935	0.061
LT CAUDA EPID	0.2933	0.061
THYMUS GLAND	0.1742	0.036
ADRENAL GLANDS	0.0467	0.010
THYROIDS/PARA	0.0247	0.005
FINAL BODY WT(G)	479.	

LIVER
LUNGS

SKIN

THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	MINERALIZATION, VASCULAR	1
	HISTIOCYTOSIS, ALVEOLAR	1
GROSS:	MASS	P
	4 X 3 X 2 MM, TAN, BUCCAL, MASS #1	
MICRO:	HYPERTROPHY, FOLLICULAR CELL	1

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

MICRO: PROSTATE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43280 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.95	0.326
LIVER	17.86	2.987
KIDNEYS	4.27	0.714
HEART	1.79	0.299
SPLEEN	0.78	0.130
PROSTATE	1.07	0.179
RT TESTIS	1.71	0.286
LT TESTIS	1.75	0.293
RT EPIDIDYMIS	0.74	0.124
LT EPIDIDYMIS	0.73	0.122
RT CAUDA EPID	0.2703	0.045
LT CAUDA EPID	0.3037	0.051
THYMUS GLAND	0.3340	0.056
ADRENAL GLANDS	0.0598	0.010
THYROIDS/PARA	0.0214	0.004
FINAL BODY WT(G)	598.	

KIDNEYS
LIVER
LUNGS
PROSTATE
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
GROSS:	DEPRESSED AREA(S) ONE, 1 MM IN DIAMETER, IN CORTEX, RIGHT	P
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	INFLAMMATION, GRANULOMATOUS	1
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	HYPERTROPHY, FOLLICULAR CELL	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
LIVER	LYMPH NODE, MES	LUNGS	NERVE,SCIATIC
PANCREAS	RT EPIDIDYMIS	LT EPIDIDYMIS	RECTUM
PITUITARY	PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
RT TESTIS	LT TESTIS	TRACHEA	VAS DEFERENS
URINARY BLADDER			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43281 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.18	0.425
LIVER	15.41	3.004
KIDNEYS	3.91	0.762
HEART	1.60	0.312
SPLEEN	0.77	0.150
PROSTATE	1.00	0.195
RT TESTIS	1.46	0.285
LT TESTIS	1.46	0.285
RT EPIDIDYMIS	0.65	0.127
LT EPIDIDYMIS	0.72	0.140
RT CAUDA EPID	0.3376	0.066
LT CAUDA EPID	0.3677	0.072
THYMUS GLAND	0.3296	0.064
ADRENAL GLANDS	0.0782	0.015
THYROIDS/PARA	0.0331	0.006
FINAL BODY WT(G)	513.	

		GRADE
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
LUNGS	GROSS: DARK RED AREA(S) MULTIPLE, IRREGULARLY SHAPED, ALL LOBES	P
LUNGS	MICRO: MINERALIZATION, VASCULAR NO CORRELATE TO GROSS RED AREAS	1
	HISTIOCYTOSIS, ALVEOLAR	1
PROSTATE	MICRO: INFLAMMATION, SUBACUTE	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, NERVE,SCIATIC, PANCREAS, RT EPIDIDYMIS, LT EPIDIDYMIS, RECTUM, PITUITARY, PROSTATE, SAL. GLAND MAND, SEMINAL VESICLES, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, RT TESTIS, LT TESTIS, TRACHEA, VAS DEFERENS, URINARY BLADDER

MICRO: THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43282 GROUP 4: 1000 MG/KG/DAY MALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.88	0.472
LIVER	11.23	2.822
KIDNEYS	3.29	0.827
HEART	1.25	0.314
SPLEEN	0.66	0.166
PROSTATE	0.66	0.166
RT TESTIS	1.70	0.427
LT TESTIS	1.64	0.412
RT EPIDIDYMIS	0.66	0.166
LT EPIDIDYMIS	0.65	0.163
RT CAUDA EPID	0.2282	0.057
LT CAUDA EPID	0.2886	0.073
THYMUS GLAND	0.2606	0.065
ADRENAL GLANDS	0.0456	0.011
THYROIDS/PARA	0.0271	0.007
FINAL BODY WT(G)	398.	

		GRADE
KIDNEYS	GROSS: DARK RED AREA(S) MULTIPLE, IRREGULARLY SHAPED, IN CORTEX, BILATERAL	P
LUNGS	GROSS: WHITE AREA(S) MULTIPLE, IRREGULARLY SHAPED, ALL LOBES	P
LUNGS	MICRO: MINERALIZATION, VASCULAR	1
	INFLAMMATION, GRANULOMATOUS CORRELATES WITH GROSS WHITE AREAS	1
THYROID GLANDS	MICRO: HYPERTROPHY, FOLLICULAR CELL	1

NO SIGNIFICANT CHANGES OBSERVED

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES/OPTIC N.	HEART	ILEUM	JEJUNUM
LIVER	LYMPH NODE, MES	NERVE,SCIATIC	PANCREAS
RT EPIDIDYMIS	LT EPIDIDYMIS	RECTUM	PITUITARY
PROSTATE	SAL. GLAND MAND	SEMINAL VESICLES	SKELETAL MUSCLE
SKIN	SPINAL CORD	SPLEEN	STOMACH
LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS	RT TESTIS
LT TESTIS	TRACHEA	VAS DEFERENS	URINARY BLADDER

MICRO: PROSTATE

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43398 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.86	0.765
LIVER	7.19	2.959
KIDNEYS	1.99	0.819
HEART	0.84	0.346
SPLEEN	0.48	0.198
UTERUS/CX	1.22	0.502
OVARIES/OVIDUCTS	0.1195	0.049
THYMUS GLAND	0.3175	0.131
ADRENAL GLANDS	0.0626	0.026
THYROIDS/PARA	0.0112	0.005
FINAL BODY WT(G)	243.	

KIDNEYS
LIVER
LUNGS
LUNGS
THYROID GLANDS
UTERUS
NO SIGNIFICANT CHANGES OBSERVED

		GRADE
GROSS:	DARK RED AREA(S)	
	MULTIPLE, IRREGULARLY SHAPED, IN CORTEX, BILATERAL	P
MICRO:	INFLAMMATION, SUBACUTE	1
GROSS:	WHITE AREA(S)	
	MULTIPLE, IRREGULARLY SHAPED, ALL LOBES	P
MICRO:	NO SIGNIFICANT CHANGES OBSERVED	
	NO CORRELATE TO GROSS WHITE AREA(S)	
MICRO:	CYST, ULTIMOBRANCHIAL	1
GROSS:	CLEAR FLUID CONTENTS	
	BOTH HORNS	P

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, VAGINA, AORTA, CECUM, EYES/OPTIC N., LIVER, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, CERVIX, STERNEBRAE, COLON, HEART, LYMPH NODE, MES, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, OVIDUCTS, DUODENUM, ILEUM, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER

MICRO: LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43405 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.86	0.571
LIVER	8.45	2.592
KIDNEYS	2.20	0.675
HEART	1.15	0.353
SPLEEN	0.46	0.141
UTERUS/CX	0.51	0.156
OVARIES/OVIDUCTS	0.1338	0.041
THYMUS GLAND	0.3045	0.093
ADRENAL GLANDS	0.0633	0.019
THYROIDS/PARA	0.0170	0.005
FINAL BODY WT(G)	326.	

LIVER
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX, AORTA, CECUM, EYES/OPTIC N., KIDNEYS, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, STERNEBRAE, COLON, HEART, LIVER, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, OVIDUCTS, DUODENUM, ILEUM, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA

MICRO: LUNGS, THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43409 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.84	0.689
LIVER	8.26	3.094
KIDNEYS	1.80	0.674
HEART	1.06	0.397
SPLEEN	0.45	0.169
UTERUS/CX	0.97	0.363
OVARIES/OVIDUCTS	0.0820	0.031
THYMUS GLAND	0.2119	0.079
ADRENAL GLANDS	0.0634	0.024
THYROIDS/PARA	0.0170	0.006
FINAL BODY WT(G)	267.	

LIVER
MICRO: NECROSIS MULTIFOCAL INFLAMMATION, SUBACUTE — GRADE 2

LUNGS
MICRO: MINERALIZATION, VASCULAR — GRADE 1

NO SIGNIFICANT CHANGES OBSERVED — GRADE 1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43423 GROUP 1: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.88	0.699
LIVER	7.32	2.721
KIDNEYS	1.78	0.662
HEART	0.95	0.353
SPLEEN	0.51	0.190
UTERUS/CX	0.73	0.271
OVARIES/OVIDUCTS	0.1403	0.052
THYMUS GLAND	0.2598	0.097
ADRENAL GLANDS	0.0772	0.029
THYROIDS/PARA	0.0190	0.007
FINAL BODY WT(G)	269.	

LIVER
LUNGS
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
MICRO: MINERALIZATION, VASCULAR	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43400 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.98	0.633
LIVER	8.12	2.594
KIDNEYS	1.94	0.620
HEART	1.10	0.351
SPLEEN	0.65	0.208
UTERUS/CX	0.79	0.252
OVARIES/OVIDUCTS	0.1392	0.044
THYMUS GLAND	0.2743	0.088
ADRENAL GLANDS	0.0723	0.023
THYROIDS/PARA	0.0224	0.007
FINAL BODY WT(G)	313.	

LIVER
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, OVIDUCTS, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, MAMMARY GLAND, NERVE,SCIATIC, OVARIES, PANCREAS, RECTUM, PITUITARY, SAL. GLAND MAND, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, TRACHEA, URINARY BLADDER, UTERUS, VAGINA, CERVIX

MICRO: LUNGS, THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43407 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.85	0.764
LIVER	7.41	3.062
KIDNEYS	1.95	0.806
HEART	0.90	0.372
SPLEEN	0.47	0.194
UTERUS/CX	0.51	0.211
OVARIES/OVIDUCTS	0.1275	0.053
THYMUS GLAND	0.3024	0.125
ADRENAL GLANDS	0.0615	0.025
THYROIDS/PARA	0.0204	0.008
FINAL BODY WT(G)	242.	

LIVER
SKIN

NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
GROSS:	RED MATTING	P
	OCULAR, LEFT	

GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SPINAL CORD	SPLEEN	STOMACH
	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS	TRACHEA
	URINARY BLADDER	UTERUS	VAGINA	CERVIX
MICRO:	LUNGS	THYROID GLANDS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43413 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.91	0.677
LIVER	7.02	2.489
KIDNEYS	1.64	0.582
HEART	0.93	0.330
SPLEEN	0.46	0.163
UTERUS/CX	0.54	0.191
OVARIES/OVIDUCTS	0.1381	0.049
THYMUS GLAND	0.2863	0.102
ADRENAL GLANDS	0.0466	0.017
THYROIDS/PARA	0.0154	0.005
FINAL BODY WT(G)	282.	

NO SIGNIFICANT CHANGES OBSERVED

	GRADE			
GROSS:	ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
	BRAIN	CECUM	COLON	DUODENUM
	ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
	JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
	LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
	PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
	SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
	STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX			
MICRO:	LIVER	LUNGS	THYROID GLANDS	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43416 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.90	0.662
LIVER	7.22	2.516
KIDNEYS	1.62	0.564
HEART	1.05	0.366
SPLEEN	0.54	0.188
UTERUS/CX	0.48	0.167
OVARIES/OVIDUCTS	0.1362	0.047
THYMUS GLAND	0.2154	0.075
ADRENAL GLANDS	0.0808	0.028
THYROIDS/PARA	0.0258	0.009
FINAL BODY WT(G)	287.	

LIVER
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
MICRO: CYST, ULTIMOBRANCHIAL	1

GROSS:ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX, AORTA, CECUM, EYES/OPTIC N., KIDNEYS, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, STERNEBRAE, COLON, HEART, LIVER, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, OVIDUCTS, DUODENUM, ILEUM, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA

MICRO:LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43419 GROUP 2: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.89	0.791
LIVER	8.07	3.377
KIDNEYS	1.93	0.808
HEART	0.96	0.402
SPLEEN	0.57	0.238
UTERUS/CX	0.47	0.197
OVARIES/OVIDUCTS	0.1572	0.066
THYMUS GLAND	0.2257	0.094
ADRENAL GLANDS	0.0555	0.023
THYROIDS/PARA	0.0181	0.008
FINAL BODY WT(G)	239.	

THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	CYST, ULTIMOBRANCHIAL	1

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, OVIDUCTS, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, MAMMARY GLAND, NERVE,SCIATIC, OVARIES, PANCREAS, RECTUM, PITUITARY, SAL. GLAND MAND, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, TRACHEA, URINARY BLADDER, UTERUS, VAGINA, CERVIX

MICRO: LIVER, LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43402 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.95	0.604
LIVER	11.54	3.573
KIDNEYS	2.65	0.820
HEART	1.29	0.399
SPLEEN	0.62	0.192
UTERUS/CX	0.77	0.238
OVARIES/OVIDUCTS	0.0938	0.029
THYMUS GLAND	0.2136	0.066
ADRENAL GLANDS	0.0871	0.027
THYROIDS/PARA	0.0258	0.008
FINAL BODY WT(G)	323.	

GENERAL COMMENT		GRADE
KIDNEYS	GROSS: MASS NOT CONFIRMED	P
	GROSS: PALE	P
	RIGHT	
LIVER	MICRO: INFLAMMATION, SUBACUTE	1
NO SIGNIFICANT CHANGES OBSERVED		

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, AORTA, CECUM, EYES/OPTIC N., LIVER, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, STERNEBRAE, COLON, HEART, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA, OVIDUCTS, DUODENUM, ILEUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX

MICRO: LUNGS, THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43426 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.85	0.787
LIVER	6.82	2.902
KIDNEYS	1.75	0.745
HEART	0.85	0.362
SPLEEN	0.39	0.166
UTERUS/CX	0.61	0.260
OVARIES/OVIDUCTS	0.1555	0.066
THYMUS GLAND	0.2244	0.095
ADRENAL GLANDS	0.0769	0.033
THYROIDS/PARA	0.0251	0.011
FINAL BODY WT(G)	235.	

THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	CYST, ULTIMOBRANCHIAL	1

GROSS: ADRENAL GLANDS, AORTA, STERNEBRAE, OVIDUCTS, BRAIN, CECUM, COLON, DUODENUM, ESOPHAGUS, EYES/OPTIC N., HEART, ILEUM, JEJUNUM, KIDNEYS, LIVER, LYMPH NODE, MES, LUNGS, MAMMARY GLAND, NERVE,SCIATIC, OVARIES, PANCREAS, RECTUM, PITUITARY, SAL. GLAND MAND, SKELETAL MUSCLE, SKIN, SPINAL CORD, SPLEEN, STOMACH, LYMPH NODE, MAND, THYMUS GLAND, THYROID GLANDS, TRACHEA, URINARY BLADDER, UTERUS, VAGINA, CERVIX

MICRO: LIVER, LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43442 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.03	0.712
LIVER	9.67	3.393
KIDNEYS	2.25	0.789
HEART	1.07	0.375
SPLEEN	0.60	0.211
UTERUS/CX	0.73	0.256
OVARIES/OVIDUCTS	0.1681	0.059
THYMUS GLAND	0.0886	0.031
ADRENAL GLANDS	0.0527	0.018
THYROIDS/PARA	0.0218	0.008
FINAL BODY WT(G)	285.	

LIVER
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1
MICRO:	CYST, ULTIMOBRANCHIAL	2

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX, AORTA, CECUM, EYES/OPTIC N., KIDNEYS, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, STERNEBRAE, COLON, HEART, LIVER, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, OVIDUCTS, DUODENUM, ILEUM, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA

MICRO: LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43446 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.78	0.784
LIVER	7.27	3.203
KIDNEYS	1.90	0.837
HEART	0.93	0.410
SPLEEN	0.49	0.216
UTERUS/CX	0.99	0.436
OVARIES/OVIDUCTS	0.1576	0.069
THYMUS GLAND	0.1920	0.085
ADRENAL GLANDS	0.0568	0.025
THYROIDS/PARA	0.0160	0.007
FINAL BODY WT(G)	227.	

LIVER
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
LIVER	GROSS: WHITE AREA(S) ONE, 3 X 3 X 1 MM, CLEFT OF MEDIAN LOBE	P
LIVER	MICRO: INFLAMMATION, SUBACUTE CORRELATES TO GROSS WHITE AREA(S)	1

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, AORTA, CECUM, EYES/OPTIC N., KIDNEYS, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, STERNEBRAE, COLON, HEART, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA, OVIDUCTS, DUODENUM, ILEUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX

MICRO: LUNGS, THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43461 GROUP 3: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.82	0.617
LIVER	8.78	2.976
KIDNEYS	2.02	0.685
HEART	1.07	0.363
SPLEEN	0.67	0.227
UTERUS/CX	0.56	0.190
OVARIES/OVIDUCTS	0.1345	0.046
THYMUS GLAND	0.2099	0.071
ADRENAL GLANDS	0.0766	0.026
THYROIDS/PARA	0.0223	0.008
FINAL BODY WT(G)	295.	

KIDNEYS
LIVER
LUNGS
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
GROSS:	DEPRESSED AREA(S) ONE, 4 X 3 X 1 MM, IN CORTEX, RIGHT	P
MICRO:	VACUOLATION, HEPATOCELLULAR	1
	INFLAMMATION, SUBACUTE	1
MICRO:	INFLAMMATION, GRANULOMATOUS	1

GROSS: ADRENAL GLANDS, BRAIN, ESOPHAGUS, JEJUNUM, MAMMARY GLAND, RECTUM, SKIN, LYMPH NODE, MAND, URINARY BLADDER, AORTA, CECUM, EYES/OPTIC N., LIVER, NERVE,SCIATIC, PITUITARY, SPINAL CORD, THYMUS GLAND, UTERUS, STERNEBRAE, COLON, HEART, LYMPH NODE, MES, OVARIES, SAL. GLAND MAND, SPLEEN, THYROID GLANDS, VAGINA, OVIDUCTS, DUODENUM, ILEUM, LUNGS, PANCREAS, SKELETAL MUSCLE, STOMACH, TRACHEA, CERVIX

MICRO: THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43401 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.83	0.558
LIVER	10.73	3.271
KIDNEYS	2.57	0.784
HEART	1.34	0.409
SPLEEN	0.51	0.155
UTERUS/CX	0.85	0.259
OVARIES/OVIDUCTS	0.1107	0.034
THYMUS GLAND	0.3533	0.108
ADRENAL GLANDS	0.0825	0.025
THYROIDS/PARA	0.0228	0.007
FINAL BODY WT(G)	328.	

LIVER
LUNGS

THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
MICRO: MINERALIZATION, VASCULAR	1
INFLAMMATION, CHRONIC	1
MICRO: HYPERTROPHY, FOLLICULAR CELL	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43410 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.79	0.775
LIVER	6.74	2.918
KIDNEYS	1.61	0.697
HEART	0.91	0.394
SPLEEN	0.43	0.186
UTERUS/CX	0.58	0.251
OVARIES/OVIDUCTS	0.1454	0.063
THYMUS GLAND	0.2443	0.106
ADRENAL GLANDS	0.0590	0.026
THYROIDS/PARA	0.0198	0.009
FINAL BODY WT(G)	231.	

LIVER
THYROID GLANDS

NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
MICRO: HYPERTROPHY, FOLLICULAR CELL	1
CYST, ULTIMOBRANCHIAL	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:LUNGS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43421 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.90	0.640
LIVER	9.71	3.269
KIDNEYS	2.02	0.680
HEART	1.14	0.384
SPLEEN	0.55	0.185
UTERUS/CX	0.62	0.209
OVARIES/OVIDUCTS	0.1409	0.047
THYMUS GLAND	0.2077	0.070
ADRENAL GLANDS	0.0718	0.024
THYROIDS/PARA	0.0237	0.008
FINAL BODY WT(G)	297.	

LIVER
NO SIGNIFICANT CHANGES OBSERVED

LUNGS

	GRADE
MICRO: VACUOLATION, HEPATOCELLULAR	2
INFLAMMATION, SUBACUTE	1
MICRO: INFLAMMATION, GRANULOMATOUS	1
MINERALIZATION, VASCULAR	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO:THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43429 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	2.01	0.720
LIVER	9.53	3.416
KIDNEYS	2.08	0.746
HEART	1.18	0.423
SPLEEN	0.56	0.201
UTERUS/CX	0.51	0.183
OVARIES/OVIDUCTS	0.1536	0.055
THYMUS GLAND	0.1520	0.054
ADRENAL GLANDS	0.0670	0.024
THYROIDS/PARA	0.0207	0.007
FINAL BODY WT(G)	279.	

LIVER
LUNGS
THYROID GLANDS
NO SIGNIFICANT
CHANGES OBSERVED

	GRADE
MICRO: INFLAMMATION, SUBACUTE	1
VACUOLATION, HEPATOCELLULAR	1
MICRO: INFLAMMATION, GRANULOMATOUS	1
MICRO: HYPERTROPHY, FOLLICULAR CELL	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

TABLE 121 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 43430 GROUP 4: 1000 MG/KG/DAY FEMALE SCHEDULED EUTH 08/23/00 DATE OF DEATH: 08/23/00 STUDY DAY: 119

ORGAN WEIGHT	ABS.(G)	REL.
BRAIN	1.88	0.674
LIVER	8.90	3.190
KIDNEYS	2.23	0.799
HEART	1.12	0.401
SPLEEN	0.65	0.233
UTERUS/CX	1.04	0.373
OVARIES/OVIDUCTS	0.1545	0.055
THYMUS GLAND	0.2441	0.087
ADRENAL GLANDS	0.0770	0.028
THYROIDS/PARA	0.0250	0.009
FINAL BODY WT(G)	279.	

LIVER
NO SIGNIFICANT
CHANGES OBSERVED

		GRADE
MICRO:	INFLAMMATION, SUBACUTE	1

GROSS:

ADRENAL GLANDS	AORTA	STERNEBRAE	OVIDUCTS
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES/OPTIC N.	HEART	ILEUM
JEJUNUM	KIDNEYS	LIVER	LYMPH NODE, MES
LUNGS	MAMMARY GLAND	NERVE,SCIATIC	OVARIES
PANCREAS	RECTUM	PITUITARY	SAL. GLAND MAND
SKELETAL MUSCLE	SKIN	SPINAL CORD	SPLEEN
STOMACH	LYMPH NODE, MAND	THYMUS GLAND	THYROID GLANDS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX			

MICRO: LUNGS THYROID GLANDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL, 2-MILD, 3-MODERATE, 4-SEVERE, P-PRESENT

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FINAL REPORT

Volume 4 of 4
(Individual Tables 122-137 and Appendices A-L)

STUDY TITLE

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

STUDY DIRECTOR

Christopher P. Chengelis, Ph.D., D.A.B.T.

STUDY INITIATED ON

March 2, 2000

STUDY COMPLETION DATE

December 14, 2001

PERFORMING LABORATORY

WIL Research Laboratories, Inc.
1407 George Road
Ashland, Ohio 44805-9281

LABORATORY STUDY NUMBER

WIL-186012

SPONSOR

Chemical Manufacturers Association
Brominated Flame Retardant Industry Panel (BFRIP)
1300 Wilson Blvd.
Arlington, VA 22209

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43332	540.	1.96	14.03	4.30	1.59	0.67	0.93	1.67
43334	530.	2.14	14.34	3.39	1.78	1.01	1.00	1.76
43336	462.	2.19	12.11	3.24	1.58	0.67	0.90	1.74
43339	542.	2.06	15.56	4.06	1.88	0.78	1.06	1.68
43349	541.	2.15	13.77	3.22	1.58	0.90	1.17	1.66
43365	492.	1.88	12.85	3.20	1.44	0.60	0.54	0.57
43368	607.	1.97	16.13	3.39	1.72	0.98	1.12	1.64
43369	519.	2.09	14.68	3.34	1.47	0.85	0.94	1.62
43379	533.	2.04	14.94	3.34	1.63	0.69	1.08	1.92
43391	522.	1.99	14.87	3.52	1.66	0.91	0.78	1.87
MEAN	529.	2.05	14.33	3.50	1.63	0.81	0.95	1.61
S.D.	37.3	0.098	1.205	0.375	0.134	0.144	0.185	0.380
N	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43342	526.	2.10	14.65	3.88	1.66	0.72	1.00	1.67
43350	566.	2.06	17.45	3.33	1.67	0.76	0.91	1.68
43351	511.	2.07	15.29	3.41	1.51	0.74	1.03	1.54
43354	472.	2.03	15.99	3.28	1.56	0.94	1.00	1.75
43364	512.	1.95	16.63	3.49	1.60	0.65	1.04	1.17
43371	547.	2.07	18.70	3.95	1.58	0.63	1.07	1.64
43380	561.	2.08	17.69	3.26	1.56	0.77	0.64	1.69
43382	534.	2.05	15.98	3.62	1.50	0.63	0.85	1.86
43384	636.	2.18	22.53	4.20	1.72	1.00	1.51	1.67
43386	482.	2.10	15.17	3.40	1.37	0.73	0.86	1.58
MEAN	535.	2.07	17.01	3.58	1.57	0.76	0.99	1.63
S.D.	47.1	0.058	2.313	0.323	0.100	0.124	0.223	0.182
N	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43323	431.	2.06	13.37	3.28	1.30	0.71	1.08	1.55
43331	537.	1.97	16.47	3.52	1.70	0.70	1.48	1.69
43341	536.	1.93	15.41	3.49	1.81	0.62	1.07	1.93
43355	564.	2.00	18.91	3.62	1.68	0.66	1.24	1.57
43361	641.	2.17	23.79	4.67	1.71	0.90	1.21	1.69
43363	496.	2.01	14.91	3.24	1.51	0.37	0.70	1.41
43383	520.	1.97	16.01	3.38	1.67	0.80	0.96	1.80
43385	546.	1.96	16.34	3.14	1.60	0.74	1.13	1.47
43388	582.	2.14	20.59	4.26	1.76	0.92	1.24	1.66
43392	513.	2.02	15.91	3.54	1.45	0.79	1.11	1.65
MEAN	537.	2.02	17.17	3.61	1.62	0.72	1.12	1.64
S.D.	55.2	0.079	3.079	0.482	0.156	0.157	0.204	0.153
N	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43297	516.	2.00	20.27	3.47	1.54	0.76	1.11	1.48
43325	457.	2.03	17.29	3.04	1.46	0.68	0.90	1.39
43328	505.	1.99	19.30	3.76	1.58	0.73	1.56	1.78
43346	432.	1.94	16.75	2.99	1.26	0.59	1.07	1.82
43362	495.	2.01	18.38	3.22	1.34	0.83	1.18	1.62
43372	595.	2.13	24.94	3.57	1.66	0.80	1.46	1.60
43373	422.	1.95	15.35	3.18	1.34	0.65	1.22	1.18
43377	473.	2.02	18.35	3.57	1.40	0.75	1.57	1.71
43397	531.	1.87	20.51	3.58	1.72	1.03	1.19	1.60
MEAN	492.	1.99	19.02	3.38	1.48	0.76	1.25	1.58
S.D.	53.6	0.072	2.770	0.273	0.157	0.126	0.231	0.201
N	9	9	9	9	9	9	9	9

FBW = FINAL BODY WEIGHT

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43332	1.80	0.64	0.70	0.3239	0.3261	0.2885	0.0531	0.0303
43334	1.69	0.72	0.70	0.2919	0.3338	0.3474	0.0611	0.0202
43336	1.77	0.76	0.71	0.3033	0.2652	0.3706	0.0463	0.0261
43339	1.63	0.61	0.70	0.2868	0.3018	0.3390	0.0766	0.0174
43349	1.60	0.68	0.67	0.2538	0.3056	0.3275	0.0578	0.0215
43365	0.53	0.10	0.30	0.1047	0.1216	0.2151	0.0526	0.0138
43368	1.69	0.72	0.69	0.3268	0.3562	0.3374	0.0534	0.0254
43369	1.54	0.70	0.53	0.2843	0.2564	0.3230	0.0457	0.0217
43379	1.94	0.82	0.66	0.3798	0.2956	0.3212	0.0461	0.0262
43391	1.76	0.71	0.65	0.3087	0.2779	0.2339	0.0636	0.0296
MEAN	1.60	0.65	0.63	0.2864	0.2840	0.3104	0.0556	0.0232
S.D.	0.391	0.201	0.128	0.07200	0.06490	0.05002	0.00963	0.00527
N	10	10	10	10	10	10	10	10

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43342	1.59	0.71	0.67	0.3081	0.2779	0.3675	0.0597	0.0483
43350	1.79	0.70	0.75	0.2618	0.3267	0.3185	0.0565	0.0206
43351	1.58	0.66	0.65	0.2477	0.2773	0.2458	0.0581	0.0232
43354	1.77	0.72	0.73	0.3194	0.3291	0.2582	0.0510	0.0253
43364	1.34	0.63	0.57	0.2760	0.2661	0.2435	0.0637	0.0249
43371	1.63	0.70	0.67	0.2939	0.2888	0.4153	0.0632	0.0383
43380	1.76	0.73	0.69	0.3300	0.3279	0.2859	0.0613	0.0267
43382	1.90	0.71	0.76	0.2990	0.3319	0.2613	0.0545	0.0240
43384	1.69	0.75	0.74	0.3498	0.3307	0.2875	0.0633	0.0231
43386	1.58	0.70	0.69	0.3322	0.3283	0.3654	0.0543	0.0239
MEAN	1.66	0.70	0.69	0.3018	0.3085	0.3049	0.0586	0.0278
S.D.	0.156	0.034	0.057	0.03272	0.02720	0.05959	0.00442	0.00864
N	10	10	10	10	10	10	10	10

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43323	1.57	0.53	0.59	0.2434	0.2419	0.2237	0.0445	0.0370
43331	1.58	0.78	0.82	0.3887	0.3310	0.2640	0.0421	0.0259
43341	1.95	0.67	0.73	0.2922	0.3445	0.2883	0.0474	0.0233
43355	1.55	0.62	0.59	0.2959	0.2905	0.3818	0.0715	0.0266
43361	1.73	0.70	0.61	0.3457	0.2725	0.2167	0.0552	0.0338
43363	1.42	0.66	0.53	0.3000	0.2180	0.3906	0.0448	0.0183
43383	1.75	0.74	0.70	0.2956	0.3312	0.2845	0.0586	0.0306
43385	1.52	0.63	0.57	0.2703	0.2955	0.2163	0.0537	0.0199
43388	1.70	0.70	0.81	0.2761	0.3593	0.2762	0.0637	0.0251
43392	1.65	0.68	0.67	0.3056	0.2827	0.2779	0.0549	0.0194
MEAN	1.64	0.67	0.66	0.3014	0.2967	0.2820	0.0536	0.0260
S.D.	0.149	0.069	0.101	0.04045	0.04545	0.06160	0.00933	0.00625
N	10	10	10	10	10	10	10	10

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43297	1.60	0.59	0.62	0.2637	0.2853	0.1827	0.0589	0.0204
43325	1.42	0.63	0.61	0.2629	0.2607	0.2119	0.0517	0.0276
43328	1.76	0.72	0.70	0.3545	0.2964	0.2816	0.0673	0.0272
43346	1.81	0.73	0.72	0.3219	0.3342	0.2125	0.0480	0.0219
43362	1.61	0.65	0.69	0.2517	0.3203	0.2943	0.0558	0.0286
43372	1.63	0.75	0.72	0.3181	0.3336	0.3051	0.0643	0.0160
43373	1.21	0.72	0.58	0.3745	0.2589	0.2913	0.0554	0.0159
43377	1.57	0.67	0.62	0.2509	0.2710	0.2617	0.0467	0.0315
43397	1.64	0.75	0.70	0.3593	0.3147	0.2877	0.0563	0.0214
MEAN	1.58	0.69	0.66	0.3064	0.2972	0.2588	0.0560	0.0234
S.D.	0.179	0.057	0.054	0.04989	0.02992	0.04466	0.00684	0.00560
N	9	9	9	9	9	9	9	9

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43433	290.	1.82	8.79	2.15	1.21	0.46	0.77	0.1393	0.2537	0.0809	0.0210
43435	315.	2.01	8.72	2.25	1.00	0.58	1.23	0.1510	0.3599	0.0553	0.0184
43436	299.	1.87	8.54	2.27	1.24	0.63	0.84	0.1664	0.2525	0.0782	0.0200
43438	278.	1.77	6.88	1.90	1.05	0.48	0.92	0.1358	0.2968	0.0652	0.0150
43449	260.	1.86	6.99	1.79	0.85	0.43	0.85	0.1266	0.1879	0.0632	0.0144
43467	294.	2.01	8.95	2.67	1.09	0.63	0.58	0.1519	0.3199	0.0810	0.0189
43474	229.	1.68	6.68	1.87	0.90	0.44	0.43	0.1192	0.1848	0.0666	0.0151
43483	265.	1.90	8.17	1.95	1.07	0.39	0.57	0.1369	0.2017	0.0718	0.0220
43497	287.	1.85	8.19	2.02	1.07	0.56	1.13	0.2050	0.1640	0.0777	0.0127
43501	295.	1.80	9.31	2.04	1.48	0.49	0.76	0.1033	0.2699	0.0698	0.0140
MEAN	281.	1.86	8.12	2.09	1.10	0.51	0.81	0.1435	0.2491	0.0710	0.0172
S.D.	24.4	0.101	0.942	0.258	0.180	0.085	0.248	0.02798	0.06446	0.00854	0.00329
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43420	260.	1.77	11.03	2.17	0.95	0.48	0.72	0.1087	0.2884	0.0744	0.0152
43439	266.	1.91	8.83	1.67	0.83	0.42	0.46	0.1366	0.2537	0.0599	0.0233
43458	236.	1.83	8.33	1.72	1.03	0.40	0.55	0.1351	0.2855	0.0642	0.0163
43462	228.	1.75	8.05	1.71	0.89	0.47	0.44	0.1167	0.3171	0.0562	0.0173
43468	294.	1.90	10.25	2.22	1.24	0.56	0.60	0.0897	0.3005	0.0671	0.0290
43486	297.	1.88	10.76	2.00	1.10	0.47	0.77	0.1600	0.2391	0.0783	0.0167
43489	295.	1.88	10.30	2.15	1.20	0.57	0.86	0.1483	0.2228	0.0843	0.0190
43502	274.	1.80	9.51	1.88	1.12	0.49	0.51	0.1101	0.2149	0.0851	0.0258
43511	304.	1.85	10.07	2.21	1.07	0.52	0.55	0.1760	0.3339	0.0765	0.0167
43515	316.	1.81	12.09	2.14	1.16	0.54	0.89	0.1161	0.2867	0.0749	0.0165
MEAN	277.	1.84	9.92	1.99	1.06	0.49	0.64	0.1297	0.2743	0.0721	0.0196
S.D.	29.4	0.055	1.261	0.223	0.134	0.056	0.164	0.02638	0.03999	0.00988	0.00475
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43463	246.	1.69	8.85	1.77	0.85	0.47	0.45	0.1287	0.1072	0.0641	0.0164
43475	308.	1.90	9.56	1.90	1.06	0.51	0.58	0.1351	0.2178	0.0544	0.0160
43478	359.	1.93	12.82	2.06	1.16	0.56	0.60	0.0935	0.3124	0.0693	0.0149
43491	308.	1.73	9.52	1.98	1.05	0.40	0.86	0.1311	0.2712	0.0840	0.0178
43495	273.	1.96	10.93	1.93	1.05	0.41	0.68	0.1223	0.2317	0.0814	0.0181
43496	316.	1.90	12.38	2.53	1.28	0.82	0.83	0.1046	0.2451	0.0877	0.0207
43508	276.	1.88	10.48	2.04	1.02	0.59	0.57	0.1644	0.2768	0.0826	0.0231
43513	300.	1.96	9.96	2.05	1.21	0.72	0.58	0.1929	0.4368	0.0781	0.0201
43516	304.	1.77	12.11	2.46	1.05	0.47	0.86	0.1065	0.3539	0.0818	0.0176
43517	276.	1.90	9.36	1.99	1.04	0.62	0.64	0.1228	0.2483	0.0694	0.0171
MEAN	297.	1.86	10.60	2.07	1.08	0.56	0.67	0.1302	0.2701	0.0753	0.0182
S.D.	30.8	0.097	1.405	0.240	0.118	0.135	0.141	0.02946	0.08724	0.01056	0.00246
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 122 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43440	268.	1.77	11.81	1.97	0.96	0.37	0.41	0.1382	0.2648	0.0722	0.0217
43456	370.	1.78	15.03	2.25	1.32	0.65	0.55	0.1301	0.2686	0.0794	0.0199
43460	234.	1.91	9.86	1.73	1.02	0.48	0.56	0.1442	0.1375	0.0833	0.0166
43466	333.	1.82	14.43	2.35	1.21	0.57	0.51	0.1650	0.2219	0.0652	0.0246
43477	270.	1.87	11.83	2.13	1.01	0.78	0.77	0.1224	0.2561	0.0686	0.0157
43479	274.	1.86	12.84	2.27	0.96	0.43	0.87	0.1817	0.2173	0.0617	0.0127
43481	342.	1.92	13.92	2.29	1.19	0.47	0.79	0.1469	0.2510	0.0655	0.0198
43484	286.	1.90	11.38	1.85	1.06	0.52	0.43	0.1290	0.1611	0.0451	0.0196
43492	252.	1.83	12.28	1.96	1.05	0.59	0.51	0.1706	0.1830	0.0827	0.0236
43503	262.	1.66	10.84	1.71	0.91	0.39	0.81	0.1500	0.2959	0.0743	0.0231
MEAN	289.	1.83	12.42	2.05	1.07	0.53	0.62	0.1478	0.2257	0.0698	0.0197
S.D.	44.1	0.080	1.638	0.239	0.130	0.126	0.171	0.01940	0.05134	0.01147	0.00379
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43289	561.	1.99	15.04	3.61	1.84	0.62	1.03	1.73
43295	574.	1.98	15.58	4.06	1.61	0.65	1.29	1.70
43308	554.	1.91	14.92	3.53	1.69	0.69	1.49	1.42
43316	511.	2.17	13.22	3.30	1.46	0.70	0.99	1.74
43326	509.	1.80	13.17	2.80	1.61	0.56	1.27	1.54
MEAN	542.	1.97	14.39	3.46	1.64	0.64	1.21	1.63
S.D.	29.9	0.135	1.115	0.461	0.138	0.057	0.206	0.141
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43285	601.	2.11	17.35	3.87	1.72	0.78	0.68	1.70
43293	571.	2.13	17.06	4.35	1.80	0.79	0.89	1.53
43311	475.	2.14	14.10	3.55	1.56	0.83	0.93	1.68
43320	473.	1.95	13.09	3.54	1.47	0.68	1.00	1.42
43340	377.	2.01	12.00	2.86	1.47	0.65	0.74	0.20
MEAN	499.	2.07	14.72	3.63	1.60	0.75	0.85	1.31
S.D.	89.1	0.084	2.389	0.544	0.150	0.077	0.134	0.629
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43290	475.	2.01	13.03	3.32	1.46	0.70	0.50	1.47
43307	540.	2.02	16.69	4.19	1.70	0.70	1.20	1.59
43309	601.	2.05	17.85	4.75	1.84	0.90	1.25	1.91
43318	583.	1.99	16.16	4.00	1.79	0.91	1.39	1.56
43322	488.	2.18	14.58	3.47	1.62	0.86	0.99	1.67
MEAN	537.	2.05	15.66	3.95	1.68	0.81	1.07	1.64
S.D.	55.8	0.076	1.884	0.576	0.150	0.106	0.347	0.167
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43277	493.	1.92	13.53	3.24	1.54	0.54	1.29	1.50
43278	479.	1.91	12.42	3.38	1.74	0.53	1.38	1.46
43280	598.	1.95	17.86	4.27	1.79	0.78	1.07	1.71
43281	513.	2.18	15.41	3.91	1.60	0.77	1.00	1.46
43282	398.	1.88	11.23	3.29	1.25	0.66	0.66	1.70
MEAN	496.	1.97	14.09	3.62	1.58	0.66	1.08	1.57
S.D.	71.8	0.121	2.609	0.452	0.212	0.120	0.282	0.128
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMI	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43289	1.71	0.75	0.78	0.3544	0.3636	0.2074	0.0540	0.0273
43295	1.71	0.74	0.72	0.3007	0.3127	0.3309	0.0636	0.0313
43308	1.35	0.74	0.71	0.3278	0.3340	0.2840	0.0569	0.0243
43316	1.65	0.71	0.73	0.2863	0.2963	0.4229	0.0823	0.0294
43326	1.40	0.62	0.53	0.2418	0.2355	0.2999	0.0714	0.0317
MEAN	1.56	0.71	0.69	0.3022	0.3084	0.3090	0.0656	0.0288
S.D.	0.175	0.054	0.096	0.04267	0.04791	0.07824	0.01148	0.00306
N	5	5	5	5	5	5	5	5

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43285	1.76	0.73	0.74	0.3264	0.3583	0.2941	0.0686	0.0416
43293	1.58	0.72	0.81	0.3224	0.4092	0.2672	0.0609	0.0273
43311	1.69	0.83	0.77	0.3558	0.3440	0.2363	0.0688	0.0291
43320	1.42	0.60	0.62	0.2486	0.2944	0.1383	0.0526	0.0303
43340	1.04	0.06	0.53	NA	0.2047	0.1939	0.0716	0.0252
MEAN	1.50	0.59	0.69	0.3133	0.3221	0.2260	0.0645	0.0307
S.D.	0.286	0.306	0.116	0.04563	0.07734	0.06157	0.00775	0.00639
N	5	5	5	4	5	5	5	5

NA = ORGAN NOT POSITIVELY IDENTIFIED

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43290	1.52	0.69	0.69	0.2892	0.3178	0.2907	0.0650	0.0350
43307	1.62	0.66	0.70	0.2854	0.3102	0.3679	0.0536	0.0288
43309	1.98	0.84	0.80	0.4189	0.4033	0.3740	0.0560	0.0319
43318	1.52	0.74	0.62	0.2988	0.2614	0.1868	0.0485	0.0206
43322	1.64	0.73	0.78	0.3295	0.3805	0.2866	0.0613	0.0242
MEAN	1.66	0.73	0.72	0.3244	0.3346	0.3012	0.0569	0.0281
S.D.	0.189	0.068	0.073	0.05561	0.05715	0.07609	0.00647	0.00579
N	5	5	5	5	5	5	5	5

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43277	1.56	0.70	0.69	0.3075	0.2863	0.2603	0.0419	0.0338
43278	1.45	0.72	0.67	0.2935	0.2933	0.1742	0.0467	0.0247
43280	1.75	0.74	0.73	0.2703	0.3037	0.3340	0.0598	0.0214
43281	1.46	0.65	0.72	0.3376	0.3677	0.3296	0.0782	0.0331
43282	1.64	0.66	0.65	0.2282	0.2886	0.2606	0.0456	0.0271
MEAN	1.57	0.69	0.69	0.2874	0.3079	0.2717	0.0544	0.0280
S.D.	0.126	0.038	0.033	0.04110	0.03408	0.06518	0.01490	0.00536
N	5	5	5	5	5	5	5	5

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43398	243.	1.86	7.19	1.99	0.84	0.48	1.22	0.1195	0.3175	0.0626	0.0112
43405	326.	1.86	8.45	2.20	1.15	0.46	0.51	0.1338	0.3045	0.0633	0.0170
43409	267.	1.84	8.26	1.80	1.06	0.45	0.97	0.0820	0.2119	0.0634	0.0170
43423	269.	1.88	7.32	1.78	0.95	0.51	0.73	0.1403	0.2598	0.0772	0.0190
43432	301.	1.98	9.25	2.04	1.24	0.50	0.45	0.1484	0.2153	0.0628	0.0174
MEAN	281.	1.88	8.09	1.96	1.05	0.48	0.78	0.1248	0.2618	0.0659	0.0163
S.D.	32.4	0.055	0.852	0.175	0.158	0.025	0.322	0.02616	0.04894	0.00635	0.00298
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43400	313.	1.98	8.12	1.94	1.10	0.65	0.79	0.1392	0.2743	0.0723	0.0224
43407	242.	1.85	7.41	1.95	0.90	0.47	0.51	0.1275	0.3024	0.0615	0.0204
43413	282.	1.91	7.02	1.64	0.93	0.46	0.54	0.1381	0.2863	0.0466	0.0154
43416	287.	1.90	7.22	1.62	1.05	0.54	0.48	0.1362	0.2154	0.0808	0.0258
43419	239.	1.89	8.07	1.93	0.96	0.57	0.47	0.1572	0.2257	0.0555	0.0181
MEAN	273.	1.91	7.57	1.82	0.99	0.54	0.56	0.1396	0.2608	0.0633	0.0204
S.D.	31.6	0.047	0.501	0.170	0.084	0.078	0.133	0.01084	0.03826	0.01351	0.00398
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43402	323.	1.95	11.54	2.65	1.29	0.62	0.77	0.0938	0.2136	0.0871	0.0258
43426	235.	1.85	6.82	1.75	0.85	0.39	0.61	0.1555	0.2244	0.0769	0.0251
43442	285.	2.03	9.67	2.25	1.07	0.60	0.73	0.1681	0.0886	0.0527	0.0218
43446	227.	1.78	7.27	1.90	0.93	0.49	0.99	0.1576	0.1920	0.0568	0.0160
43461	295.	1.82	8.78	2.02	1.07	0.67	0.56	0.1345	0.2099	0.0766	0.0223
MEAN	273.	1.89	8.82	2.11	1.04	0.55	0.73	0.1419	0.1857	0.0700	0.0222
S.D.	40.9	0.102	1.906	0.351	0.168	0.113	0.168	0.02952	0.05552	0.01464	0.00387
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 123 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS AND FINAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43401	328.	1.83	10.73	2.57	1.34	0.51	0.85	0.1107	0.3533	0.0825	0.0228
43410	231.	1.79	6.74	1.61	0.91	0.43	0.58	0.1454	0.2443	0.0590	0.0198
43421	297.	1.90	9.71	2.02	1.14	0.55	0.62	0.1409	0.2077	0.0718	0.0237
43429	279.	2.01	9.53	2.08	1.18	0.56	0.51	0.1536	0.1520	0.0670	0.0207
43430	279.	1.88	8.90	2.23	1.12	0.65	1.04	0.1545	0.2441	0.0770	0.0250
MEAN	283.	1.88	9.12	2.10	1.14	0.54	0.72	0.1410	0.2403	0.0715	0.0224
S.D.	35.2	0.083	1.485	0.348	0.154	0.080	0.220	0.01788	0.07359	0.00905	0.00214
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

POFBWv4.05
11/17/2000
R:07/18/2001

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43332	540.	0.363	2.598	0.796	0.294	0.124	0.172	0.309
43334	530.	0.404	2.706	0.640	0.336	0.191	0.189	0.332
43336	462.	0.474	2.621	0.701	0.342	0.145	0.195	0.377
43339	542.	0.380	2.871	0.749	0.347	0.144	0.196	0.310
43349	541.	0.397	2.545	0.595	0.292	0.166	0.216	0.307
43365	492.	0.382	2.612	0.650	0.293	0.122	0.110	0.116
43368	607.	0.325	2.657	0.558	0.283	0.161	0.185	0.270
43369	519.	0.403	2.829	0.644	0.283	0.164	0.181	0.312
43379	533.	0.383	2.803	0.627	0.306	0.129	0.203	0.360
43391	522.	0.381	2.849	0.674	0.318	0.174	0.149	0.358
MEAN	529.	0.389	2.709	0.663	0.309	0.152	0.180	0.305
S.D.	37.3	0.0376	0.1193	0.0704	0.0247	0.0230	0.0304	0.0736
N	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43342	526.	0.399	2.785	0.738	0.316	0.137	0.190	0.317
43350	566.	0.364	3.083	0.588	0.295	0.134	0.161	0.297
43351	511.	0.405	2.992	0.667	0.295	0.145	0.202	0.301
43354	472.	0.430	3.388	0.695	0.331	0.199	0.212	0.371
43364	512.	0.381	3.248	0.682	0.313	0.127	0.203	0.229
43371	547.	0.378	3.419	0.722	0.289	0.115	0.196	0.300
43380	561.	0.371	3.153	0.581	0.278	0.137	0.114	0.301
43382	534.	0.384	2.993	0.678	0.281	0.118	0.159	0.348
43384	636.	0.343	3.542	0.660	0.270	0.157	0.237	0.263
43386	482.	0.436	3.147	0.705	0.284	0.151	0.178	0.328
MEAN	535.	0.389	3.175	0.672	0.295	0.142	0.185	0.306
S.D.	47.1	0.0289	0.2293	0.0518	0.0192	0.0241	0.0342	0.0402
N	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43323	431.	0.478	3.102	0.761	0.302	0.165	0.251	0.360
43331	537.	0.367	3.067	0.655	0.317	0.130	0.276	0.315
43341	536.	0.360	2.875	0.651	0.338	0.116	0.200	0.360
43355	564.	0.355	3.353	0.642	0.298	0.117	0.220	0.278
43361	641.	0.339	3.711	0.729	0.267	0.140	0.189	0.264
43363	496.	0.405	3.006	0.653	0.304	0.075	0.141	0.284
43383	520.	0.379	3.079	0.650	0.321	0.154	0.185	0.346
43385	546.	0.359	2.993	0.575	0.293	0.136	0.207	0.269
43388	582.	0.368	3.538	0.732	0.302	0.158	0.213	0.285
43392	513.	0.394	3.101	0.690	0.283	0.154	0.216	0.322
MEAN	537.	0.380	3.183	0.674	0.303	0.135	0.210	0.308
S.D.	55.2	0.0393	0.2653	0.0547	0.0199	0.0268	0.0367	0.0374
N	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43297	516.	0.388	3.928	0.672	0.298	0.147	0.215	0.287
43325	457.	0.444	3.783	0.665	0.319	0.149	0.197	0.304
43328	505.	0.394	3.822	0.745	0.313	0.145	0.309	0.352
43346	432.	0.449	3.877	0.692	0.292	0.137	0.248	0.421
43362	495.	0.406	3.713	0.651	0.271	0.168	0.238	0.327
43372	595.	0.358	4.192	0.600	0.279	0.134	0.245	0.269
43373	422.	0.462	3.637	0.754	0.318	0.154	0.289	0.280
43377	473.	0.427	3.879	0.755	0.296	0.159	0.332	0.362
43397	531.	0.352	3.863	0.674	0.324	0.194	0.224	0.301
MEAN	492.	0.409	3.855	0.690	0.301	0.154	0.255	0.323
S.D.	53.6	0.0395	0.1557	0.0526	0.0187	0.0183	0.0452	0.0486
N	9	9	9	9	9	9	9	9

FBW = FINAL BODY WEIGHT

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43332	0.333	0.119	0.130	0.060	0.060	0.053	0.010	0.006
43334	0.319	0.136	0.132	0.055	0.063	0.066	0.012	0.004
43336	0.383	0.165	0.154	0.066	0.057	0.080	0.010	0.006
43339	0.301	0.113	0.129	0.053	0.056	0.063	0.014	0.003
43349	0.296	0.126	0.124	0.047	0.056	0.061	0.011	0.004
43365	0.108	0.020	0.061	0.021	0.025	0.044	0.011	0.003
43368	0.278	0.119	0.114	0.054	0.059	0.056	0.009	0.004
43369	0.297	0.135	0.102	0.055	0.049	0.062	0.009	0.004
43379	0.364	0.154	0.124	0.071	0.055	0.060	0.009	0.005
43391	0.337	0.136	0.125	0.059	0.053	0.045	0.012	0.006
MEAN	0.302	0.122	0.120	0.054	0.053	0.059	0.011	0.005
S.D.	0.0754	0.0394	0.0244	0.0135	0.0107	0.0105	0.0016	0.0012
N	10	10	10	10	10	10	10	10

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43342	0.302	0.135	0.127	0.059	0.053	0.070	0.011	0.009
43350	0.316	0.124	0.133	0.046	0.058	0.056	0.010	0.004
43351	0.309	0.129	0.127	0.048	0.054	0.048	0.011	0.005
43354	0.375	0.153	0.155	0.068	0.070	0.055	0.011	0.005
43364	0.262	0.123	0.111	0.054	0.052	0.048	0.012	0.005
43371	0.298	0.128	0.122	0.054	0.053	0.076	0.012	0.007
43380	0.314	0.130	0.123	0.059	0.058	0.051	0.011	0.005
43382	0.356	0.133	0.142	0.056	0.062	0.049	0.010	0.004
43384	0.266	0.118	0.116	0.055	0.052	0.045	0.010	0.004
43386	0.328	0.145	0.143	0.069	0.068	0.076	0.011	0.005
MEAN	0.313	0.132	0.130	0.057	0.058	0.057	0.011	0.005
S.D.	0.0351	0.0105	0.0135	0.0074	0.0066	0.0120	0.0007	0.0016
N	10	10	10	10	10	10	10	10

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43323	0.364	0.123	0.137	0.056	0.056	0.052	0.010	0.009
43331	0.294	0.145	0.153	0.072	0.062	0.049	0.008	0.005
43341	0.364	0.125	0.136	0.055	0.064	0.054	0.009	0.004
43355	0.275	0.110	0.105	0.052	0.052	0.068	0.013	0.005
43361	0.270	0.109	0.095	0.054	0.043	0.034	0.009	0.005
43363	0.286	0.133	0.107	0.060	0.044	0.079	0.009	0.004
43383	0.337	0.142	0.135	0.057	0.064	0.055	0.011	0.006
43385	0.278	0.115	0.104	0.050	0.054	0.040	0.010	0.004
43388	0.292	0.120	0.139	0.047	0.062	0.047	0.011	0.004
43392	0.322	0.133	0.131	0.060	0.055	0.054	0.011	0.004
MEAN	0.308	0.126	0.124	0.056	0.056	0.053	0.010	0.005
S.D.	0.0360	0.0126	0.0195	0.0069	0.0077	0.0129	0.0014	0.0016
N	10	10	10	10	10	10	10	10

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43297	0.310	0.114	0.120	0.051	0.055	0.035	0.011	0.004
43325	0.311	0.138	0.133	0.058	0.057	0.046	0.011	0.006
43328	0.349	0.143	0.139	0.070	0.059	0.056	0.013	0.005
43346	0.419	0.169	0.167	0.075	0.077	0.049	0.011	0.005
43362	0.325	0.131	0.139	0.051	0.065	0.059	0.011	0.006
43372	0.274	0.126	0.121	0.053	0.056	0.051	0.011	0.003
43373	0.287	0.171	0.137	0.089	0.061	0.069	0.013	0.004
43377	0.332	0.142	0.131	0.053	0.057	0.055	0.010	0.007
43397	0.309	0.141	0.132	0.068	0.059	0.054	0.011	0.004
MEAN	0.324	0.142	0.135	0.063	0.061	0.053	0.011	0.005
S.D.	0.0421	0.0185	0.0137	0.0133	0.0068	0.0093	0.0010	0.0013
N	9	9	9	9	9	9	9	9

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43433	290.	0.628	3.031	0.741	0.417	0.159	0.266	0.048	0.087	0.028	0.007
43435	315.	0.638	2.768	0.714	0.317	0.184	0.390	0.048	0.114	0.018	0.006
43436	299.	0.625	2.856	0.759	0.415	0.211	0.281	0.056	0.084	0.026	0.007
43438	278.	0.637	2.475	0.683	0.378	0.173	0.331	0.049	0.107	0.023	0.005
43449	260.	0.715	2.688	0.688	0.327	0.165	0.327	0.049	0.072	0.024	0.006
43467	294.	0.684	3.044	0.908	0.371	0.214	0.197	0.052	0.109	0.028	0.006
43474	229.	0.734	2.917	0.817	0.393	0.192	0.188	0.052	0.081	0.029	0.007
43483	265.	0.717	3.083	0.736	0.404	0.147	0.215	0.052	0.076	0.027	0.008
43497	287.	0.645	2.854	0.704	0.373	0.195	0.394	0.071	0.057	0.027	0.004
43501	295.	0.610	3.156	0.692	0.502	0.166	0.258	0.035	0.091	0.024	0.005
MEAN	281.	0.663	2.887	0.744	0.390	0.181	0.285	0.051	0.088	0.025	0.006
S.D.	24.4	0.0450	0.2062	0.0704	0.0518	0.0224	0.0745	0.0089	0.0180	0.0033	0.0012
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43420	260.	0.681	4.242	0.835	0.365	0.185	0.277	0.042	0.111	0.029	0.006
43439	266.	0.718	3.320	0.628	0.312	0.158	0.173	0.051	0.095	0.023	0.009
43458	236.	0.775	3.530	0.729	0.436	0.169	0.233	0.057	0.121	0.027	0.007
43462	228.	0.768	3.531	0.750	0.390	0.206	0.193	0.051	0.139	0.025	0.008
43468	294.	0.646	3.486	0.755	0.422	0.190	0.204	0.031	0.102	0.023	0.010
43486	297.	0.633	3.623	0.673	0.370	0.158	0.259	0.054	0.081	0.026	0.006
43489	295.	0.637	3.492	0.729	0.407	0.193	0.292	0.050	0.076	0.029	0.006
43502	274.	0.657	3.471	0.686	0.409	0.179	0.186	0.040	0.078	0.031	0.009
43511	304.	0.609	3.313	0.727	0.352	0.171	0.181	0.058	0.110	0.025	0.005
43515	316.	0.573	3.826	0.677	0.367	0.171	0.282	0.037	0.091	0.024	0.005
MEAN	277.	0.670	3.583	0.719	0.383	0.178	0.228	0.047	0.100	0.026	0.007
S.D.	29.4	0.0662	0.2734	0.0570	0.0371	0.0156	0.0462	0.0091	0.0203	0.0027	0.0018
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43463	246.	0.687	3.598	0.720	0.346	0.191	0.183	0.052	0.044	0.026	0.007
43475	308.	0.617	3.104	0.617	0.344	0.166	0.188	0.044	0.071	0.018	0.005
43478	359.	0.538	3.571	0.574	0.323	0.156	0.167	0.026	0.087	0.019	0.004
43491	308.	0.562	3.091	0.643	0.341	0.130	0.279	0.043	0.088	0.027	0.006
43495	273.	0.718	4.004	0.707	0.385	0.150	0.249	0.045	0.085	0.030	0.007
43496	316.	0.601	3.918	0.801	0.405	0.259	0.263	0.033	0.078	0.028	0.007
43508	276.	0.681	3.797	0.739	0.370	0.214	0.207	0.060	0.100	0.030	0.008
43513	300.	0.653	3.320	0.683	0.403	0.240	0.193	0.064	0.146	0.026	0.007
43516	304.	0.582	3.984	0.809	0.345	0.155	0.283	0.035	0.116	0.027	0.006
43517	276.	0.688	3.391	0.721	0.377	0.225	0.232	0.044	0.090	0.025	0.006
MEAN	297.	0.633	3.578	0.701	0.364	0.189	0.224	0.045	0.091	0.026	0.006
S.D.	30.8	0.0613	0.3454	0.0751	0.0282	0.0437	0.0424	0.0118	0.0270	0.0041	0.0012
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 124 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43440	268.	0.660	4.407	0.735	0.358	0.138	0.153	0.052	0.099	0.027	0.008
43456	370.	0.481	4.062	0.608	0.357	0.176	0.149	0.035	0.073	0.021	0.005
43460	234.	0.816	4.214	0.739	0.436	0.205	0.239	0.062	0.059	0.036	0.007
43466	333.	0.547	4.333	0.706	0.363	0.171	0.153	0.050	0.067	0.020	0.007
43477	270.	0.693	4.381	0.789	0.374	0.289	0.285	0.045	0.095	0.025	0.006
43479	274.	0.679	4.686	0.828	0.350	0.157	0.318	0.066	0.079	0.023	0.005
43481	342.	0.561	4.070	0.670	0.348	0.137	0.231	0.043	0.073	0.019	0.006
43484	286.	0.664	3.979	0.647	0.371	0.182	0.150	0.045	0.056	0.016	0.007
43492	252.	0.726	4.873	0.778	0.417	0.234	0.202	0.068	0.073	0.033	0.009
43503	262.	0.634	4.137	0.653	0.347	0.149	0.309	0.057	0.113	0.028	0.009
MEAN	289.	0.646	4.314	0.715	0.372	0.184	0.219	0.052	0.079	0.025	0.007
S.D.	44.1	0.0963	0.2869	0.0709	0.0304	0.0477	0.0679	0.0108	0.0182	0.0063	0.0014
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

POFBWv4.05
11/17/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43289	561.	0.355	2.681	0.643	0.328	0.111	0.184	0.308
43295	574.	0.345	2.714	0.707	0.280	0.113	0.225	0.296
43308	554.	0.345	2.693	0.637	0.305	0.125	0.269	0.256
43316	511.	0.425	2.587	0.646	0.286	0.137	0.194	0.341
43326	509.	0.354	2.587	0.550	0.316	0.110	0.250	0.303
MEAN	542.	0.365	2.652	0.637	0.303	0.119	0.224	0.301
S.D.	29.9	0.0340	0.0609	0.0561	0.0201	0.0116	0.0361	0.0304
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43285	601.	0.351	2.887	0.644	0.286	0.130	0.113	0.283
43293	571.	0.373	2.988	0.762	0.315	0.138	0.156	0.268
43311	475.	0.451	2.968	0.747	0.328	0.175	0.196	0.354
43320	473.	0.412	2.767	0.748	0.311	0.144	0.211	0.300
43340	377.	0.533	3.183	0.759	0.390	0.172	0.196	0.053
MEAN	499.	0.424	2.959	0.732	0.326	0.152	0.174	0.252
S.D.	89.1	0.0719	0.1526	0.0496	0.0389	0.0204	0.0399	0.1157
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43290	475.	0.423	2.743	0.699	0.307	0.147	0.105	0.309
43307	540.	0.374	3.091	0.776	0.315	0.130	0.222	0.294
43309	601.	0.341	2.970	0.790	0.306	0.150	0.208	0.318
43318	583.	0.341	2.772	0.686	0.307	0.156	0.238	0.268
43322	488.	0.447	2.988	0.711	0.332	0.176	0.203	0.342
MEAN	537.	0.385	2.913	0.732	0.313	0.152	0.195	0.306
S.D.	55.8	0.0482	0.1494	0.0473	0.0110	0.0166	0.0522	0.0276
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43277	493.	0.389	2.744	0.657	0.312	0.110	0.262	0.304
43278	479.	0.399	2.593	0.706	0.363	0.111	0.288	0.305
43280	598.	0.326	2.987	0.714	0.299	0.130	0.179	0.286
43281	513.	0.425	3.004	0.762	0.312	0.150	0.195	0.285
43282	398.	0.472	2.822	0.827	0.314	0.166	0.166	0.427
MEAN	496.	0.402	2.830	0.733	0.320	0.133	0.218	0.321
S.D.	71.8	0.0533	0.1722	0.0643	0.0248	0.0245	0.0538	0.0598
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43289	0.305	0.134	0.139	0.063	0.065	0.037	0.010	0.005
43295	0.298	0.129	0.125	0.052	0.054	0.058	0.011	0.005
43308	0.244	0.134	0.128	0.059	0.060	0.051	0.010	0.004
43316	0.323	0.139	0.143	0.056	0.058	0.083	0.016	0.006
43326	0.275	0.122	0.104	0.048	0.046	0.059	0.014	0.006
MEAN	0.289	0.132	0.128	0.056	0.057	0.058	0.012	0.005
S.D.	0.0305	0.0064	0.0153	0.0059	0.0071	0.0167	0.0027	0.0008
N	5	5	5	5	5	5	5	5

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43285	0.293	0.121	0.123	0.054	0.060	0.049	0.011	0.007
43293	0.277	0.126	0.142	0.056	0.072	0.047	0.011	0.005
43311	0.356	0.175	0.162	0.075	0.072	0.050	0.014	0.006
43320	0.300	0.127	0.131	0.053	0.062	0.029	0.011	0.006
43340	0.276	0.016	0.141	NA	0.054	0.051	0.019	0.007
MEAN	0.300	0.113	0.140	0.060	0.064	0.045	0.013	0.006
S.D.	0.0327	0.0585	0.0147	0.0104	0.0079	0.0092	0.0035	0.0008
N	5	5	5	4	5	5	5	5

NA = ORGAN NOT POSITIVELY IDENTIFIED

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43290	0.320	0.145	0.145	0.061	0.067	0.061	0.014	0.007
43307	0.300	0.122	0.130	0.053	0.057	0.068	0.010	0.005
43309	0.329	0.140	0.133	0.070	0.067	0.062	0.009	0.005
43318	0.261	0.127	0.106	0.051	0.045	0.032	0.008	0.004
43322	0.336	0.150	0.160	0.068	0.078	0.059	0.013	0.005
MEAN	0.309	0.137	0.135	0.061	0.063	0.056	0.011	0.005
S.D.	0.0301	0.0119	0.0200	0.0086	0.0124	0.0140	0.0026	0.0011
N	5	5	5	5	5	5	5	5

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43277	0.316	0.142	0.140	0.062	0.058	0.053	0.008	0.007
43278	0.303	0.150	0.140	0.061	0.061	0.036	0.010	0.005
43280	0.293	0.124	0.122	0.045	0.051	0.056	0.010	0.004
43281	0.285	0.127	0.140	0.066	0.072	0.064	0.015	0.006
43282	0.412	0.166	0.163	0.057	0.073	0.065	0.011	0.007
MEAN	0.322	0.142	0.141	0.058	0.063	0.055	0.011	0.006
S.D.	0.0517	0.0172	0.0146	0.0080	0.0094	0.0117	0.0026	0.0013
N	5	5	5	5	5	5	5	5

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43398	243.	0.765	2.959	0.819	0.346	0.198	0.502	0.049	0.131	0.026	0.005
43405	326.	0.571	2.592	0.675	0.353	0.141	0.156	0.041	0.093	0.019	0.005
43409	267.	0.689	3.094	0.674	0.397	0.169	0.363	0.031	0.079	0.024	0.006
43423	269.	0.699	2.721	0.662	0.353	0.190	0.271	0.052	0.097	0.029	0.007
43432	301.	0.658	3.073	0.678	0.412	0.166	0.150	0.049	0.072	0.021	0.006
MEAN	281.	0.676	2.888	0.702	0.372	0.173	0.288	0.044	0.094	0.024	0.006
S.D.	32.4	0.0707	0.2220	0.0659	0.0301	0.0224	0.1485	0.0085	0.0228	0.0040	0.0008
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43400	313.	0.633	2.594	0.620	0.351	0.208	0.252	0.044	0.088	0.023	0.007
43407	242.	0.764	3.062	0.806	0.372	0.194	0.211	0.053	0.125	0.025	0.008
43413	282.	0.677	2.489	0.582	0.330	0.163	0.191	0.049	0.102	0.017	0.005
43416	287.	0.662	2.516	0.564	0.366	0.188	0.167	0.047	0.075	0.028	0.009
43419	239.	0.791	3.377	0.808	0.402	0.238	0.197	0.066	0.094	0.023	0.008
MEAN	273.	0.705	2.808	0.676	0.364	0.198	0.204	0.052	0.097	0.023	0.007
S.D.	31.6	0.0684	0.3940	0.1213	0.0266	0.0276	0.0314	0.0086	0.0186	0.0040	0.0015
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43402	323.	0.604	3.573	0.820	0.399	0.192	0.238	0.029	0.066	0.027	0.008
43426	235.	0.787	2.902	0.745	0.362	0.166	0.260	0.066	0.095	0.033	0.011
43442	285.	0.712	3.393	0.789	0.375	0.211	0.256	0.059	0.031	0.018	0.008
43446	227.	0.784	3.203	0.837	0.410	0.216	0.436	0.069	0.085	0.025	0.007
43461	295.	0.617	2.976	0.685	0.363	0.227	0.190	0.046	0.071	0.026	0.008
MEAN	273.	0.701	3.209	0.775	0.382	0.202	0.276	0.054	0.070	0.026	0.008
S.D.	40.9	0.0879	0.2806	0.0614	0.0217	0.0240	0.0937	0.0165	0.0244	0.0054	0.0015
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 125 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO FINAL BODY WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43401	328.	0.558	3.271	0.784	0.409	0.155	0.259	0.034	0.108	0.025	0.007
43410	231.	0.775	2.918	0.697	0.394	0.186	0.251	0.063	0.106	0.026	0.009
43421	297.	0.640	3.269	0.680	0.384	0.185	0.209	0.047	0.070	0.024	0.008
43429	279.	0.720	3.416	0.746	0.423	0.201	0.183	0.055	0.054	0.024	0.007
43430	279.	0.674	3.190	0.799	0.401	0.233	0.373	0.055	0.087	0.028	0.009
MEAN	283.	0.673	3.213	0.741	0.402	0.192	0.255	0.051	0.085	0.025	0.008
S.D.	35.2	0.0820	0.1839	0.0522	0.0148	0.0284	0.0729	0.0110	0.0232	0.0017	0.0010
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

POFBWv4.05
11/17/2000
R:07/18/2001

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43332	540.	1.96	715.816	219.388	81.122	34.184	47.449	85.204
43334	530.	2.14	670.093	158.411	83.178	47.196	46.729	82.243
43336	462.	2.19	552.968	147.945	72.146	30.594	41.096	79.452
43339	542.	2.06	755.340	197.087	91.262	37.864	51.456	81.553
43349	541.	2.15	640.465	149.767	73.488	41.860	54.419	77.209
43365	492.	1.88	683.511	170.213	76.596	31.915	28.723	30.319
43368	607.	1.97	818.782	172.081	87.310	49.746	56.853	83.249
43369	519.	2.09	702.392	159.809	70.335	40.670	44.976	77.512
43379	533.	2.04	732.353	163.726	79.902	33.824	52.941	94.118
43391	522.	1.99	747.236	176.884	83.417	45.729	39.196	93.970
MEAN	529.	2.05	701.896	171.531	79.876	39.358	46.384	78.483
S.D.	37.3	0.098	72.2640	22.0467	6.7680	6.7474	8.4173	17.9475
N	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43342	526.	2.10	697.619	184.762	79.048	34.286	47.619	79.524
43350	566.	2.06	847.087	161.651	81.068	36.893	44.175	81.553
43351	511.	2.07	738.647	164.734	72.947	35.749	49.758	74.396
43354	472.	2.03	787.685	161.576	76.847	46.305	49.261	86.207
43364	512.	1.95	852.820	178.974	82.051	33.333	53.333	60.000
43371	547.	2.07	903.382	190.821	76.329	30.435	51.691	79.227
43380	561.	2.08	850.481	156.731	75.000	37.019	30.769	81.250
43382	534.	2.05	779.512	176.585	73.171	30.732	41.463	90.732
43384	636.	2.18	1033.486	192.661	78.899	45.872	69.266	76.606
43386	482.	2.10	722.381	161.905	65.238	34.762	40.952	75.238
MEAN	535.	2.07	821.310	173.040	76.060	36.539	47.829	78.473
S.D.	47.1	0.058	99.4764	13.3601	4.8868	5.5071	10.0155	8.1704
N	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43323	431.	2.06	649.029	159.223	63.107	34.466	52.427	75.243
43331	537.	1.97	836.041	178.680	86.294	35.533	75.127	85.787
43341	536.	1.93	798.446	180.829	93.782	32.124	55.440	100.000
43355	564.	2.00	945.500	181.000	84.000	33.000	62.000	78.500
43361	641.	2.17	1096.313	215.207	78.802	41.475	55.760	77.880
43363	496.	2.01	741.791	161.194	75.124	18.408	34.826	70.149
43383	520.	1.97	812.690	171.574	84.772	40.609	48.731	91.371
43385	546.	1.96	833.673	160.204	81.633	37.755	57.653	75.000
43388	582.	2.14	962.150	199.065	82.243	42.991	57.944	77.570
43392	513.	2.02	787.624	175.248	71.782	39.109	54.950	81.683
MEAN	537.	2.02	846.326	178.222	80.154	35.547	55.486	81.318
S.D.	55.2	0.079	125.9337	17.7815	8.5239	7.0463	10.1167	8.8541
N	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43297	516.	2.00	1013.500	173.500	77.000	38.000	55.500	74.000
43325	457.	2.03	851.724	149.754	71.921	33.498	44.335	68.473
43328	505.	1.99	969.849	188.945	79.397	36.683	78.392	89.447
43346	432.	1.94	863.402	154.124	64.948	30.412	55.155	93.814
43362	495.	2.01	914.428	160.199	66.667	41.294	58.706	80.597
43372	595.	2.13	1170.892	167.606	77.934	37.559	68.545	75.117
43373	422.	1.95	787.180	163.077	68.718	33.333	62.564	60.513
43377	473.	2.02	908.416	176.733	69.307	37.129	77.723	84.653
43397	531.	1.87	1096.792	191.444	91.979	55.080	63.636	85.562
MEAN	492.	1.99	952.909	169.487	74.208	38.110	62.728	79.131
S.D.	53.6	0.072	123.1632	14.5157	8.4144	7.1132	11.0055	10.5988
N	9	9	9	9	9	9	9	9

FBW = FINAL BODY WEIGHT

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43332	91.837	32.653	35.714	16.526	16.638	14.719	2.709	1.546
43334	78.972	33.645	32.710	13.640	15.598	16.234	2.855	0.944
43336	80.822	34.703	32.420	13.849	12.110	16.922	2.114	1.192
43339	79.126	29.612	33.981	13.922	14.650	16.456	3.718	0.845
43349	74.419	31.628	31.163	11.805	14.214	15.233	2.688	1.000
43365	28.191	5.319	15.957	5.569	6.468	11.441	2.798	0.734
43368	85.787	36.548	35.025	16.589	18.081	17.127	2.711	1.289
43369	73.684	33.493	25.359	13.603	12.268	15.455	2.187	1.038
43379	95.098	40.196	32.353	18.618	14.490	15.745	2.260	1.284
43391	88.442	35.678	32.663	15.513	13.965	11.754	3.196	1.487
MEAN	77.638	31.348	30.734	13.963	13.848	15.109	2.724	1.136
S.D.	18.7816	9.5888	5.9093	3.5418	3.1614	1.9956	0.4843	0.2689
N	10	10	10	10	10	10	10	10

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43342	75.714	33.810	31.905	14.671	13.233	17.500	2.843	2.300
43350	86.893	33.981	36.408	12.709	15.859	15.461	2.743	1.000
43351	76.329	31.884	31.401	11.966	13.396	11.874	2.807	1.121
43354	87.192	35.468	35.961	15.734	16.212	12.719	2.512	1.246
43364	68.718	32.308	29.231	14.154	13.646	12.487	3.267	1.277
43371	78.744	33.816	32.367	14.198	13.952	20.063	3.053	1.850
43380	84.615	35.096	33.173	15.865	15.764	13.745	2.947	1.284
43382	92.683	34.634	37.073	14.585	16.190	12.746	2.659	1.171
43384	77.523	34.404	33.945	16.046	15.170	13.188	2.904	1.060
43386	75.238	33.333	32.857	15.819	15.633	17.400	2.586	1.138
MEAN	80.365	33.873	33.432	14.575	14.906	14.718	2.832	1.345
S.D.	7.2233	1.1361	2.4588	1.3879	1.2099	2.7546	0.2256	0.4094
N	10	10	10	10	10	10	10	10

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43323	76.214	25.728	28.641	11.816	11.743	10.859	2.160	1.796
43331	80.203	39.594	41.624	19.731	16.802	13.401	2.137	1.315
43341	101.036	34.715	37.824	15.140	17.850	14.938	2.456	1.207
43355	77.500	31.000	29.500	14.795	14.525	19.090	3.575	1.330
43361	79.724	32.258	28.111	15.931	12.558	9.986	2.544	1.558
43363	70.647	32.836	26.368	14.925	10.846	19.433	2.229	0.910
43383	88.832	37.563	35.533	15.005	16.812	14.442	2.975	1.553
43385	77.551	32.143	29.082	13.791	15.077	11.036	2.740	1.015
43388	79.439	32.710	37.850	12.902	16.790	12.907	2.977	1.173
43392	81.683	33.663	33.168	15.129	13.995	13.757	2.718	0.960
MEAN	81.283	33.221	32.770	14.917	14.700	13.985	2.651	1.282
S.D.	8.3092	3.7338	5.1808	2.0887	2.4043	3.2124	0.4485	0.2883
N	10	10	10	10	10	10	10	10

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43297	80.000	29.500	31.000	13.185	14.265	9.135	2.945	1.020
43325	69.951	31.034	30.049	12.951	12.842	10.438	2.547	1.360
43328	88.442	36.181	35.176	17.814	14.894	14.151	3.382	1.367
43346	93.299	37.629	37.113	16.593	17.227	10.954	2.474	1.129
43362	80.100	32.338	34.328	12.522	15.935	14.642	2.776	1.423
43372	76.526	35.211	33.803	14.934	15.662	14.324	3.019	0.751
43373	62.051	36.923	29.744	19.205	13.277	14.938	2.841	0.815
43377	77.723	33.168	30.693	12.421	13.416	12.955	2.312	1.559
43397	87.701	40.107	37.433	19.214	16.829	15.385	3.011	1.144
MEAN	79.533	34.677	33.260	15.427	14.927	12.991	2.812	1.174
S.D.	9.6558	3.4207	2.9945	2.8405	1.5912	2.2613	0.3282	0.2776
N	9	9	9	9	9	9	9	9

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43433	290.	1.82	482.967	118.132	66.484	25.275	42.308	7.654	13.940	4.445	1.154
43435	315.	2.01	433.831	111.940	49.751	28.856	61.194	7.512	17.905	2.751	0.915
43436	299.	1.87	456.684	121.390	66.310	33.690	44.920	8.898	13.503	4.182	1.070
43438	278.	1.77	388.701	107.345	59.322	27.119	51.977	7.672	16.768	3.684	0.847
43449	260.	1.86	375.806	96.237	45.699	23.118	45.699	6.806	10.102	3.398	0.774
43467	294.	2.01	445.274	132.836	54.229	31.343	28.856	7.557	15.915	4.030	0.940
43474	229.	1.68	397.619	111.310	53.571	26.190	25.595	7.095	11.000	3.964	0.899
43483	265.	1.90	430.000	102.632	56.316	20.526	30.000	7.205	10.616	3.779	1.158
43497	287.	1.85	442.703	109.189	57.838	30.270	61.081	11.081	8.865	4.200	0.686
43501	295.	1.80	517.222	113.333	82.222	27.222	42.222	5.739	14.994	3.878	0.778
MEAN	281.	1.86	437.081	112.434	59.174	27.361	43.385	7.722	13.361	3.831	0.922
S.D.	24.4	0.101	43.1075	10.1439	10.3910	3.9034	12.5658	1.4211	3.0866	0.4801	0.1620
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43420	260.	1.77	623.164	122.599	53.672	27.119	40.678	6.141	16.294	4.203	0.859
43439	266.	1.91	462.304	87.435	43.455	21.990	24.084	7.152	13.283	3.136	1.220
43458	236.	1.83	455.191	93.989	56.284	21.858	30.055	7.383	15.601	3.508	0.891
43462	228.	1.75	460.000	97.714	50.857	26.857	25.143	6.669	18.120	3.211	0.989
43468	294.	1.90	539.474	116.842	65.263	29.474	31.579	4.721	15.816	3.532	1.526
43486	297.	1.88	572.340	106.383	58.511	25.000	40.957	8.511	12.718	4.165	0.888
43489	295.	1.88	547.872	114.362	63.830	30.319	45.745	7.888	11.851	4.484	1.011
43502	274.	1.80	528.333	104.444	62.222	27.222	28.333	6.117	11.939	4.728	1.433
43511	304.	1.85	544.324	119.459	57.838	28.108	29.730	9.514	18.049	4.135	0.903
43515	316.	1.81	667.956	118.232	64.088	29.834	49.171	6.414	15.840	4.138	0.912
MEAN	277.	1.84	540.096	108.146	57.602	26.778	34.548	7.051	14.951	3.924	1.063
S.D.	29.4	0.055	70.0643	12.0548	6.8685	3.0097	8.8610	1.3622	2.3536	0.5418	0.2437
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43463	246.	1.69	523.669	104.734	50.296	27.811	26.627	7.615	6.343	3.793	0.970
43475	308.	1.90	503.158	100.000	55.789	26.842	30.526	7.111	11.463	2.863	0.842
43478	359.	1.93	664.249	106.736	60.104	29.016	31.088	4.845	16.187	3.591	0.772
43491	308.	1.73	550.289	114.451	60.694	23.121	49.711	7.578	15.676	4.855	1.029
43495	273.	1.96	557.653	98.469	53.571	20.918	34.694	6.240	11.821	4.153	0.923
43496	316.	1.90	651.579	133.158	67.368	43.158	43.684	5.505	12.900	4.616	1.089
43508	276.	1.88	557.447	108.511	54.255	31.383	30.319	8.745	14.723	4.394	1.229
43513	300.	1.96	508.163	104.592	61.735	36.735	29.592	9.842	22.286	3.985	1.026
43516	304.	1.77	684.181	138.983	59.322	26.554	48.588	6.017	19.994	4.621	0.994
43517	276.	1.90	492.632	104.737	54.737	32.632	33.684	6.463	13.068	3.653	0.900
MEAN	297.	1.86	569.302	111.437	57.787	29.817	35.851	6.996	14.446	4.052	0.977
S.D.	30.8	0.097	71.2531	13.7678	4.9801	6.5355	8.3508	1.5114	4.5044	0.6028	0.1294
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

TABLE 126 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43440	268.	1.77	667.232	111.299	54.237	20.904	23.164	7.808	14.960	4.079	1.226
43456	370.	1.78	844.382	126.404	74.157	36.517	30.899	7.309	15.090	4.461	1.118
43460	234.	1.91	516.230	90.576	53.403	25.131	29.319	7.550	7.199	4.361	0.869
43466	333.	1.82	792.857	129.121	66.484	31.319	28.022	9.066	12.192	3.582	1.352
43477	270.	1.87	632.620	113.904	54.011	41.711	41.176	6.545	13.695	3.668	0.840
43479	274.	1.86	690.323	122.043	51.613	23.118	46.774	9.769	11.683	3.317	0.683
43481	342.	1.92	725.000	119.271	61.979	24.479	41.146	7.651	13.073	3.411	1.031
43484	286.	1.90	598.947	97.368	55.789	27.368	22.632	6.789	8.479	2.374	1.032
43492	252.	1.83	671.038	107.104	57.377	32.240	27.869	9.322	10.000	4.519	1.290
43503	262.	1.66	653.012	103.012	54.819	23.494	48.795	9.036	17.825	4.476	1.392
MEAN	289.	1.83	679.164	112.010	58.387	28.628	33.980	8.085	12.420	3.825	1.083
S.D.	44.1	0.080	93.3866	12.6328	7.1083	6.6758	9.6386	1.1273	3.2333	0.6896	0.2363
N	10	10	10	10	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43289	561.	1.99	755.779	181.407	92.462	31.156	51.759	86.935
43295	574.	1.98	786.869	205.051	81.313	32.828	65.152	85.859
43308	554.	1.91	781.152	184.817	88.482	36.126	78.010	74.346
43316	511.	2.17	609.217	152.074	67.281	32.258	45.622	80.184
43326	509.	1.80	731.667	155.556	89.444	31.111	70.556	85.556
MEAN	542.	1.97	732.937	175.781	83.796	32.696	62.220	82.576
S.D.	29.9	0.135	72.5662	22.0290	10.0979	2.0529	13.3448	5.2942
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43285	601.	2.11	822.275	183.412	81.517	36.967	32.227	80.569
43293	571.	2.13	800.939	204.225	84.507	37.089	41.784	71.831
43311	475.	2.14	658.879	165.888	72.897	38.785	43.458	78.505
43320	473.	1.95	671.282	181.538	75.385	34.872	51.282	72.821
43340	377.	2.01	597.015	142.289	73.134	32.338	36.816	9.950
MEAN	499.	2.07	710.078	175.470	77.488	36.010	41.113	62.735
S.D.	89.1	0.084	97.1514	23.0192	5.2430	2.4779	7.1900	29.7383
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43290	475.	2.01	648.259	165.174	72.637	34.826	24.876	73.134
43307	540.	2.02	826.238	207.426	84.158	34.653	59.406	78.713
43309	601.	2.05	870.732	231.707	89.756	43.902	60.976	93.171
43318	583.	1.99	812.060	201.005	89.950	45.729	69.849	78.392
43322	488.	2.18	668.807	159.174	74.312	39.450	45.413	76.606
MEAN	537.	2.05	765.219	192.897	82.163	39.712	52.104	80.003
S.D.	55.8	0.076	100.0316	30.3680	8.2863	5.0817	17.5574	7.6873
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	PROS TATE	RT TESTIS
43277	493.	1.92	704.688	168.750	80.208	28.125	67.188	78.125
43278	479.	1.91	650.262	176.963	91.099	27.749	72.251	76.440
43280	598.	1.95	915.897	218.974	91.795	40.000	54.872	87.692
43281	513.	2.18	706.881	179.358	73.394	35.321	45.872	66.972
43282	398.	1.88	597.340	175.000	66.489	35.106	35.106	90.426
MEAN	496.	1.97	715.014	183.809	80.597	33.260	55.058	79.931
S.D.	71.8	0.121	121.0028	20.0476	11.0313	5.2398	15.2088	9.4043
N	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 0 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43289	85.930	37.688	39.196	17.809	18.271	10.422	2.714	1.372
43295	86.364	37.374	36.364	15.187	15.793	16.712	3.212	1.581
43308	70.681	38.743	37.173	17.162	17.487	14.869	2.979	1.272
43316	76.037	32.719	33.641	13.194	13.654	19.488	3.793	1.355
43326	77.778	34.444	29.444	13.433	13.083	16.661	3.967	1.761
MEAN	79.358	36.194	35.164	15.357	15.658	15.630	3.333	1.468
S.D.	6.7285	2.5130	3.7673	2.1024	2.2824	3.3474	0.5331	0.1994
N	5	5	5	5	5	5	5	5

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 100 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43285	83.412	34.597	35.071	15.469	16.981	13.938	3.251	1.972
43293	74.178	33.803	38.028	15.136	19.211	12.545	2.859	1.282
43311	78.972	38.785	35.981	16.626	16.075	11.042	3.215	1.360
43320	72.821	30.769	31.795	12.749	15.097	7.092	2.697	1.554
43340	51.741	2.985	26.368	NA	10.184	9.647	3.562	1.254
MEAN	72.225	28.188	33.449	14.995	15.510	10.853	3.117	1.484
S.D.	12.1905	14.3767	4.5521	1.6278	3.3436	2.6465	0.3423	0.2967
N	5	5	5	4	5	5	5	5

NA = ORGAN NOT POSITIVELY IDENTIFIED

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 300 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43290	75.622	34.328	34.328	14.388	15.811	14.463	3.234	1.741
43307	80.198	32.673	34.653	14.129	15.356	18.213	2.653	1.426
43309	96.585	40.976	39.024	20.434	19.673	18.244	2.732	1.556
43318	76.382	37.186	31.156	15.015	13.136	9.387	2.437	1.035
43322	75.229	33.486	35.780	15.115	17.454	13.147	2.812	1.110
MEAN	80.803	35.730	34.988	15.816	16.286	14.691	2.774	1.374
S.D.	9.0401	3.3907	2.8350	2.6146	2.4418	3.7282	0.2928	0.2980
N	5	5	5	5	5	5	5	5

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LT TESTIS	RT EPI DIDYMIS	LT EPI DIDYMIS	RT CAUDA EPIDIDYMIS	LT CAUDA EPIDIDYMIS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43277	81.250	36.458	35.938	16.016	14.911	13.557	2.182	1.760
43278	75.916	37.696	35.079	15.366	15.356	9.120	2.445	1.293
43280	89.744	37.949	37.436	13.862	15.574	17.128	3.067	1.097
43281	66.972	29.817	33.028	15.486	16.867	15.119	3.587	1.518
43282	87.234	35.106	34.574	12.138	15.351	13.862	2.426	1.441
MEAN	80.223	35.405	35.211	14.574	15.612	13.757	2.741	1.422
S.D.	9.1515	3.3221	1.6331	1.5795	0.7419	2.9484	0.5747	0.2480
N	5	5	5	5	5	5	5	5

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43398	243.	1.86	386.559	106.989	45.161	25.806	65.591	6.425	17.070	3.366	0.602
43405	326.	1.86	454.301	118.280	61.828	24.731	27.419	7.194	16.371	3.403	0.914
43409	267.	1.84	448.913	97.826	57.609	24.457	52.717	4.457	11.516	3.446	0.924
43423	269.	1.88	389.362	94.681	50.532	27.128	38.830	7.463	13.819	4.106	1.011
43432	301.	1.98	467.172	103.030	62.626	25.253	22.727	7.495	10.874	3.172	0.879
MEAN	281.	1.88	429.261	104.161	55.551	25.475	41.457	6.607	13.930	3.499	0.866
S.D.	32.4	0.055	38.2944	9.2009	7.5305	1.0584	17.7765	1.2769	2.7837	0.3553	0.1554
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43400	313.	1.98	410.101	97.980	55.556	32.828	39.899	7.030	13.854	3.652	1.131
43407	242.	1.85	400.541	105.405	48.649	25.405	27.568	6.892	16.346	3.324	1.103
43413	282.	1.91	367.539	85.864	48.691	24.084	28.272	7.230	14.990	2.440	0.806
43416	287.	1.90	380.000	85.263	55.263	28.421	25.263	7.168	11.337	4.253	1.358
43419	239.	1.89	426.984	102.116	50.794	30.159	24.868	8.317	11.942	2.937	0.958
MEAN	273.	1.91	397.033	95.326	51.791	28.179	29.174	7.327	13.694	3.321	1.071
S.D.	31.6	0.047	23.6652	9.2942	3.4171	3.5375	6.1696	0.5684	2.0835	0.6895	0.2061
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43402	323.	1.95	591.795	135.897	66.154	31.795	39.487	4.810	10.954	4.467	1.323
43426	235.	1.85	368.649	94.595	45.946	21.081	32.973	8.405	12.130	4.157	1.357
43442	285.	2.03	476.355	110.837	52.709	29.557	35.961	8.281	4.365	2.596	1.074
43446	227.	1.78	408.427	106.742	52.247	27.528	55.618	8.854	10.787	3.191	0.899
43461	295.	1.82	482.418	110.989	58.791	36.813	30.769	7.390	11.533	4.209	1.225
MEAN	273.	1.89	465.529	111.812	55.169	29.355	38.962	7.548	9.954	3.724	1.176
S.D.	40.9	0.102	85.1351	15.0320	7.6394	5.7752	9.8704	1.6201	3.1686	0.7955	0.1897
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

TABLE 127 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS (GRAMS/100 GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KID NEYS	HEART	SPLEEN	UTER US/CX	OVARIES/ OVIDUCTS	THYMUS GLAND	ADRENAL GLANDS	THYROIDS /PARA
43401	328.	1.83	586.339	140.437	73.224	27.869	46.448	6.049	19.306	4.508	1.246
43410	231.	1.79	376.536	89.944	50.838	24.022	32.402	8.123	13.648	3.296	1.106
43421	297.	1.90	511.053	106.316	60.000	28.947	32.632	7.416	10.932	3.779	1.247
43429	279.	2.01	474.129	103.483	58.706	27.861	25.373	7.642	7.562	3.333	1.030
43430	279.	1.88	473.404	118.617	59.574	34.574	55.319	8.218	12.984	4.096	1.330
MEAN	283.	1.88	484.292	111.759	60.468	28.655	38.435	7.490	12.886	3.802	1.192
S.D.	35.2	0.083	75.7676	18.9965	8.0557	3.8024	12.1446	0.8712	4.3003	0.5151	0.1211
N	5	5	5	5	5	5	5	5	5	5	5

FBW = FINAL BODY WEIGHT

POFBWv4.05
11/17/2000
R:07/18/2001

TABLE 128 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL TESTICULAR AND EPIDIDYMAL SPERM NUMBERS
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE)
HTM-IVOS
MALE GROUP: 0 MG/KG/DAY

ANIMAL	LEFT TESTIS	LEFT EPIDIDYMIS
43332	126.3	535.2
43334	117.6	632.3
43336	83.3	491.1
43339	135.2	733.9
43349	89.0	593.2
43365	0.0 A	0.0 A
43368	97.1	725.3
43369	98.6	800.5
43379	75.6	713.3
43391	162.4	696.9
MEAN	109.5	658.0
S.D.	28.14	101.83
N	9	9

A = NO SPERM CELLS PRESENT; NOT INCLUDED IN CALCULATION OF MEAN

TABLE 128 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL TESTICULAR AND EPIDIDYMAL SPERM NUMBERS
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE)
HTM-IVOS
MALE GROUP: 100 MG/KG/DAY

ANIMAL	LEFT TESTIS	LEFT EPIDIDYMIS
43342	122.8	431.7
43350	92.1	576.4
43351	99.4	495.2
43354	107.4	691.9
43364	88.7	825.5
43371	78.8	735.1
43380	86.8	681.7
43382	104.1	599.5
43384	82.7	767.3
43386	110.9	684.2
MEAN	97.4	648.9
S.D.	13.96	122.61
N	10	10

TABLE 128 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL TESTICULAR AND EPIDIDYMAL SPERM NUMBERS
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE)
HTM-IVOS
MALE GROUP: 300 MG/KG/DAY

ANIMAL	LEFT TESTIS	LEFT EPIDIDYMIS
43323	127.7	754.2
43331	76.3	608.5
43341	71.7	767.6
43355	220.2	1092.6
43361	68.2	964.6
43363	116.1	644.0
43383	93.2	761.6
43385	88.5	852.6
43388	84.2	477.2
43392	88.4	858.6
MEAN	103.5	778.2
S.D.	45.08	177.63
N	10	10

TABLE 128 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL TESTICULAR AND EPIDIDYMAL SPERM NUMBERS
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE)
HTM-IVOS
MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LEFT TESTIS	LEFT EPIDIDYMIS
43297	90.0	681.2
43325	142.4	651.3
43328	96.6	825.3
43346	70.5	576.5
43359	B	B
43362	88.9	701.5
43372	90.5	629.4
43373	109.0	531.2
43377	117.2	520.2
43397	69.3	648.8
MEAN	97.2	640.6
S.D.	23.02	93.78
N	9	9

B = ANIMAL DIED PRIOR TO SPERMATOGENIC EVALUATIONS

TABLE 129 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM PRODUCTION RATE
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE/DAY)
HTM-IVOS
MALE GROUP: 0 MG/KG/DAY

ANIMAL	LEFT TESTIS
43332	20.7
43334	19.3
43336	13.7
43339	22.2
43349	14.6
43365	0.0 A
43368	15.9
43369	16.2
43379	12.4
43391	26.6
MEAN	18.0
S.D.	4.60
N	9

A = NO SPERM CELLS PRESENT; NOT INCLUDED IN CALCULATION OF MEAN

TABLE 129 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM PRODUCTION RATE
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE/DAY)
HTM-IVOS
MALE GROUP: 100 MG/KG/DAY

ANIMAL	LEFT TESTIS
43342	20.1
43350	15.1
43351	16.3
43354	17.6
43364	14.5
43371	12.9
43380	14.2
43382	17.1
43384	13.6
43386	18.2
MEAN	16.0
S.D.	2.29
N	10

TABLE 129 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM PRODUCTION RATE
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE/DAY)
HTM-IVOS
MALE GROUP: 300 MG/KG/DAY

ANIMAL	LEFT TESTIS
43323	20.9
43331	12.5
43341	11.8
43355	36.1
43361	11.2
43363	19.0
43383	15.3
43385	14.5
43388	13.8
43392	14.5
MEAN	17.0
S.D.	7.38
N	10

TABLE 129 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM PRODUCTION RATE
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE/DAY)
HTM-IVOS
MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LEFT TESTIS
43297	14.8
43325	23.3
43328	15.8
43346	11.6
43359	B
43362	14.6
43372	14.8
43373	17.9
43377	19.2
43397	11.4
MEAN	15.9
S.D.	3.75
N	9

B = ANIMAL DIED PRIOR TO SPERMATOGENIC EVALUATIONS

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 130 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MOTILITY ASSESSMENT (PERCENTAGE)
HTM-IVOS
MALE GROUP: 0 MG/KG/DAY

ANIMAL	MOTILE SPERM
43332	93
43334	87
43336	89
43339	86
43349	83
43365	0 A
43368	91
43369	89
43379	86
43391	88
MEAN	88.0
S.D.	2.96
N	9

A = MOTILITY UNABLE TO BE DETERMINED SINCE NO SPERM CELLS WERE PRESENT; NOT INCLUDED IN CALCULATION OF MEAN

TABLE 130 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MOTILITY ASSESSMENT (PERCENTAGE)
HTM-IVOS
MALE GROUP: 100 MG/KG/DAY

ANIMAL	MOTILE SPERM
43342	86
43350	88
43351	94
43354	90
43364	89
43371	90
43380	96
43382	87
43384	90
43386	89
MEAN	89.9
S.D.	3.04
N	10

TABLE 130 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MOTILITY ASSESSMENT (PERCENTAGE)
HTM-IVOS
MALE GROUP: 300 MG/KG/DAY

ANIMAL	MOTILE SPERM
43323	86
43331	83
43341	93
43355	92
43361	92
43363	89
43383	89
43385	89
43388	93
43392	90
MEAN	89.6
S.D.	3.20
N	10

TABLE 130 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MOTILITY ASSESSMENT (PERCENTAGE)
HTM-IVOS
MALE GROUP: 1000 MG/KG/DAY

ANIMAL	MOTILE SPERM
43297	84
43325	83
43328	89
43346	83
43359	B
43362	87
43372	87
43373	92
43377	88
43397	83
MEAN	86.2
S.D.	3.19
N	9

B = ANIMAL DIED PRIOR TO SPERMATOGENIC EVALUATIONS

TABLE 131 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)

0 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43332	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
43334	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43336	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43339	98.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
43349	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43365	0.0 A	0.0 A	0.0 A	0.0 A	0.0 A	0.0 A	0.0 A	0.0 A
43368	99.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
43369	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
43379	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43391	99.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	99.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0
S.D.	0.68	0.68	0.00	0.00	0.00	0.00	0.00	0.00
N	9	9	9	9	9	9	9	9

A = NO SPERM CELLS PRESENT; NOT INCLUDED IN CALCULATION OF MEAN

TABLE 131 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)

100 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43342	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43350	99.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
43351	99.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
43354	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43364	99.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
43371	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43380	98.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0
43382	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43384	98.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
43386	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	99.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
S.D.	0.75	0.75	0.00	0.00	0.00	0.00	0.00	0.00
N	10	10	10	10	10	10	10	10

TABLE 131 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)

300 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43323	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
43331	97.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0
43341	98.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0
43355	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43361	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43363	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43383	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
43385	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
43388	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43392	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	99.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0
S.D.	0.97	0.52	0.48	0.00	0.00	0.00	0.00	0.00
N	10	10	10	10	10	10	10	10

TABLE 131 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)

1000 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43297	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43325	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
43328	99.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0
43346	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43359	B	B	B	B	B	B	B	B
43362	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
43372	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43373	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
43377	98.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0
43397	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	99.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0
S.D.	0.49	0.36	0.22	0.00	0.00	0.00	0.00	0.00
N	9	9	9	9	9	9	9	9

B = ANIMAL DIED PRIOR TO SPERMATOGENIC EVALUATIONS

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 132 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER)

0 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43332	199	1	0	0	0	0	0	0
43334	200	0	0	0	0	0	0	0
43336	200	0	0	0	0	0	0	0
43339	196	4	0	0	0	0	0	0
43349	200	0	0	0	0	0	0	0
43365	0 A	0 A	0 A	0 A	0 A	0 A	0 A	0 A
43368	198	2	0	0	0	0	0	0
43369	199	1	0	0	0	0	0	0
43379	200	0	0	0	0	0	0	0
43391	198	2	0	0	0	0	0	0
MEAN	198.9	1.1	0.0	0.0	0.0	0.0	0.0	0.0
S.D.	1.36	1.36	0.00	0.00	0.00	0.00	0.00	0.00
N	9	9	9	9	9	9	9	9

A = NO SPERM CELLS PRESENT; NOT INCLUDED IN CALCULATION OF MEAN

TABLE 132 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER)

100 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43342	200	0	0	0	0	0	0	0
43350	198	2	0	0	0	0	0	0
43351	198	2	0	0	0	0	0	0
43354	200	0	0	0	0	0	0	0
43364	198	2	0	0	0	0	0	0
43371	200	0	0	0	0	0	0	0
43380	197	3	0	0	0	0	0	0
43382	200	0	0	0	0	0	0	0
43384	196	4	0	0	0	0	0	0
43386	200	0	0	0	0	0	0	0
MEAN	198.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0
S.D.	1.49	1.49	0.00	0.00	0.00	0.00	0.00	0.00
N	10	10	10	10	10	10	10	10

TABLE 132 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER)

300 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43323	199	1	0	0	0	0	0	0
43331	194	3	3	0	0	0	0	0
43341	197	2	1	0	0	0	0	0
43355	200	0	0	0	0	0	0	0
43361	200	0	0	0	0	0	0	0
43363	200	0	0	0	0	0	0	0
43383	199	1	0	0	0	0	0	0
43385	199	1	0	0	0	0	0	0
43388	200	0	0	0	0	0	0	0
43392	200	0	0	0	0	0	0	0
MEAN	198.8	0.8	0.4	0.0	0.0	0.0	0.0	0.0
S.D.	1.93	1.03	0.97	0.00	0.00	0.00	0.00	0.00
N	10	10	10	10	10	10	10	10

TABLE 132 (WEEK 13 PRIMARY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER)

1000 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43297	200	0	0	0	0	0	0	0
43325	199	1	0	0	0	0	0	0
43328	199	0	1	0	0	0	0	0
43346	200	0	0	0	0	0	0	0
43359	B	B	B	B	B	B	B	B
43362	199	1	0	0	0	0	0	0
43372	200	0	0	0	0	0	0	0
43373	199	1	0	0	0	0	0	0
43377	197	2	1	0	0	0	0	0
43397	200	0	0	0	0	0	0	0
MEAN	199.2	0.6	0.2	0.0	0.0	0.0	0.0	0.0
S.D.	0.97	0.73	0.44	0.00	0.00	0.00	0.00	0.00
N	9	9	9	9	9	9	9	9

B = ANIMAL DIED PRIOR TO SPERMATOGENIC EVALUATIONS

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 133 (WEEK 17 RECOVERY NCROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL TESTICULAR AND EPIDIDYMAL SPERM NUMBERS
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE)
HTM-IVOS
MALE GROUP: 0 MG/KG/DAY

ANIMAL	LEFT TESTIS	LEFT EPIDIDYMIS
43289	67.5	354.4
43295	103.5	353.0
43308	86.8	394.6
43316	83.1	313.5
43326	129.6	398.1
MEAN	94.1	362.7
S.D.	23.61	34.84
N	5	5

TABLE 133 (WEEK 17 RECOVERY NCROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL TESTICULAR AND EPIDIDYMAL SPERM NUMBERS
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE)
HTM-IVOS
MALE GROUP: 100 MG/KG/DAY

ANIMAL	LEFT TESTIS	LEFT EPIDIDYMIS
43285	102.6	480.8
43293	94.5	364.3
43311	193.5	386.9
43320	55.0	388.2
43340	0.0 A	0.0 A
MEAN	111.4	405.1
S.D.	58.55	51.68
N	4	4

A = NO SPERM CELLS PRESENT; NOT INCLUDED IN CALCULATION OF MEAN

TABLE 133 (WEEK 17 RECOVERY NCROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL TESTICULAR AND EPIDIDYMAL SPERM NUMBERS
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE)
HTM-IVOS
MALE GROUP: 300 MG/KG/DAY

ANIMAL	LEFT TESTIS	LEFT EPIDIDYMIS
43290	83.9	390.7
43307	96.4	459.8
43309	66.2	410.2
43318	70.8	413.9
43322	73.6	376.6
MEAN	78.2	410.2
S.D.	12.08	31.56
N	5	5

TABLE 133 (WEEK 17 RECOVERY NCROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL TESTICULAR AND EPIDIDYMAL SPERM NUMBERS
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE)
HTM-IVOS
MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LEFT TESTIS	LEFT EPIDIDYMIS
43277	70.1	458.2
43278	110.7	420.5
43280	101.2	298.7
43281	77.3	330.0
43282	83.6	460.6
MEAN	88.6	393.6
S.D.	16.90	74.89
N	5	5

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 134 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM PRODUCTION RATE
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE/DAY)
HTM-IVOS
MALE GROUP: 0 MG/KG/DAY

ANIMAL	LEFT TESTIS
43289	11.1
43295	17.0
43308	14.2
43316	13.6
43326	21.2
MEAN	15.4
S.D.	3.85
N	5

TABLE 134 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM PRODUCTION RATE
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE/DAY)
HTM-IVOS
MALE GROUP: 100 MG/KG/DAY

ANIMAL	LEFT TESTIS
43285	16.8
43293	15.5
43311	31.7
43320	9.0
43340	0.0 A
MEAN	18.3
S.D.	9.59
N	4

A = NO SPERM CELLS PRESENT; NOT INCLUDED IN CALCULATION OF MEAN

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 134 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM PRODUCTION RATE
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE/DAY)
HTM-IVOS
MALE GROUP: 300 MG/KG/DAY

ANIMAL	LEFT TESTIS
43290	13.8
43307	15.8
43309	10.9
43318	11.6
43322	12.1
MEAN	12.8
S.D.	1.97
N	5

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 134 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM PRODUCTION RATE
(NO. OF SPERM IN MILLIONS/GRAM OF TISSUE/DAY)
HTM-IVOS
MALE GROUP: 1000 MG/KG/DAY

ANIMAL	LEFT TESTIS
43277	11.5
43278	18.1
43280	16.6
43281	12.7
43282	13.7
MEAN	14.5
S.D.	2.75
N	5

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PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 135 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MOTILITY ASSESSMENT (PERCENTAGE)
HTM-IVOS
MALE GROUP: 0 MG/KG/DAY

ANIMAL	MOTILE SPERM
43289	82
43295	69
43308	80
43316	58
43326	87
MEAN	75.2
S.D.	11.65
N	5

TABLE 135 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MOTILITY ASSESSMENT (PERCENTAGE)
HTM-IVOS
MALE GROUP: 100 MG/KG/DAY

ANIMAL	MOTILE SPERM
43285	79
43293	87
43311	90
43320	73
43340	55
MEAN	76.8
S.D.	13.90
N	5

TABLE 135 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MOTILITY ASSESSMENT (PERCENTAGE)
HTM-IVOS
MALE GROUP: 300 MG/KG/DAY

ANIMAL	MOTILE SPERM
43290	51
43307	87
43309	76
43318	78
43322	77
MEAN	73.8
S.D.	13.48
N	5

TABLE 135 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MOTILITY ASSESSMENT (PERCENTAGE)
HTM-IVOS
MALE GROUP: 1000 MG/KG/DAY

ANIMAL	MOTILE SPERM
43277	85
43278	88
43280	77
43281	67
43282	69
MEAN	77.2
S.D.	9.34
N	5

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 136 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)

0 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43289	97.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0
43295	98.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0
43308	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43316	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
43326	98.5	0.5	1.0	0.0	0.0	0.0	0.0	0.0
MEAN	98.7	0.9	0.4	0.0	0.0	0.0	0.0	0.0
S.D.	1.15	0.82	0.55	0.00	0.00	0.00	0.00	0.00
N	5	5	5	5	5	5	5	5

TABLE 136 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)

100 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43285	98.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0
43293	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43311	98.5	0.5	1.0	0.0	0.0	0.0	0.0	0.0
43320	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43340	98.0	0.5	1.5	0.0	0.0	0.0	0.0	0.0
MEAN	99.0	0.4	0.6	0.0	0.0	0.0	0.0	0.0
S.D.	0.94	0.42	0.65	0.00	0.00	0.00	0.00	0.00
N	5	5	5	5	5	5	5	5

TABLE 136 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)

300 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43290	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43307	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43309	98.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0
43318	99.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0
43322	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	99.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0
S.D.	0.65	0.67	0.22	0.00	0.00	0.00	0.00	0.00
N	5	5	5	5	5	5	5	5

TABLE 136 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY DIFFERENTIAL COUNT (PERCENTAGE)

1000 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43277	99.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
43278	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43280	99.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0
43281	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43282	99.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0
MEAN	99.5	0.1	0.4	0.0	0.0	0.0	0.0	0.0
S.D.	0.50	0.22	0.42	0.00	0.00	0.00	0.00	0.00
N	5	5	5	5	5	5	5	5

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 137 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER)

0 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43289	194	4	2	0	0	0	0	0
43295	197	3	0	0	0	0	0	0
43308	200	0	0	0	0	0	0	0
43316	199	1	0	0	0	0	0	0
43326	197	1	2	0	0	0	0	0
MEAN	197.4	1.8	0.8	0.0	0.0	0.0	0.0	0.0
S.D.	2.30	1.64	1.10	0.00	0.00	0.00	0.00	0.00
N	5	5	5	5	5	5	5	5

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

TABLE 137 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER)

100 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43285	197	2	1	0	0	0	0	0
43293	200	0	0	0	0	0	0	0
43311	197	1	2	0	0	0	0	0
43320	200	0	0	0	0	0	0	0
43340	196	1	3	0	0	0	0	0
MEAN	198.0	0.8	1.2	0.0	0.0	0.0	0.0	0.0
S.D.	1.87	0.84	1.30	0.00	0.00	0.00	0.00	0.00
N	5	5	5	5	5	5	5	5

TABLE 137 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER)

300 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43290	200	0	0	0	0	0	0	0
43307	200	0	0	0	0	0	0	0
43309	197	3	0	0	0	0	0	0
43318	199	0	1	0	0	0	0	0
43322	200	0	0	0	0	0	0	0
MEAN	199.2	0.6	0.2	0.0	0.0	0.0	0.0	0.0
S.D.	1.30	1.34	0.45	0.00	0.00	0.00	0.00	0.00
N	5	5	5	5	5	5	5	5

TABLE 137 (WEEK 17 RECOVERY NECROPSY)
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL SPERM MORPHOLOGY COUNTS (ABSOLUTE NUMBER)

1000 MG/KG/DAY

ANIMAL	NORMAL	NORMAL HEAD/ SEPARATED FLAGELLUM	HEAD ABSENT/ NORMAL FLAGELLUM	HEAD ABSENT/ ABNORMAL FLAGELLUM	MISSHAPEN HEAD/ NORMAL FLAGELLUM	MISSHAPEN HEAD/ ABNORMAL FLAGELLUM	DEGENERATIVE FLAGELLAR DEFECTS/ NORMAL HEAD	OTHER FLAGELLAR DEFECTS/ NORMAL HEAD
43277	198	0	2	0	0	0	0	0
43278	200	0	0	0	0	0	0	0
43280	198	1	1	0	0	0	0	0
43281	200	0	0	0	0	0	0	0
43282	199	0	1	0	0	0	0	0
MEAN	199.0	0.2	0.8	0.0	0.0	0.0	0.0	0.0
S.D.	1.00	0.45	0.84	0.00	0.00	0.00	0.00	0.00
N	5	5	5	5	5	5	5	5

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX A

Final Report on the Storage Stability of
Hexabromocyclododecane (HBCD) in Bulk
Storage in Support of "A 90-Day Oral (Gavage)
Toxicity Study of HBCD in Rats (Albemarle Corporation)

Amendment to the Final Report On The Storage Stability Of Hexabromocyclododecane (HBCD) In Bulk Storage In Support Of A "90-Day Oral (Gavage) Toxicity Study Of HBCD In Rats"

WIL Research Laboratories Reference Study No. WIL-186012

The Final Report is amended to reflect the following changes:

The Study Director was changed on April 20, 2000, to Christopher P. Chengelis, Ph. D., D.A.B.T., from Jeannie Kirkpatrick.

The zip code (22209) for the Study Monitor has been added.

Pagination has been added to the Final Report.

Paul F. Ranken

Paul F. Ranken, Ph. D.
Study Chemist

December 7, 2000
Date

FINAL REPORT ON THE STORAGE STABILITY OF HEXABROMOCYCLODODECANE (HBCD) IN BULK STORAGE IN SUPPORT OF A "90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS"

WIL Research Laboratories Reference Study No. WIL-186012

Prepared for:

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ALBEMARLE CORPORATION
RESEARCH AND DEVELOPMENT DEPARTMENT

FINAL REPORT ON THE STORAGE STABILITY OF HEXABROMOCYCLODODECANE (HBCD) IN BULK STORAGE IN SUPPORT OF A "90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS"

WIL Research Laboratories Reference Study No. WIL-186012

I.	Reference Protocol Number:	HBCD-02-14-2000
II.	Sponsor:	American Chemistry Council Brominated Flame Retardant Industry Panel 1300 Wilson Boulevard Arlington, Virginia 22209 Study Monitor: Wendy K. Sherman
III.	Analytical Testing Facilities:	Albemarle Corporation Albemarle Technical Center 8000 GSRI Avenue Baton Rouge, LA 70820 Study Chemist: Paul F. Ranken, Ph. D.
IV.	Dates of Performance:	Study initiation date: February 14, 2000. Interim report issued: March 15, 2000. Study completion date: October 19, 2000.
V.	Test Article:	Hexabromocyclododecane (WIL Test Substance No. 4615). A pre-study sample of the Test Article was prepared at Wildlife International Ltd., 8651 Brooks Drive, Easton, MD 21601 and forwarded to the Albemarle Technical Center for analysis. A study day-zero sample and an end-of-study sample of the Test Article were sent by WIL Research Laboratories, Inc., to the Albemarle Technical Center. The pre-study, study day-zero and the end-of-study samples of the Test Article are a portion of the bulk material sent by Wildlife International Ltd. to WIL Research Laboratories, Inc., 1407 George Road, Ashland, OH 44805-9281.
VI.	Objective/Methodology:	This study was initiated to confirm the identity of the test article and to confirm the stability of

the test article during the "90-Day Oral (Gavage) Toxicity Study of HBCD in Rats", conducted by WIL Research Laboratories. The identity of a pre-study sample of the test article was confirmed by Fourier Transform Infrared Spectroscopy using SOP No. ARS-284-R4. In this procedure, the sample infrared spectrum was compared to a standard reference infrared spectrum of HBCD. The reference infrared spectrum was located in the Aldrich Condensed Phase High Resolution data library as 1-107A. The data library is an electronic collection of infrared spectra given in the Aldrich Library of FT-IR Spectra monographs. The purity (isomer distribution) of the pre-study sample, the study day-zero sample and the end-of-study sample was determined by High Performance Liquid Chromatography (HPLC) using SOP No. ARS-432-R1. In this procedure, an aliquot of a solution containing the test article was injected into the HPLC system and the distribution of the three, individual HBCD isomers was expressed as a percentage (area%) of the total integrated HBCD peak area. Chain of Custody and sample handling were conducted as per established standard operating procedures.

VII. Results:

The attached **Conclusions and Test Article Analytical Data** contains all of the tests results from the study. The identity of the pre-study test article was confirmed by Fourier Transform Infrared spectroscopy. The stability of the test article was confirmed by HPLC; the concentrations (area%) of the individual HBCD isomers in the day-zero sample and the end-of-study sample were within 15% of the concentrations of the individual isomers in the pre-study sample. There were no circumstances that may have affected the quality or integrity of the data.

VIII. Regulatory Requirements:

The study conformed to the requirements of EPA TSCA GLP's listed under 40 CFR Part

792 and the OECD [C(97) 186/Final] Good Laboratory Practice Regulations.

IX. Data/Record Retention:

All original logbooks, spectra, original data and reports will be kept filed in the custody of the Study Chemist until the storage stability study is completed, after which time they will be forwarded to the GLP Coordinator and stored in the designated Health and Environment archives at Albemarle Corporation, Health and Environment Department, 451 Florida Street, Baton Rouge, LA 70801.

Paul F. Ranken — October 19, 2000

Paul F. Ranken, Ph. D. — DATE

STUDY CHEMIST

HPLC ANALYSES

Isomer Distribution, Pre-Study Sample of Test Article

	Analysis 1	Analysis 2	Average
Alpha Isomer	8.4	9.5	8.9
Beta Isomer	6.4	6.7	6.6
Gamma Isomer	85.2	83.8	84.5

Analyst Judy Arroyave
Date of Analysis March 3, 2000

Isomer Distribution, Day-Zero Sample of Test Article

	Analysis 1	Analysis 2	Average
Alpha Isomer	7.9	9.7	8.8
Beta Isomer	5.2	7	6.1
Gamma Isomer	86.8	83.4	85.1

Analyst Judy Arroyave
Date of Analysis June 2, 2000

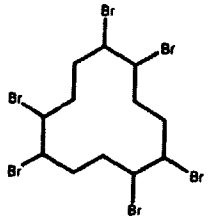
Isomer Distribution, End-of-Study Sample of Test Article

	Analysis 1	Analysis 2	Average
Alpha Isomer	8.6	7.9	8.3
Beta Isomer	6.2	5.4	5.8
Gamma Isomer	85.2	86.7	86

Analyst Judy Arroyave
Date of Analysis September 11, 2000

CONCLUSIONS AND TEST ARTICLE ANALYTICAL DATA

CHEMICAL NAME: Hexabromocyclododecane
C.A.S. No.: 3194-55-6
MOLECULAR FORMULA: $C_{12}H_{18}Br_6$
PHYSICAL FORM: White Powder
CHEMICAL STRUCTURE:



ANALYSIS	RESULTS			ANALYSIS DATES	ANALYST
FT-IR	The sample FT-IR spectrum matched that of the Aldrich reference spectrum. All spectra are on file with the original data.			03/03/00	W. T. Cobb
HPLC	Area %				
	Pre-Study Average	Day-Zero Average	Difference (%)		
Alpha isomer	8.9	8.8	1.1	03/03/00 & 06/02/00	J. S. Arroyave
Beta isomer	6.6	6.1	7.6		
Gamma isomer	84.5	85.1	0.7		
	Pre-Study Average	End-of-Study Average	Difference (%)	03/03/00 & 09/11/00	J. S. Arroyave
Alpha isomer	8.9	8.3	6.7		
Beta isomer	6.6	5.8	12.1		
Gamma isomer	84.5	86	1.8		

CONCLUSION: Based on these analytical data, the test article was identified as HBCD. The test article was stable during the course of the "90-Day Oral (Gavage) Toxicity Study of HBCD in Rats"

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX B

Analytical Chemistry Report (WIL Research Laboratories, Inc.)

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

APPENDIX

Assay Validation and Analysis of Dosing Formulations

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Assay Validation and Analysis of Dosing Formulations

I. INTRODUCTION

This report provides the detailed description and validation of an assay for the determination of hexabromocyclododecane (HBCD) in corn oil suspensions utilizing high performance liquid chromatography (HPLC) with ultraviolet (UV) detection at 230 nm. HBCD homogeneity, stability and concentrations in corn oil suspensions were also assessed.

II. SUMMARY

Quantitation was performed utilizing calibration standards in the range of 0.300 to 5.00 mg/mL. Precision and accuracy were verified by the analysis of quality control samples (QCs) prepared as fortified corn oil with final concentrations of 20.0 and 200 mg/mL.

To assess stability, dose formulations were analyzed after 10 days of room temperature storage. The mean concentrations of the stored formulations were within 10% of the Time Zero concentrations. Therefore, the formulations were considered to be stable.

The dosing formulations were homogeneous with respect to HBCD. The overall mean concentrations for samples taken from the top, middle and bottom strata ranged from 90.3 to 93.3% of the target dose concentrations. The relative standard deviations (RSDs) were 0.74 and 2.0, indicating uniform dispersal of HBCD in corn oil. Subsequent formulations used for dose administration were analyzed and had concentrations within the acceptance criteria (%RE $\leq$ 15%).

III. EXPERIMENTAL

A. High Performance Liquid Chromatography

Instrument:	Hewlett Packard 1100 liquid chromatograph equipped with a variable wavelength detector, autosampler and ChemStation software, or equivalent system
Column:	Zorbax RX-C18, 250 mm x 4.6 mm
Mobile Phase:	50% (80:20 ACN:H_2O) 50% (ACN)
Flow Rate:	1.0 mL/min
Detector:	UV at 230 nm
Injection Volume:	20 µL
Retention Time:	Approximately 5.8 min for HBCD

B. Preparation of Mobile Phase

A premix of 80%:20% (v/v) acetonitrile (ACN) : HPLC grade water was prepared as follows: 800-mL of ACN was added to 200-mL of water and mixed. This premix solution was mixed 50:50 with ACN by the instrument to make up the mobile phase.

C. Preparation of Calibration Stock and Standard HBCD Solutions

A primary stock solution was prepared by accurately weighing approximately 0.50 g of HBCD (TMS-3934A-2 or TMS-4590A-7) into a tared glass weighing funnel. The material was quantitatively transferred into a 10-mL volumetric flask and diluted to volume with tetrahydrofuran (THF) to a final concentration of about 50-mg HBCD/mL THF. Aliquots of the primary stock solution were diluted with THF to yield secondary stock solutions containing approximately 3.00, 5.00, 15.0, 30.0, and 50.0-mg HBCD/mL. Aliquots of these

secondary stock solutions were added to a screw cap test tube containing 0.2 mL corn oil and were diluted with ACN to yield calibration standard solutions at HBCD concentrations of 0.30, 0.50, 1.50, 3.00, and 5.00 mg/mL. The test tubes were vortexed for 5 minutes, centrifuged for 10 minutes, and a portion of the top layer was filtered through a 0.2-µm filter. All stock and standard solutions were prepared fresh as needed.

D. Preparation of Samples

A portion of the corn oil sample (0.2-mL) and 1.0-mL of THF was added to a screw cap test tube. The test tube was brought to a final volume of 10-mL with ACN. The tube was then vortexed for 5 minutes and centrifuged for 10 minutes. A small portion of the top layer was filtered though a 0.2-µm filter into an autosampler vial. Aliquots (20 µL) of these filtrates were injected for HPLC/UV analysis.

E. Preparation of Quality Control Samples (QCs)

A primary QC stock solution was prepared by accurately weighing approximately 0.20 g of HBCD (TMS-3934A-2 or TMS-4590A-7) into a tared glass weighing funnel. The material was quantitatively transferred into a 5-mL volumetric flask and diluted to volume with tetrahydrofuran (THF) to a final concentration of about 40-mg HBCD/mL THF. An aliquot of the primary QC stock solution was diluted (1:10) with THF to yield a secondary QC stock solution containing 4.0-mg HBCD/mL. Aliquots (1.0 mL) of these stock solutions were added to screw cap test tubes containing 0.2-mL corn oil and were diluted with ACN to a final volume of 10.0 mL yielding processed QC solutions at concentrations of 0.40 and 4.0 mg/mL. The test tubes were vortexed for 5 minutes, centrifuged for 10 minutes, and a portion of the top layer was filtered through a 0.2-µm filter. All stock and standard solutions were prepared fresh as needed.

F. Calibration and Quantitation

Single injections were made of each standard and sample. A calibration curve was constructed for each set of analyses. The HBCD peak areas (y) and the theoretical concentrations of the calibration standards (x) were fit with a least-squares regression analysis to the ln quadratic function:

$$\ln(y) = a*[\ln(x)]2 + b*\ln(x) + c.$$

Concentrations were back-calculated from the results of the regression analysis using a PC spreadsheet program (Microsoft® Excel). The concentration data were transferred to another Excel spreadsheet, where appropriate summary statistics [mean, standard deviation (SD), relative standard deviation (RSD), and percent relative error (%RE)] were calculated and presented in tabular form. The concentrations of the dosing formulations and QCs were calculated by applying any necessary multiplication factors.

The concentration data calculated for calibration standards, QCs, and dosing formulations were transferred to Excel summary tables where the percent relative error (%RE) or percent of target and associated statistics were calculated and presented. If the calculations are repeated with the displayed data, slightly different values may be obtained because the displayed data are rounded.

IV. RESULTS AND DISCUSSION

Under the described chromatographic conditions, the retention time of HBCD was approximately 5.8 minutes. The total analysis time required for each run was approximately 8 minutes. The validity of the assay procedure was established through a careful study of the calibration reproducibility, accuracy and precision, ruggedness, and stability of HBCD in processed samples and dosing formulations.

A. Calibration Reproducibility

During each of three validation sessions, triplicate calibration samples at five concentration levels were prepared and analyzed as described above. Single

injections were made of each processed calibration sample. The resulting peak area-concentration data were fit to the ln-quadratic function using the least-squares regression analysis. The results of the regression analyses were used to back-calculate from the peak area data the corresponding concentrations. The reproducibility of the calibration curve data was considered valid when 1) the inter-session variability (RSD) of the back-calculated concentrations at each concentration level was ≤ 15%; and 2) the mean back-calculated concentrations at each concentration level were within 15% of the theoretical values (%RE ≤ 15%).

The back-calculated concentration values and the associated intra- and inter-session statistics for the HBCD assay calibration samples are summarized in Table I. The inter-session variability (RSD) of the back-calculated concentrations at each level ranged from 0.1% to 2.8%. The inter-session concentration means had %RE values ranging from –4.5% to 1.2%.

Based on these criteria and the resulting validation data, the reproducibility of the calibration data was acceptable.

B. Precision and Accuracy

During each of three validation sessions, triplicate QC samples at two concentration levels were prepared and analyzed as described above. Single injections were made of each processed QC sample. The results of the regression analyses were used to back-calculate from these QC peak area data the corresponding concentrations. The variability (RSD) of these back-calculated QC concentration data was used as a measure of assay precision. The precision of the method was considered acceptable when the inter-session RSD of the back-calculated concentrations at each QC concentration level is ≤ 15%. The difference from theoretical of the back-calculated QC concentration means (%RE) was used as a measure of assay accuracy. The accuracy of the method was considered acceptable when the inter-session concentration means

of the back-calculated concentrations at each QC concentration level had %RE values ≤ 15%.

The back-calculated concentration values and the associated intra- and inter-session statistics for the HBCD assay QC samples are summarized in Table II. The inter-session variability (RSD) of the back-calculated concentrations at each level (precision) ranged from 2.3% to 5.9%. The inter-session concentration means had %RE values (accuracy) ranging from –3.2% to 4.5%.

Based on the criteria mentioned above, the precision and accuracy of the HBCD assay were acceptable. The integrated peak area data from both the calibration and QC sample analyses are summarized in Tables III and IV, respectively.

C. Assay Ruggedness

There are several assay concerns in which an analyst may consider as included in the category of assay ruggedness. In this assay validation, ruggedness is referred to as the ability of another analyst to successfully perform the procedure as described. Assay ruggedness is demonstrated when two or more different analysts successfully conduct at least one session of the required three validation sessions. Assay ruggedness was successfully demonstrated for this procedure.

D. Stability of HBCD in Processed Samples

To help demonstrate stability in processed samples, the Microsoft Excel Student's t-test was used. These results are presented in Table III where the mean area at each concentration level of the front set of standards was compared to those of the back set of standards. The acceptance criteria for the mean areas to be significantly different, at 5 degrees of freedom with 95% confidence, is that the calculated t-value must be greater than the table t-value. The greatest

calculated t-value is 0.99373 and the table t-value is 2.571. The t-test showed that standards, when analyzed at the beginning of the analysis, produced the same results as when analyzed at the end of the analysis, several hours later. Therefore no significant difference signifies stability of processed samples.

E. Homogeneity and Stability of Dosing Formulations

A representative set of formulations was prepared on 4-14-00 for the evaluation of homogeneity, resuspension homogeneity and stability. Samples from the top, middle and bottom of the formulation batches were collected on 4-14-00 to assess homogeneity. Samples from top and bottom were also collected on 4-14-00, 4-19-00, and 4-24-00 to assess 1, 5, and 10 day resuspension homogeneity of the test material in corn oil. The results of the homogeneity and resuspension homogeneity analyses are presented in Tables V through X with the mean concentrations summarized as follows:

Homogeneity	Low (20 mg/mL)	High (200 mg/mL)
Top	18.8	180
Middle	18.9	182
Bottom	18.2	180
Group Mean(mg/mL)	18.7	181
SD	3.6E-01	1.3E+00
RSD(%)	2.0	0.74
Mean % of Target	93.3	90.3

Day 1 Resuspension	Low (20 mg/mL)	High (200 mg/mL)
Top	18.9	191
Bottom	18.7	192
Group Mean(mg/mL)	18.8	191
SD	1.4E-01	8.8E-01
RSD(%)	0.74	0.46
Mean % of Target	94.1	95.6

Day 5 Resuspension	Low (20 mg/mL)	High (200 mg/mL)
Top	21.4	205
Bottom	21.0	207
Group Mean(mg/mL)	21.2	206
SD	2.7E-01	9.1E-01
RSD(%)	1.3	0.44
Mean % of Target	106	103

Day 10 Resuspension	Low (20 mg/mL)	High (200 mg/mL)
Top	19.7	197
Bottom	19.6	196
Group Mean(mg/mL)	19.7	196
SD	1.2E-01	3.1E-01
RSD(%)	0.62	0.16
Mean % of Target	98.3	98.1

Each group met the WIL SOP No. AC-086 (as revised) requirement for homogeneity, i.e., the RSD for the overall mean concentration was 10% or less at a concentration that is within the acceptable limits (%RE ≤ 15%).

A duplicate set of formulations was stored at room temperature for 10 days and then processed and analyzed to assess stability. After 10 days, the mean concentrations ranged from 100 to 101% of the time zero concentrations, and, therefore, the formulations were considered stable for 10 days (Table IX).

F. Concentration Analysis of Dosing Formulations

The results of the periodic concentration analyses of the dosing formulations are presented in Tables X through XV.

The analyzed formulations used for dose administration ranged from 91.8% - 106% of target and, therefore, met the WIL SOP No. AC-086 requirement for concentration acceptability, i.e., the analyzed concentrations were within 15% of the target dose concentrations.

V. CONCLUSION

A precise and accurate method for the quantitation of HBCD in dosing formulations was validated. The test article was blended in corn oil to produce homogeneous suspension formulations. There was insignificant loss of HBCD after 10 days of room temperature storage. The analyzed dosing formulations had concentrations within the required 15% of the target dose concentrations.

Prepared by: _____ 12-14-01
Eric A. Lingenfelter, B.A. — Date
Chemist I

Reviewed by: _____ 12/14/01
Philip L. Stetson, M.D., Ph.D. — Date
Associate Director, Analytical Chemistry

Assay Validation and Analysis of Dosing Formulations

Tables I-XV

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table I: Back-Calculated Concentrations from Calibration Standards Data

STD Conc (mg/mL)	0.300	0.500	1.50	3.00	5.00
Set 1 (4/12/00)					
Samp 1	0.270	0.475	1.42	2.90	4.73
Samp 2	0.284	0.506	1.55	3.12	5.11
Samp 3	0.282	0.504	1.56	3.10	5.08
Mean	0.279	0.495	1.51	3.04	4.97
SD	0.0076	0.017	0.079	0.12	0.21
RSD	2.7	3.5	5.2	4.0	4.3
%RE	-7.1	-0.95	0.72	1.4	-0.51
Set 2 (4/13/00)					
Samp 1	0.293	0.500	1.48	3.04	4.98
Samp 2	0.295	0.503	1.48	3.04	4.98
Samp 3	0.296	0.498	1.48	3.06	4.98
Mean	0.295	0.500	1.48	3.05	4.98
SD	0.0018	0.0024	0.0025	0.0094	0.0036
RSD	0.61	0.48	0.17	0.31	0.073
%RE	-1.8	0.032	-1.3	1.5	-0.40
Set 3 (4/13/00)					
Samp 1	0.279	0.505	1.52	3.00	5.00
Samp 2	0.289	0.495	1.52	3.01	5.02
Samp 3	0.283	0.490	1.51	3.06	4.93
Mean	0.284	0.497	1.51	3.02	4.98
SD	0.0053	0.0077	0.0056	0.031	0.046
RSD	1.9	1.6	0.37	1.0	0.92
%RE	-5.4	-0.67	0.87	0.76	-0.31
Interset Statistics					
Mean	0.286	0.497	1.50	3.04	4.98
SD	0.0081	0.0025	0.018	0.012	0.0051
RSD	2.8	0.51	1.2	0.40	0.10
%RE	-4.8	-0.53	0.11	1.2	-0.41

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table II: Back-Calculated Concentrations from QC Sample Data

QC Conc (mg/mL)	20.0	200
Set 1 (4/12/00)		
Samp 1	18.8	189
Samp 2	20.3	199
Samp 3	20.9	198
Mean	20.0	196
SD	1.1	5.4
RSD	5.4	2.8
%RE	0.0088	-2.2
Set 2 (4/13/00)		
Samp 1	22.9	197
Samp 2	23.0	197
Samp 3	20.9	196
Mean	22.3	197
SD	1.2	0.78
RSD	5.4	0.39
%RE	11	-1.7
Set 3 (4/13/00)		
Samp 1	19.9	179
Samp 2	19.9	192
Samp 3	20.0	194
Mean	19.9	188
SD	0.082	8.2
RSD	0.41	4.3
%RE	-0.42	-5.8

Interset Statistics		
Mean	20.7	194
SD	1.3	4.5
RSD	6.5	2.3
%RE	3.7	-3.2

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table III: Area Response from Calibration Sample Data

Set 1 (4/12/00) Front STD's					
Samp 1	205.96040	364.06851	1095.84497	2257.64990	3661.57764
Samp 2	218.43115	390.70636	1189.36267	2435.12085	3961.28955
Samp 3	217.26059	390.08475	1206.24084	2424.60718	3927.81494
Set 1 (4/12/00) Back STD's					
Samp 1	211.29691	370.79718	1101.73706	2234.23120	3654.60620
Samp 2	220.50011	392.13290	1206.01782	2399.62061	3951.50830
Samp 3	218.67378	389.41345	1214.11499	2370.75928	3941.16064
Student's t-Test (t=)	0.57872	0.83239	0.84883	0.65037	0.99373
Set 2 (4/13/00) Front STD's					
Samp 1	219.07106	376.14734	1126.46448	2312.49072	3799.25171
Samp 2	220.36392	379.91119	1127.12988	2323.94287	3817.51514
Samp 3	221.26804	378.43332	1128.06873	2333.72314	3808.71680
Set 2 (4/13/00) Back STD's					
Samp 1	236.93854	392.31970	1119.37085	2286.34692	3732.52661
Samp 2	239.67816	393.10791	1119.88440	2277.10962	3703.53979
Samp 3	239.94511	387.38232	1124.93030	2290.80347	3715.77026
Student's t-Test (t=)	0.00009	0.00369	0.03363	0.00625	0.00078
Set 3 (4/13/00) Front STD's					
Samp 1	223.73825	375.32843	1125.85693	2278.01147	3805.69702
Samp 2	223.66386	381.05090	1129.92517	2289.79077	3803.96973
Samp 3	223.74609	378.08337	1146.79102	2312.35913	3737.63159
Set 3 (4/13/00) Back STD's					
Samp 1	258.17804	446.08752	1211.67773	2285.39282	3758.34937
Samp 2	274.12762	424.92288	1210.74829	2295.92847	3798.67993
Samp 3	264.25311	420.66928	1177.92273	2339.23291	3730.91284
Student's t-Test (t=)	0.00085	0.00285	0.00677	0.52407	0.54333

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table IV: Area Response from QC Sample Data

Set 1 (4/12/00)		
Samp 1	290.58609	2931.25098
Samp 2	313.97531	3082.79883
Samp 3	322.88379	3067.95801
Set 2 (4/13/00)		
Samp 1	353.26202	2973.51099
Samp 2	354.57147	2984.70117
Samp 3	322.27600	2961.28027
Set 3 (4/13/00)		
Samp 1	329.61633	2719.70459
Samp 2	330.04526	2914.80908
Samp 3	331.92099	2945.42285

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table V: Homogeneity Analysis of the 4/14/2000 Preparations

(Analyzed 4/17/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
Low Top	**20**	101 - 1	609	19.5	97.3	**18.8**	9.8E-01	5.2	**93.9**
		101 - 2	610	18.1	90.4				
Low Mid	**20**	101 - 3	611	18.9	94.4	**18.9**	7.3E-02	0.39	**94.7**
		101 - 4	612	19.0	94.9				
Low Btm	**20**	101 - 5	613	18.2	90.8	**18.2**	1.0E-01	0.55	**91.2**
		101 - 6	614	18.3	91.6				
High Top	**200**	101 - 7	615	180	89.8	**180**	8.6E-01	0.48	**90.1**
		101 - 8	616	181	90.4				
High Mid	**200**	101 - 9	617	182	90.9	**182**	4.2E-01	0.23	**91.1**
		101 - 10	618	182	91.2				
High Btm	**200**	101 - 11	619	179	89.3	**180**	1.4E+00	0.80	**89.8**
		101 - 12	620	181	90.3				

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A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table VI: Homogeneity Analysis of the 4/14/2000 Preparations **(DAY 1 Resuspended)**

(Analyzed 4/17/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
Low Top	**20**	103 - 1	621	18.8	93.9	**18.9**	1.9E-01	1.0	**94.5**
		103 - 2	622	19.0	95.2				
Low Btm	**20**	103 - 3	623	18.6	93.1	**18.7**	1.4E-01	0.77	**93.6**
		103 - 4	624	18.8	94.1				
High Top	**200**	103 - 5	625	191	95.4	**191**	2.6E-01	0.14	**95.3**
		103 - 6	626	190	95.2				
High Btm	**200**	103 - 7	626	193	96.4	**192**	1.3E+00	0.67	**95.9**
		103 - 8	627	191	95.5				

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A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table VII: Homogeneity Analysis of the 4/14/2000 Preparations (DAY 5 Resuspended)

(Analyzed 4/19/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
Low Top	**20**	114 - 1	650	21.6	108	**21.4**	3.1E-01	1.5	**107**
		114 - 2	651	21.2	106				
Low Btm	**20**	114 - 3	652	21.0	105	**21.0**	6.6E-02	0.31	**105**
		114 - 4	653	21.0	105				
High Top	**200**	114 - 5	654	205	103	**205**	2.7E-01	0.13	**103**
		114 - 6	655	206	103				
High Btm	**200**	114 - 7	655	208	104	**207**	1.3E+00	0.65	**103**
		114 - 8	656	206	103				

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A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table VIII: Homogeneity Analysis of the 4/14/2000 Preparations (DAY 10 Resuspended)

(Analyzed 4/24/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
Low Top	**20**	135 - 1	675	19.8	98.8	**19.7**	1.6E-02	0.083	**98.7**
		135 - 2	676	19.7	98.6				
Low Btm	**20**	135 - 3	677	19.6	98.2	**19.6**	9.8E-02	0.50	**97.8**
		135 - 4	678	19.5	97.5				
High Top	**200**	135 - 5	679	196	98.0	**197**	6.1E-01	0.31	**98.3**
		135 - 6	680	197	98.5				
High Btm	**200**	135 - 7	680	196	98.1	**196**	1.5E-01	0.075	**98.0**
		135 - 8	681	196	98.0				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table IX: 10-Day Stability Analysis of the 4/14/2000 Preparations

(Analyzed 4/24/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	% of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)	Percent of Time Zero (%)
DAY 0										
Low	**20**	137 - 1	683	20.2	101	**20.1**	5.5E-02	0.27	**101**	
		137 - 2	684	20.1	100					
High	**200**	137 - 3	685	192	95.8	**193**	1.3E+00	0.69	**96.3**	
		137 - 4	686	194	96.8					
DAY 10										
Low	**20**	137 - 5	687	20.2	101	**20.1**	1.4E-01	0.72	**101**	**100**
		137 - 6	688	20.0	100					
High	**200**	137 - 7	689	195	97.5	**194**	6.5E-01	0.33	**97.2**	**101**
		137 - 8	690	194	97.0					

$$\text{Percent of Time Zero} = \left(\frac{\text{Mean Concentration}}{\text{Time Zero Mean Conc}} \right) * 100$$

Time Zero Conc		(mg/mL)
group	Low	20.1
	High	193

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A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table X: Concentration Analysis of the 4/25/2000 Preparations

(Analyzed 4/25/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
1 and 5	**0**	148 - 1	711	----------	Not Detected	----------			
2	**20**	148 - 2	712	20.8	104	**21.0**	1.8E-01	0.87	**105**
		148 - 3	713	21.1	105				
3	**60**	148 - 4	714	63.3	105	**63.6**	4.8E-01	0.76	**106**
		148 - 5	715	64.0	107				
4 and 6	**200**	148 - 6	716	207	104	**207**	2.6E-01	0.13	**103**
		148 - 7	717	207	103				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table XI: Concentration Analysis of the 5/2/2000 Preparations

(Analyzed 5/3/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
1 and 5	**0**	156 - 1	772	----------	Not Detected	----------			
2	**20**	156 - 2	773	19.7	98.3	**20.3**	8.5E-01	4.2	**101**
		156 - 3	774	20.9	104				
3	**60**	156 - 4	775	65.6	109	**61.9**	5.2E+00	8.3	**103**
		156 - 5	776	58.3	97.1				
4 and 6	**200**	156 - 6	777	178	88.8	**190**	1.7E+01	9.1	**94.9**
		156 - 7	778	202	101				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table XII: Concentration Analysis of the 5/9/2000 Preparations

(Analyzed 5/10/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
1 and 5	**0**	171 - 1	839	----------	Not Detected	----------			
2	**20**	171 - 2	840	18.5	92.7	**18.9**	4.6E-01	2.4	**94.3**
		171 - 3	841	19.2	95.9				
3	**60**	171 - 4	842	57.6	95.9	**57.4**	1.7E-01	0.29	**95.7**
		171 - 5	843	57.3	95.5				
4 and 6	**200**	171 - 6	844	191	95.5	**190**	8.5E-01	0.45	**95.2**
		171 - 7	845	190	94.9				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table XIII: Concentration Analysis of the 5/16/2000 Preparations

(Analyzed 5/16/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
1 and 5	**0**	186 - 1	872 r	----------	Not Detected	----------			
2	**20**	186 - 2	873 r	20.7	104	**20.7**	1.4E-05	0.000068	**104**
		186 - 3	874 r	20.7	104				
3	**60**	186 - 4	875 r	61.2	102	**61.8**	9.5E-01	1.5	**103**
		186 - 5	876 r	62.5	104				
4 and 6	**200**	186 - 6	877 r	205	102	**206**	1.1E+00	0.55	**103**
		186 - 7	878 r	207	103				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table XIV: Concentration Analysis of the 6/13/2000 Preparations

(Analyzed 6/15/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
1 and 5	**0**	204 - 1	928	----------	Not Detected	----------			
2	**20**	204 - 2	929	20.2	101	**20.2**	9.1E-02	0.45	**101**
		204 - 3	930	20.1	101				
3	**60**	204 - 4	931	57.6	96.0	**57.6**	1.0E-02	0.018	**96.0**
		204 - 5	932	57.6	96.0				
4 and 6	**200**	204 - 6	933	189	94.7	**186**	4.3E+00	2.3	**93.2**
		204 - 7	934	183	91.7				

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A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Table XV: Concentration Analysis of the 7/18/2000 Preparations

(Analyzed 7/18/2000 and 7/20/2000)

Group	Dose Conc (mg/mL)	Ref # (186012 -)	Run # (186012 -)	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
1 and 5	**0**	215 - 1	956	----------	Not Detected	----------			
2	**20**	215 - 2	957	19.3	96.4	**20.1**	1.2E+00	5.9	**101**
		215 - 3	958	20.9	105				
3	**60**	215 - 4	959	48.6	81.1	**55.1**	5.6E+00	10	**91.8**
		215 - 5	960	47.6	79.3				
		221 - 1	984	59.8	99.6				
		221 - 2	985	60.3	100				
	Samples Re-analyzed	221 - 3	986	57.7	96.1				
	on 7/20/00	221 - 4	987	56.4	94.0				
4 and 6	**200**	215 - 6	961	196	98.2	**195**	2.6E+00	1.3	**97.3**
		215 - 7	962	193	96.4				

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Assay Validation and Analysis of Dosing Formulations

Assay Validation Supporting Data

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Standard Information of 4-12-00 Preps (Analyzed 4-12-00)
Validation Set I

Std Info	Reference Number (186012 -)	Run #	HBCD Conc (mg/mL)	HBCD Area	Response Factor (Area/Conc)
			Front Calibration Standards		
				(6.3 min)	
Lv1/Rep1	65-1	482	0.300	205.96040	6.87E+02
Lv1/Rep2	65-2	483	0.300	218.43115	7.28E+02
Lv1/Rep3	65-3	484	0.300	217.26059	7.24E+02
Lv2/Rep1	65-4	485	0.50	364.06851	7.28E+02
Lv2/Rep2	65-5	486	0.50	390.70636	7.81E+02
Lv2/Rep3	65-6	487	0.50	390.08475	7.80E+02
Lv3/Rep1	65-7	488	1.50	1095.84497	7.31E+02
Lv3/Rep2	65-8	489	1.50	1189.36267	7.93E+02
Lv3/Rep3	65-9	490	1.50	1206.24084	8.04E+02
Lv4/Rep1	65-10	491	3.00	2257.64990	7.53E+02
Lv4/Rep2	65-11	492	3.00	2435.12085	8.12E+02
Lv4/Rep3	65-12	493	3.00	2424.60718	8.08E+02
Lv5/Rep1	65-13	494	5.00	3661.57764	7.32E+02
Lv5/Rep2	65-14	495	5.00	3961.28955	7.92E+02
Lv5/Rep3	65-15	496	5.00	3927.81494	7.85E+02
			Back Calibration Standards		
				(6.3 min)	
Lv1/Rep1	65-1	503R	0.300	211.29691	7.04E+02
Lv1/Rep2	65-2	504R	0.300	220.50011	7.35E+02
Lv1/Rep3	65-3	505R	0.300	218.67378	7.29E+02
Lv2/Rep1	65-4	506R	0.50	370.79718	7.42E+02
Lv2/Rep2	65-5	507R	0.50	392.13290	7.84E+02
Lv2/Rep3	65-6	508R	0.50	389.41345	7.79E+02
Lv3/Rep1	65-7	509R	1.50	1101.73706	7.34E+02
Lv3/Rep2	65-8	510	1.50	1206.01782	8.04E+02
Lv3/Rep3	65-9	511	1.50	1214.11499	8.09E+02
Lv4/Rep1	65-10	512	3.00	2234.23120	7.45E+02
Lv4/Rep2	65-11	513	3.00	2399.62061	8.00E+02
Lv4/Rep3	65-12	514	3.00	2370.75928	7.90E+02
Lv5/Rep1	65-13	515	5.00	3654.60620	7.31E+02
Lv5/Rep2	65-14	516	5.00	3951.50830	7.90E+02
Lv5/Rep3	65-15	517	5.00	3941.16064	7.88E+02

Average Response Factor	7.63E+02
RSD, %	5.1

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A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Regression Calibration Information of 4-12-00 Preps (Analyzed 4-12-00)
Validation Set I

Reference Number (186012 -)	HBCD Conc (mg/mL)	Mean HBCD Area
65-1	0.300	208.62866
65-2	0.300	219.46563
65-3	0.300	217.96719
65-4	0.50	367.43285
65-5	0.50	391.41963
65-6	0.50	389.74910
65-7	1.50	1098.79102
65-8	1.50	1197.69025
65-9	1.50	1210.17792
65-10	3.00	2245.94055
65-11	3.00	2417.37073
65-12	3.00	2397.68323
65-13	5.00	3658.09192
65-14	5.00	3956.39893
65-15	5.00	3934.48779

Summary of Regression Statistics	
Slope =	773.9575959
Intercept =	-0.42108148
r =	0.9984441
# of Stds Used =	15

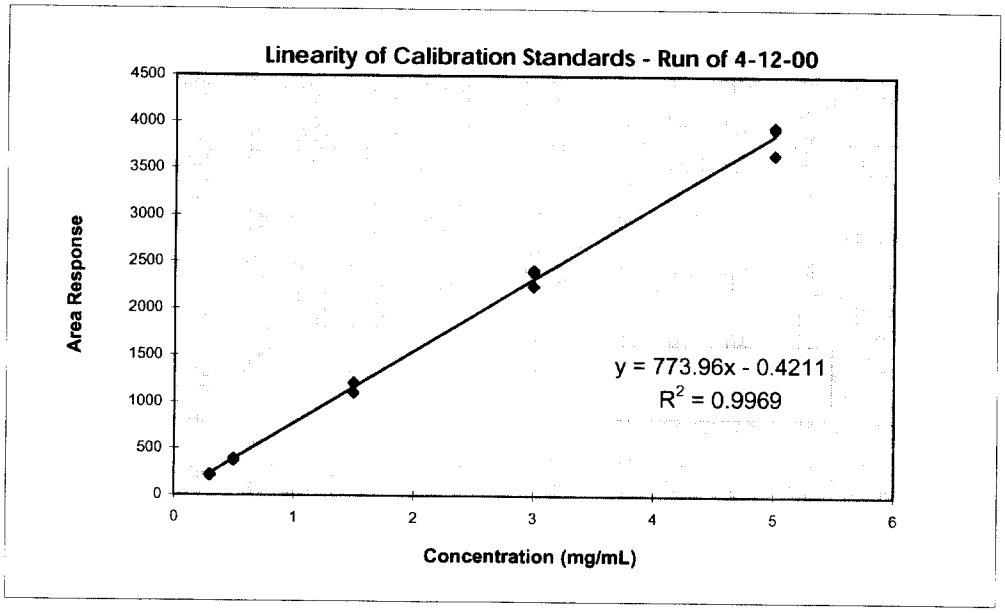
A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Concentration Analysis of the 4-12-00 Calibration Standards (Analyzed 4-12-00)
Validation Set I

Sample	Theo. Conc (mg/mL)	Reference # (186012 -)	Back-Calculated Concentration (mg/mL)	Percent Relative Error (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean % Rel. Error (%)
Std #1	**0.300**	65-1	0.270	-10	**0.279**	0.0076	2.7	**-7.1**
		65-2	0.284	-5.3				
		65-3	0.282	-5.9				
Std #2	**0.500**	65-4	0.475	-4.9	**0.495**	0.017	3.5	**-1.0**
		65-5	0.506	1.3				
		65-6	0.504	0.82				
Std #3	**1.50**	65-7	1.42	-5.3	**1.51**	0.079	5.2	**0.72**
		65-8	1.55	3.2				
		65-9	1.56	4.3				
Std #4	**3.00**	65-10	2.90	-3.3	**3.04**	0.12	4.0	**1.4**
		65-11	3.12	4.1				
		65-12	3.10	3.3				
Std #5	**5.00**	65-13	4.73	-5.5	**4.97**	0.21	4.3	**-0.53**
		65-14	5.11	2.2				
		65-15	5.08	1.7				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Regression Calibration Information of 4-12-00 Preps (Analyzed 4-12-00)
Validation Set I



$$* \% \text{ Relative Error} = \left(\frac{\text{Analyzed Conc - Theo Conc}}{\text{Theoretical Conc}} \right) * 100$$

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Concentration Calculation Results - QC Samples 4-12-00 (Analyzed 4-12-00)
Validation Set I

Reference Number (186012 -)	Run #	HBCD Area (6.3 min)	Analyzed HBCD Conc (mg/ml)	Multi Factor	Sample Description
67-1	497R	290.58609	18.8	50	LQC
67-2	498R	313.97531	20.3	50	"
67-3	499	322.88379	20.9	50	"
67-4	500	2931.25098	189	50	HQC
67-5	501	3082.79883	199	50	"
67-6	502	3067.95801	198	50	"

This data used to calculate multiplication factors.

GROUP	Dose Conc (mg/mL)	Dilution Conc (mg/ml)	Recovery (%)
LQC	20.0	0.400	100
HQC	200	4.00	100

$$\text{Multi - Factor} = \frac{\text{Dose Concentration}}{\text{Dilution Concentration} * \text{Recovery (or Purity)}}$$

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Concentration Calculation Results - QC Samples 4-12-00 (Analyzed 4-12-00)
Validation Set I

Sample	Theo. Conc (mg/ml)	Reference Number (186012 -)	Run #	Analyzed Concentration (mg/ml)	Percent Relative Error (%)	Mean Conc (mg/ml)	SD	RSD (%)	Mean % Rel. Error (%)
LQC	**20.0**	67-1	497R	18.8	-6.0	**20.0**	1.1	5.4	**-0.011**
		67-2	498R	20.3	1.5				
		67-3	499	20.9	4.4				
HQC	**200**	67-4	500	189	-5.3	**196**	5.4	2.8	**-2.2**
		67-5	501	199	-0.41				
		67-6	502	198	-0.89				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Standard Information of 4-13-00 Preps (Analyzed 4-13-00)
Validation Set II

Std Info	Reference Number (186012 -)	Run #	HBCD Conc (mg/mL)	HBCD Area	Response Factor (Area/Conc)
			Front Calibration Standards		
				(6.3 min)	
Lv1/Rep1	75-1	518	0.300	**219.07106**	7.30E+02
Lv1/Rep2	75-2	519	0.300	**220.36392**	7.35E+02
Lv1/Rep3	75-3	520	0.300	**221.26804**	7.38E+02
Lv2/Rep1	75-4	521	0.50	**376.14734**	7.52E+02
Lv2/Rep2	75-5	522	0.50	**379.91119**	7.60E+02
Lv2/Rep3	75-6	523	0.50	**378.43332**	7.57E+02
Lv3/Rep1	75-7	524	1.50	**1126.46448**	7.51E+02
Lv3/Rep2	75-8	525	1.50	**1127.12988**	7.51E+02
Lv3/Rep3	75-9	526	1.50	**1128.06873**	7.52E+02
Lv4/Rep1	75-10	527	3.00	**2312.49072**	7.71E+02
Lv4/Rep2	75-11	528	3.00	**2323.94287**	7.75E+02
Lv4/Rep3	75-12	529	3.00	**2333.72314**	7.78E+02
Lv5/Rep1	75-13	530	5.00	**3799.25171**	7.60E+02
Lv5/Rep2	75-14	531	5.00	**3817.51514**	7.63E+02
Lv5/Rep3	75-15	532	5.00	**3808.71680**	7.62E+02
			Back Calibration Standards		
				(6.3 min)	
Lv1/Rep1	75-1	542	0.300	**236.93854**	7.90E+02
Lv1/Rep2	75-2	543	0.300	**239.67816**	7.99E+02
Lv1/Rep3	75-3	544	0.300	**239.94511**	8.00E+02
Lv2/Rep1	75-4	545	0.50	**392.31970**	7.85E+02
Lv2/Rep2	75-5	546	0.50	**393.10791**	7.86E+02
Lv2/Rep3	75-6	547	0.50	**387.38232**	7.75E+02
Lv3/Rep1	75-7	548	1.50	**1119.37085**	7.46E+02
Lv3/Rep2	75-8	549	1.50	**1119.88440**	7.47E+02
Lv3/Rep3	75-9	550	1.50	**1124.93030**	7.50E+02
Lv4/Rep1	75-10	551	3.00	**2286.34692**	7.62E+02
Lv4/Rep2	75-11	552	3.00	**2277.10962**	7.59E+02
Lv4/Rep3	75-12	553	3.00	**2290.80347**	7.64E+02
Lv5/Rep1	75-13	554	5.00	**3732.52661**	7.46E+02
Lv5/Rep2	75-14	555	5.00	**3703.53979**	7.41E+02
Lv5/Rep3	75-15	556	5.00	**3715.77026**	7.43E+02

Average Response Factor	7.56E+02
RSD, %	1.8

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Regression Calibration Information of 4-13-00 Preps (Analyzed 4-13-00)
Validation Set II

Reference Number (186012 -)	HBCD Conc (mg/mL)	Mean HBCD Area
75-1	0.300	228.00480
75-2	0.300	230.02104
75-3	0.300	230.60658
75-4	0.50	384.23352
75-5	0.50	386.50955
75-6	0.50	382.90782
75-7	1.50	1122.91767
75-8	1.50	1123.50714
75-9	1.50	1126.49952
75-10	3.00	2299.41882
75-11	3.00	2300.52625
75-12	3.00	2312.26331
75-13	5.00	3765.88916
75-14	5.00	3760.52747
75-15	5.00	3762.24353

Summary of Regression Statistics	
Slope =	754.1614817
Intercept =	7.348258654
r =	0.999903173
# of Stds Used =	15

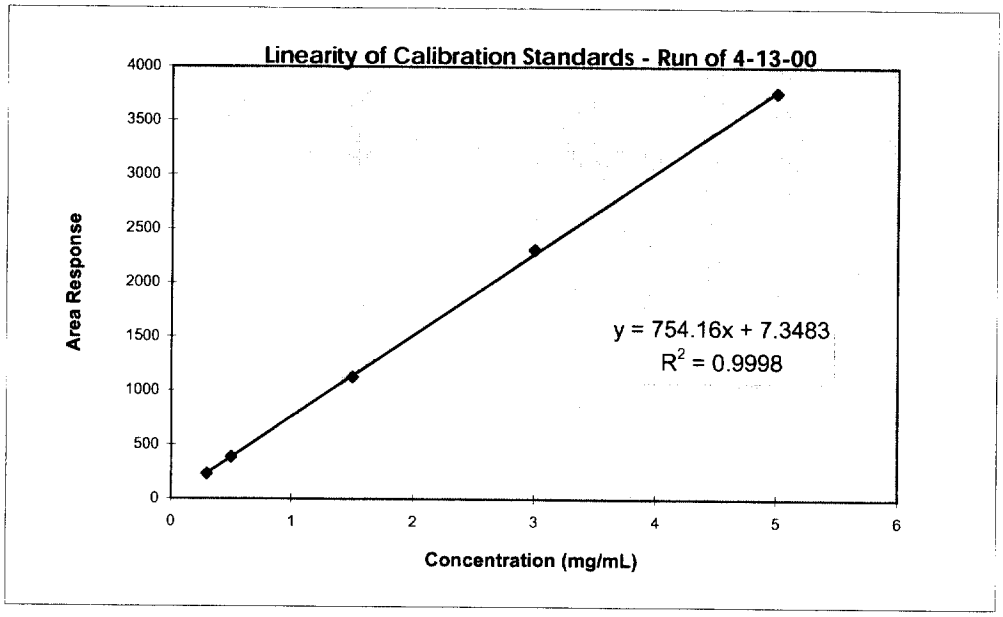
A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Concentration Analysis of the 4-13-00 Calibration Standards (Analyzed 4-13-00)
Validation Set II

Sample	Theo. Conc (mg/mL)	Reference # (186012 -)	Back-Calculated Concentration (mg/mL)	Percent Relative Error (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean % Rel. Error (%)
Std #1	**0.300**	75-1	0.293	-2.5	**0.295**	0.0018	0.61	**-1.8**
		75-2	0.295	-1.6				
		75-3	0.296	-1.3				
Std #2	**0.500**	75-4	0.500	-0.052	**0.500**	0.0024	0.48	**0.032**
		75-5	0.503	0.55				
		75-6	0.498	-0.40				
Std #3	**1.50**	75-7	1.48	-1.4	**1.48**	0.0025	0.17	**-1.3**
		75-8	1.48	-1.3				
		75-9	1.48	-1.1				
Std #4	**3.00**	75-10	3.04	1.3	**3.05**	0.0094	0.31	**1.5**
		75-11	3.04	1.4				
		75-12	3.06	1.9				
Std #5	**5.00**	75-13	4.98	-0.35	**4.98**	0.0036	0.073	**-0.42**
		75-14	4.98	-0.49				
		75-15	4.98	-0.44				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Regression Calibration Information of 4-13-00 Preps (Analyzed 4-13-00)
Validation Set II



$$* \% \text{ Relative Error} = \left(\frac{\text{Analyzed Conc - Theo Conc}}{\text{Theoretical Conc}} \right) * 100$$

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Concentration Calculation Results - QC Samples 4-13-00 (Analyzed 4-13-00)
Validation Set II

Reference Number (186012 -)	Run #	HBCD Area (6.3 min)	Analyzed HBCD Conc (mg/ml)	Multi Factor	Sample Description
77-1	533	353.26202	22.9	50	LQC
77-2	534	354.57147	23.0	50	"
77-3	535	322.27600	20.9	50	"
77-4	536	2973.51099	197	50	HQC
77-5	537	2984.70117	197	50	"
77-6	538	2961.28027	196	50	"
83-1	539	2913.35742	193	50	HQC
83-2	540	2855.53564	189	50	"
83-3	541	2892.27026	191	50	"

This data used to calculate multiplication factors.

GROUP	Dose Conc (mg/mL)	Dilution Conc (mg/ml)	Recovery (%)
LQC	20.0	0.400	100
HQC	200	4.00	100

$$\text{Multi - Factor} = \frac{\text{Dose Concentration}}{\text{Dilution Concentration * Recovery (or Purity)}}$$

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Concentration Calculation Results - QC Samples 4-13-00 (Analyzed 4-13-00)
Validation Set II

Sample	Theo. Conc (mg/ml)	Reference Number (186012 -)	Run #	Analyzed Concentration (mg/ml)	Percent Relative Error (%)	Mean Conc (mg/ml)	SD	RSD (%)	Mean % Rel. Error (%)
LQC	**20.0**	77-1	533	22.9	15	**22.3**	1.2	5.4	**11**
		77-2	534	23.0	15				
		77-3	535	20.9	4.4				
HQC	**200**	77-4	536	197	-1.7	**197**	0.78	0.39	**-1.7**
		77-5	537	197	-1.3				
		77-6	538	196	-2.1				
QC prepared by pharmacy									
HQC	**200**	83-1	539	193	-3.7	**191**	1.94	1.02	**-4.5**
		83-2	540	189	-5.6				
		83-3	541	191	-4.4				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Standard Information of 4-13-00 Preps (Analyzed 4-13-00)
Validation Set III

Std Info	Reference Number (186012 -)	Run #	HBCD Conc (mg/mL)	HBCD Area	Response Factor (Area/Conc)
			Front Calibration Standards		
				(6.3 min)	
Lv1/Rep1	79-1	557	0.300	223.73825	7.46E+02
Lv1/Rep2	79-2	558	0.300	223.66386	7.46E+02
Lv1/Rep3	79-3	559	0.300	223.74609	7.46E+02
Lv2/Rep1	79-4	560	0.50	375.32843	7.51E+02
Lv2/Rep2	79-5	561	0.50	381.05090	7.62E+02
Lv2/Rep3	79-6	562	0.50	378.08337	7.56E+02
Lv3/Rep1	79-7	563	1.50	1125.85693	7.51E+02
Lv3/Rep2	79-8	564	1.50	1129.92517	7.53E+02
Lv3/Rep3	79-9	565	1.50	1146.79102	7.65E+02
Lv4/Rep1	79-10	566	3.00	2278.01147	7.59E+02
Lv4/Rep2	79-11	567	3.00	2289.79077	7.63E+02
Lv4/Rep3	79-12	568	3.00	2312.35913	7.71E+02
Lv5/Rep1	79-13	569	5.00	3805.69702	7.61E+02
Lv5/Rep2	79-14	570	5.00	3803.96973	7.61E+02
Lv5/Rep3	79-15	571	5.00	3737.63159	7.47E+02
			Back Calibration Standards		
				(6.3 min)	
Lv1/Rep1	79-1	578	0.300	258.17804	8.61E+02
Lv1/Rep2	79-2	579	0.300	274.12762	9.14E+02
Lv1/Rep3	79-3	580	0.300	264.25311	8.81E+02
Lv2/Rep1	79-4	581	0.50	446.08752	8.92E+02
Lv2/Rep2	79-5	582	0.50	424.92288	8.50E+02
Lv2/Rep3	79-6	583	0.50	420.66928	8.41E+02
Lv3/Rep1	79-7	584	1.50	1211.67773	8.08E+02
Lv3/Rep2	79-8	585	1.50	1210.74829	8.07E+02
Lv3/Rep3	79-9	586	1.50	1177.92273	7.85E+02
Lv4/Rep1	79-10	587	3.00	2285.39282	7.62E+02
Lv4/Rep2	79-11	588	3.00	2295.92847	7.65E+02
Lv4/Rep3	79-12	589	3.00	2339.23291	7.80E+02
Lv5/Rep1	79-13	590	5.00	3758.34937	7.52E+02
Lv5/Rep2	79-14	591	5.00	3798.67993	7.60E+02
Lv5/Rep3	79-15	592	5.00	3730.91284	7.46E+02

Average Response Factor	7.56E+02
RSD, %	1.1

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Regression Calibration Information of 4-13-00 Preps (Analyzed 4-13-00)
Validation Set III

Reference Number (186012 -)	HBCD Conc (mg/mL)	Mean HBCD Area
79-1	0.300	240.95815
79-2	0.300	248.89574
79-3	0.300	243.99960
79-4	0.50	410.70798
79-5	0.50	402.98689
79-6	0.50	399.37633
79-7	1.50	1168.76733
79-8	1.50	1170.33673
79-9	1.50	1162.35688
79-10	3.00	2281.70215
79-11	3.00	2292.85962
79-12	3.00	2325.79602
79-13	5.00	3782.02320
79-14	5.00	3801.32483
79-15	5.00	3734.27222

Summary of Regression Statistics	
Slope =	750.4703955
Intercept =	31.63846687
r =	0.999891464
# of Stds Used =	15

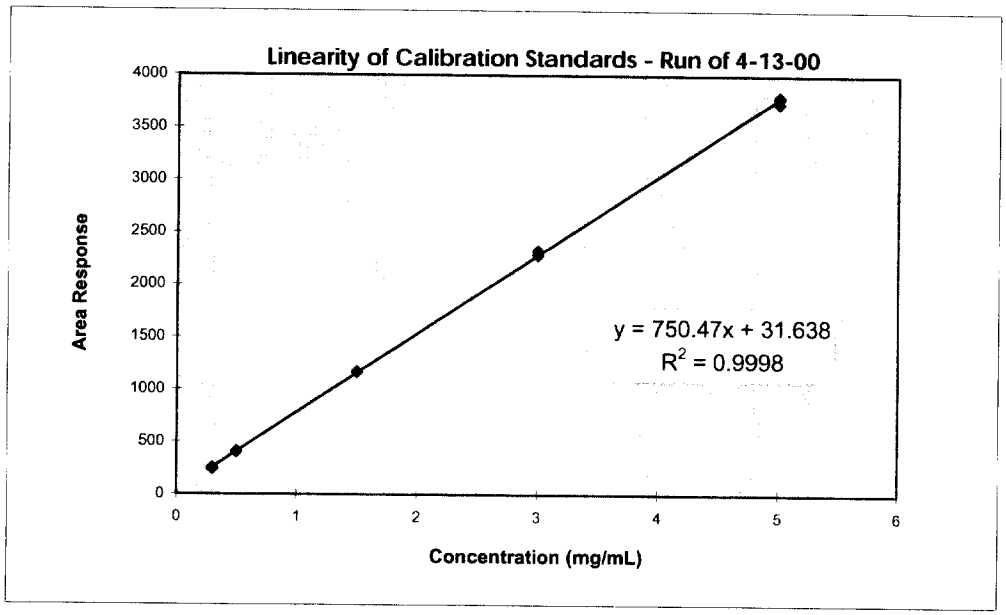
A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Concentration Analysis of the 4-13-00 Calibration Standards (Analyzed 4-13-00)
Validation Set III

Sample	Theo. Conc (mg/mL)	Reference # (186012 -)	Back-Calculated Concentration (mg/mL)	Percent Relative Error (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean % Rel. Error (%)
Std #1	**0.300**	79-1	0.279	-7.0	**0.284**	0.0053	1.9	**-5.4**
		79-2	0.289	-3.5				
		79-3	0.283	-5.7				
Std #2	**0.500**	79-4	0.505	1.0	**0.497**	0.0077	1.6	**-0.67**
		79-5	0.495	-1.0				
		79-6	0.490	-2.0				
Std #3	**1.50**	79-7	1.52	1.0	**1.51**	0.0056	0.37	**0.87**
		79-8	1.52	1.2				
		79-9	1.51	0.45				
Std #4	**3.00**	79-10	3.00	-0.060	**3.02**	0.031	1.0	**0.76**
		79-11	3.01	0.44				
		79-12	3.06	1.9				
Std #5	**5.00**	79-13	5.00	-0.072	**4.98**	0.046	0.92	**-0.33**
		79-14	5.02	0.44				
		79-15	4.93	-1.3				

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Regression Calibration Information of 4-13-00 Preps (Analyzed 4-13-00)
Validation Set III



$$* \% \text{ Relative Error} = \left(\frac{\text{Analyzed Conc} - \text{Theo Conc}}{\text{Theoretical Conc}} \right) * 100$$

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Concentration Calculation Results - QC Samples 4-13-00 (Analyzed 4-13-00)
Validation Set III

Reference Number (186012 -)	Run #	HBCD Area (6.3 min)	Analyzed HBCD Conc (mg/ml)	Multi Factor	Sample Description
81-1	572	329.61633	19.9	50	LQC
81-2	573	330.04526	19.9	50	"
81-3	574	331.92099	20.0	50	"
81-4	575	2719.70459	179	50	HQC
81-5	576	2914.80908	192	50	"
81-6	577	2945.42285	194	50	"

This data used to calculate multiplication factors.

GROUP	Dose Conc (mg/mL)	Dilution Conc (mg/ml)	Recovery (%)
LQC	20.0	0.400	100
HQC	200	4.00	100

$$\text{Multi - Factor} = \frac{\text{Dose Concentration}}{\text{Dilution Concentration} * \text{Recovery (or Purity)}}$$

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Concentration Calculation Results - QC Samples 4-13-00 (Analyzed 4-13-00)
Validation Set III

Sample	Theo. Conc (mg/ml)	Reference Number (186012 -)	Run #	Analyzed Concentration (mg/ml)	Percent Relative Error (%)	Mean Conc (mg/ml)	SD	RSD (%)	Mean % Rel. Error (%)
LQC	**20.0**	81-1	572	19.9	-0.74	**19.9**	0.082	0.41	**-0.44**
		81-2	573	19.9	-0.61				
		81-3	574	20.0	0.031				
HQC	**200**	81-4	575	179	-10	**188**	8.2	4.3	**-5.8**
		81-5	576	192	-4.0				
		81-6	577	194	-2.9				

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX C

Pretest Clinical Observations

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

----- M A L E -----

TABLE RANGE: 04-11-00 TO 04-25-00

GROUP:	1
NORMAL	
-NO SIGNIFICANT CLINICAL OBSERVATIONS	258/121
BODY/INTEGUMENT	
-HAIR LOSS DORSAL HEAD	1/ 1
-HAIR LOSS FORELIMB(S)	1/ 1
BODY/INTEG II	
-SCABBING LEFT LATERAL NECK	1/ 1
-SCABBING DORSAL HEAD	4/ 2
-SCABBING RIGHT LATERAL NECK	1/ 1

1- PRETEST

----- F E M A L E -----

TABLE RANGE: 04-11-00 TO 04-25-00
GROUP: 1

NORMAL
-NO SIGNIFICANT CLINICAL OBSERVATIONS 265/122

1- PRETEST

PCSUv4.0
03/12/2001
R:07/18/2001

WIL-186012
CMA-BFRIP

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX D

Dispositions and Body Weights (Satellite Groups)

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43301	224.	263.	SCHEDULED EUTH WEEK 0					
43317	222.	256.	SCHEDULED EUTH WEEK 0					
43319	215.	255.	316.	SCHEDULED EUTH WEEK 0				
43330	227.	268.	327.	SCHEDULED EUTH WEEK 0				
43337	202.	229.	273.	SCHEDULED EUTH WEEK 1				
43338	211.	248.	297.	SCHEDULED EUTH WEEK 1				
43344	195.	235.	295.	334.	SCHEDULED EUTH WEEK 1			
43345	203.	239.	287.	331.	SCHEDULED EUTH WEEK 1			
43347	216.	250.	305.	343.	382.	SCHEDULED EUTH WEEK 2		
43348	186.	209.	249.	277.	306.	SCHEDULED EUTH WEEK 2		
43358	235.	267.	326.	372.	412.	442.	SCHEDULED EUTH WEEK 3	
43366	212.	258.	311.	361.	407.	447.	SCHEDULED EUTH WEEK 3	
43367	191.	224.	271.	305.	331.	355.	378.	396.
43370	199.	233.	279.	322.	356.	390.	411.	432.
43375	204.	237.	289.	329.	369.	398.	422.	446.
43387	217.	250.	301.	338.	371.	392.	413.	436.
43389	174.	204.	252.	291.	321.	346.	373.	393.
43390	190.	226.	273.	314.	350.	371.	400.	424.
43394	184.	217.	264.	310.	342.	301.	250.	355.
43396	210.	246.	300.	345.	388.	414.	437.	459.
MEAN	206.	241.	290.	327.	361.	386.	386.	418.
S.D.	15.9	18.6	23.2	25.9	33.1	44.5	58.8	34.0
N	20	20	18	14	12	10	8	8

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43286	217.	255.	SCHEDULED EUTH WEEK 0					
43287	225.	267.	SCHEDULED EUTH WEEK 0					
43291	211.	248.	313.	SCHEDULED EUTH WEEK 0				
43294	223.	253.	311.	SCHEDULED EUTH WEEK 0				
43298	188.	228.	289.	SCHEDULED EUTH WEEK 1				
43299	214.	247.	307.	SCHEDULED EUTH WEEK 1				
43302	212.	253.	320.	377.	SCHEDULED EUTH WEEK 1			
43304	197.	240.	309.	360.	SCHEDULED EUTH WEEK 1			
43314	192.	229.	286.	335.	382.	SCHEDULED EUTH WEEK 2		
43321	211.	244.	306.	353.	387.	SCHEDULED EUTH WEEK 2		
43324	207.	242.	296.	334.	375.	406.	SCHEDULED EUTH WEEK 3	
43333	182.	208.	261.	297.	336.	366.	SCHEDULED EUTH WEEK 3	
43343	218.	253.	315.	356.	384.	393.	403.	429.
43352	190.	224.	281.	324.	360.	373.	394.	426.
43353	195.	229.	290.	324.	352.	378.	393.	415.
43356	184.	211.	258.	296.	316.	327.	338.	357.
43357	215.	251.	310.	357.	398.	420.	440.	469.
43360	230.	266.	331.	384.	428.	458.	489.	514.
43374	204.	239.	298.	330.	351.	361.	375.	394.
43393	202.	243.	306.	358.	398.	432.	448.	472.
MEAN	206.	242.	299.	342.	372.	391.	410.	435.
S.D.	14.1	16.0	19.2	26.5	30.7	38.5	47.2	49.3
N	20	20	18	14	12	10	8	8

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43367	410.	431.	SCHEDULED EUTH WEEK 7					
43370	449.	465.	SCHEDULED EUTH WEEK 7					
43375	456.	473.	468.	479.	492.	503.	SCHEDULED EUTH WEEK 12	
43387	456.	472.	472.	487.	500.	506.	SCHEDULED EUTH WEEK 12	
43389	415.	433.	436.	448.	461.	475.	478.	477.
43390	445.	470.	478.	493.	504.	521.	535.	524.
43394	389.	430.	450.	463.	486.	503.	507.	503.
43396	479.	505.	495.	523.	539.	551.	549.	547.
MEAN	437.	460.	467.	482.	497.	510.	517.	513.
S.D.	29.8	26.5	20.9	25.9	25.5	25.1	31.5	29.8
N	8	8	6	6	6	6	4	4

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43343	435.	448.	SCHEDULED EUTH WEEK 7					
43352	439.	456.	SCHEDULED EUTH WEEK 7					
43353	422.	442.	443.	455.	463.	484.	SCHEDULED EUTH WEEK 12	
43356	360.	373.	378.	387.	394.	407.	SCHEDULED EUTH WEEK 12	
43357	481.	491.	499.	518.	532.	547.	560.	547.
43360	538.	564.	572.	582.	603.	613.	612.	595.
43374	409.	420.	423.	433.	441.	453.	461.	450.
43393	496.	522.	532.	539.	545.	565.	575.	559.
MEAN	448.	465.	475.	486.	496.	512.	552.	538.
S.D.	55.7	59.9	72.6	73.0	77.0	76.8	64.5	62.0
N	8	8	6	6	6	6	4	4

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 0 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43389	491.	SCHEDULED EUTH WEEK 14		
43390	546.	SCHEDULED EUTH WEEK 14		
43394	521.	523.	538.	SCHEDULED EUTH WEEK 16
43396	571.	568.	586.	SCHEDULED EUTH WEEK 16
MEAN	532.	546.	562.	
S.D.	34.2	31.8	33.9	
N	4	2	2	

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

MALE GROUP: 1000 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43357	561.	SCHEDULED EUTH WEEK 14		
43360	594.	SCHEDULED EUTH WEEK 14		
43374	455.	451.	459.	SCHEDULED EUTH WEEK 16
43393	570.	560.	571.	SCHEDULED EUTH WEEK 16
MEAN	545.	506.	515.	
S.D.	61.6	77.1	79.2	
N	4	2	2	

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43408	147.	164.	SCHEDULED EUTH WEEK 0					
43415	119.	143.	SCHEDULED EUTH WEEK 0					
43422	150.	163.	184.	SCHEDULED EUTH WEEK 0				
43424	164.	181.	209.	SCHEDULED EUTH WEEK 0				
43434	162.	183.	203.	SCHEDULED EUTH WEEK 1				
43437	153.	171.	189.	SCHEDULED EUTH WEEK 1				
43441	162.	186.	216.	237.	SCHEDULED EUTH WEEK 1			
43448	151.	165.	196.	209.	SCHEDULED EUTH WEEK 1			
43450	137.	149.	167.	181.	194.	SCHEDULED EUTH WEEK 2		
43451	158.	183.	219.	242.	261.	SCHEDULED EUTH WEEK 2		
43452	158.	164.	195.	212.	238.	240.	SCHEDULED EUTH WEEK 3	
43453	182.	196.	223.	240.	257.	279.	SCHEDULED EUTH WEEK 3	
43469	181.	197.	227.	241.	263.	281.	288.	297.
43470	141.	160.	193.	215.	228.	243.	256.	259.
43472	144.	155.	177.	193.	209.	225.	251.	246.
43473	148.	163.	184.	201.	217.	232.	238.	241.
43487	138.	153.	181.	198.	211.	225.	233.	239.
43498	170.	189.	224.	244.	259.	276.	285.	304.
43500	160.	179.	202.	220.	241.	248.	246.	260.
43514	155.	174.	203.	226.	245.	254.	257.	262.
MEAN	154.	171.	200.	219.	235.	250.	257.	264.
S.D.	14.9	15.5	17.6	20.6	23.3	21.7	20.1	24.5
N	20	20	18	14	12	10	8	8

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	-1	0	1	2	3	4	5	6
ANIMAL								
43404	162.	179.	SCHEDULED EUTH WEEK 0					
43406	162.	186.	SCHEDULED EUTH WEEK 0					
43417	144.	158.	191.	SCHEDULED EUTH WEEK 0				
43418	145.	174.	194.	SCHEDULED EUTH WEEK 0				
43428	149.	162.	185.	SCHEDULED EUTH WEEK 1				
43445	147.	165.	195.	SCHEDULED EUTH WEEK 1				
43447	178.	193.	230.	255.	SCHEDULED EUTH WEEK 1			
43454	163.	181.	213.	240.	SCHEDULED EUTH WEEK 1			
43459	159.	172.	218.	236.	266.	SCHEDULED EUTH WEEK 2		
43464	138.	159.	187.	209.	227.	SCHEDULED EUTH WEEK 2		
43465	144.	163.	196.	205.	229.	231.	SCHEDULED EUTH WEEK 3	
43476	151.	171.	192.	218.	230.	248.	SCHEDULED EUTH WEEK 3	
43482	151.	161.	195.	215.	227.	236.	242.	254.
43488	167.	187.	229.	261.	276.	284.	305.	324.
43493	182.	201.	227.	255.	273.	292.	299.	293.
43494	134.	150.	182.	204.	219.	228.	244.	251.
43499	174.	189.	230.	252.	272.	281.	297.	313.
43504	127.	147.	164.	188.	203.	210.	210.	224.
43507	157.	165.	199.	227.	262.	257.	267.	269.
43519	155.	164.	193.	210.	231.	231.	245.	260.
MEAN	154.	171.	201.	227.	243.	250.	264.	274.
S.D.	14.4	14.6	19.0	23.2	25.1	27.8	34.2	33.9
N	20	20	18	14	12	10	8	8

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43469	315.	320.	SCHEDULED EUTH WEEK 7					
43470	263.	276.	SCHEDULED EUTH WEEK 7					
43472	251.	260.	254.	257.	262.	272.	SCHEDULED EUTH WEEK 12	
43473	251.	258.	257.	261.	271.	276.	SCHEDULED EUTH WEEK 12	
43487	246.	254.	255.	250.	257.	258.	255.	255.
43498	323.	327.	322.	327.	344.	368.	360.	355.
43500	268.	273.	274.	277.	291.	291.	289.	293.
43514	276.	275.	276.	279.	286.	290.	290.	290.
MEAN	274.	280.	273.	275.	285.	293.	299.	298.
S.D.	29.5	27.9	25.9	27.8	31.7	39.0	44.1	41.6
N	8	8	6	6	6	6	4	4

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	7	8	9	10	11	12	13	14
ANIMAL								
43482	257.	254.	SCHEDULED EUTH WEEK 7					
43488	328.	344.	SCHEDULED EUTH WEEK 7					
43493	306.	315.	326.	338.	338.	360.	SCHEDULED EUTH WEEK 12	
43494	252.	256.	261.	266.	269.	276.	SCHEDULED EUTH WEEK 12	
43499	325.	336.	333.	347.	350.	357.	363.	352.
43504	228.	244.	247.	252.	250.	265.	266.	263.
43507	271.	285.	291.	305.	323.	331.	326.	316.
43519	257.	274.	274.	281.	283.	289.	287.	280.
MEAN	278.	289.	289.	298.	302.	313.	311.	303.
S.D.	37.0	38.7	34.9	38.7	40.5	41.8	42.9	39.6
N	8	8	6	6	6	6	4	4

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 0 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43487	263.	SCHEDULED EUTH WEEK 14		
43498	355.	SCHEDULED EUTH WEEK 14		
43500	296.	287.	294.	SCHEDULED EUTH WEEK 16
43514	298.	299.	295.	SCHEDULED EUTH WEEK 16
MEAN	303.	293.	295.	
S.D.	38.2	8.5	0.7	
N	4	2	2	

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALE GROUP: 1000 MG/KG/DAY

WEEK	15	16	17	
ANIMAL				
43499	360.	SCHEDULED EUTH WEEK 14		
43504	264.	SCHEDULED EUTH WEEK 14		
43507	303.	296.	303.	SCHEDULED EUTH WEEK 16
43519	284.	272.	278.	SCHEDULED EUTH WEEK 16
MEAN	303.	284.	291.	
S.D.	41.4	17.0	17.7	
N	4	2	2	

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 08-08-00 TO 08-22-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43389	M	0 MG/KG/DAY	DISPOSITION	08-08-00	7:53	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 104)
43390	M	0 MG/KG/DAY	DISPOSITION	08-08-00	7:53	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 104)
43394	M	0 MG/KG/DAY	DISPOSITION	08-22-00	8:04	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 118)
43396	M	0 MG/KG/DAY	DISPOSITION	08-22-00	8:05	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 118)
43357	M	1000 MG/KG/DAY	DISPOSITION	08-08-00	7:53	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 104)
43360	M	1000 MG/KG/DAY	DISPOSITION	08-08-00	7:54	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 104)
43374	M	1000 MG/KG/DAY	DISPOSITION	08-22-00	8:06	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 118)
43393	M	1000 MG/KG/DAY	DISPOSITION	08-22-00	8:07	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 118)
43487	F	0 MG/KG/DAY	DISPOSITION	08-08-00	7:54	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 104)
43498	F	0 MG/KG/DAY	DISPOSITION	08-08-00	7:55	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 104)
43500	F	0 MG/KG/DAY	DISPOSITION	08-22-00	8:05	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 118)
43514	F	0 MG/KG/DAY	DISPOSITION	08-22-00	8:06	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 118)
43499	F	1000 MG/KG/DAY	DISPOSITION	08-08-00	7:55	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 104)
43504	F	1000 MG/KG/DAY	DISPOSITION	08-08-00	7:56	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 104)
43507	F	1000 MG/KG/DAY	DISPOSITION	08-22-00	8:07	P	EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 08-08-00 TO 08-22-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43519	F	1000 MG/KG/DAY	DISPOSITION	08-22-00	8:08	P	DAY 118) EUTHANIZED FOR OMENTAL FAT/SERUM ANALYSIS (INTERVAL DAY 118)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX E

Scoring Criteria for Functional Observational Battery

Scoring Criteria for the Functional Observational Battery

Definition:

The Functional Observational Battery (FOB) is a procedure used to detect gross functional deficits in test animals.

Description:

The FOB consists of a series of tests. The tests are categorized into home-cage, handling, open-field, sensory, neuromuscular, and physiological observations and are as follows:

1. Home-Cage Observations

    a. Posture
    b. Convulsions
    c. Tremors
    d. Biting
    e. Palpebral (eyelid) closure
    f. Feces Consistency

2. Handling Observations

    a. Ease of removal from cage
    b. Ease of handling animal in hand
    c. Lacrimation
    d. Chromodacryorrhea
    e. Salivation
    f. Piloerection
    g. Fur appearance
    h. Palpebral closure
    i. Respiratory rate
    j. Respiratory character
    k. Red deposits
    l. Crusty deposits
    m. Mucous membranes/eye/skin color
    n. Eye prominence
    o. Muscle tone

3. Open-Field Observations

   a. Time to first step (seconds)
   b. Rearing
   c. Mobility
   d. Backing
   e. Grooming
   f. Gait
   g. Convulsions
   h. Tremors
   i. Gait Score
   j. Arousal
   k. Bizarre/Stereotypic behavior
   l. Urination
   m. Defecation

4. Sensory Observations

   a. Approach response
   b. Touch response
   c. Startle response
   d. Tail pinch
   e. Olfactory orientation
   f. Pupil response
   g. Eyeblink response
   h. Forelimb extension
   i. Hindlimb extension
   j. Air righting reflex

5. Neuromuscular Observations

   a. Hindlimb extensor strength
   b. Grip strength-hind and forelimb
   c. Rotarod performance
   d. Hindlimb foot splay

6. Physiological Observations

   a. Catalepsy
   b. Body Temperature
   c. Body Weight

Procedure

The FOB was performed on those study days specified in the study protocol. Test animals were removed from their cages one at a time on the designated day of testing, and, unless specified in the study protocol, were taken through the FOB in the following order: FOB1 (inclusive of categories 1a-1f and 2a), FOB2 (inclusive of categories 2b-2o, 3a-3m and 4a-4j) and FOB3 (inclusive of categories 5a-5d and 6a-6c).

Testing was performed by trained technicians, who did not know the group assignment of the animals. A description of the scoring criteria for each test is provided below:

1. HOME-CAGE OBSERVATIONS

Observations of the animal in its home cage and while opening the cage were performed and scored as follows:

a. Posture

Sitting or standing normally	1
Asleep, lying on side or curled up	2
Alert, oriented toward observer	3
Sitting, head held low	4
Flattened, limbs may be extended	5
Lying on side, limbs in air	6
Immobile	7
Rearing	8

b. Convulsions

I. Clonic

Absent	1
Repetitive movement of mouth and jaws	2
Clonic tremors of the limbs (contraction followed by relaxation)	3
Whole body tremors	4
Clonic convulsions	5
Wet Dog Shakes	6

II. Tonic

Absent	1
Tonic: contraction of extensors such that limbs are rigid and extended	2
Opisthotonus: head, body and limbs rigidly arched backwards	3
Emprosthotonus: head, body and limbs extended forward	4
'Popcorn seizure': animal repeatedly jumps or bounces in air	5
Asphyxial: bouts of severe clonic-tonic convulsions	6

c. Tremors

None	1
Slight (1.5 mm)	2
Moderately coarse (3 mm), slight impairment of locomotion	3
Markedly coarse (4.5 mm), moderate/marked impairment of locomotion	4
Extremely coarse (6 mm), locomotion impossible	5

d. Biting

None	1
Biting of cage	2
Biting of self	3

e. Palpebral (eyelid) closure

Eyelids wide open	1
Eyelids slightly drooping	2
Drooping eyelids (half closed)	3
Eyelids completely shut	4

f. Feces Consistency

Pellets	1
Pellets, partially formed	2
Unformed, diarrhea	3
Pellets absent	4

2. HANDLING OBSERVATIONS

Animals were removed singly from their cages and observed and scored as follows:

a. Ease of removal from cage

Very easy: animal sits quietly, allows investigator to pick it up	1
Easy: with or without vocalization, without resistance or slight resistance to being picked up	2
Moderately difficult: animal rears, often following investigators hand	3
Freezes: with or without vocalization	4
Difficult: runs around cage, is hard to grab, with or without vocalization	5
Very difficult: tail and throat rattles with or without vocalization, may attack hand	6

b. Ease of handling animal in hand

Low: no resistance, animal is easy to handle	1
Moderately low: slight resistance to being handled, with or without vocalization	2
Moderately high: rat may freeze, or be tense or rigid in hand, with or without vocalization	3
High: squirming, twisting, attempting to bite with or without vocalization	4

c. Lacrimation

None	1
Slight	2
Severe	3

d. Chromodacryorrhea

Absent	1
Present	2

e. Salivation

None	1
Slight	2
Severe	3

f. Piloerection

None	1
Slight	2
Severe	3

g. Fur Appearance

Normal: clean and groomed	1
Slightly soiled	2
Very soiled, crusty	3

h. Palpebral closure

Eyelids wide open	1
Eyelids slightly drooping	2
Drooping eyelids (half closed)	3
Eyelids completely shut	4

i. Respiratory Rate

Normal: by observation (80-110/min.)	1
Decreased: below 80/min.	2
Increased: above 110/min.	3

j. Respiratory Character

Normal	1
Rales: abnormal sound accompanying breathing	2
Retching	3
Dyspneic: short of breath	4
Gasping	5

k. Red Deposits - eyes, nose, mouth

Present	1
Absent	2

l. Crusty Deposits - eyes, nose, mouth

Present	1
Absent	2

m. Mucous membranes/eye/skin color

Pink	1
Pale	2
Darkened	3
Darkened, brown	4
Bright, deep red flush	5

n. Eye Prominence

Normal	1
Exophthalmus	2
Enophthalmus	3

o. Muscle Tone

The musculature of the limbs was palpated between the thumb and forefinger.

Muscle is firm but not hard (normal)	1
Muscle is soft and flabby,	2
Muscle is tense and hard	3

3. OPEN-FIELD OBSERVATIONS

Animals were placed singly in the open-field arena (24" x 24"x 6"; constructed from Plexiglas® and painted black) and evaluated over a 2-minute observation period as follows:

a. Time to first step (seconds)

The time taken for the animal to take its first step in the open-field arena was recorded in seconds.

b. Rearing

The number of times the animal reared back onto its hind legs and stood up with both front paws raised off the surface was recorded over a 2-minute observation period in the open-field arena.

c. Mobility (scored within 30 seconds of placing animal in the open-field arena)

Normal	1
Slightly Impaired	2
Moderately Impaired	3
Totally Impaired, Locomotion impossible	4

d. Backing

The number of times the animal took three or more backward steps over a 2-minute observation period in the open-field arena was recorded.

e. Grooming

The number of times the animal groomed itself over a 2-minute observation period in the open-field arena was recorded. Grooming includes washing the face and head with the forepaws, scratching the head or body with a hind paw, and biting the fur.

f. Gait

Normal, head horizontal, abdomen just above surface, slight up and down movement with each step	1
Walks on tiptoes	2
Body drags, abdomen makes contact with surface, body sway	3

f. Gait (Continued)

Hindlimbs splayed or dragging, unable to support weight	4
Hunched body, bottom up, nose held down, arched back	5
Ataxia, excessive sway, rocks or lurches as animal proceeds forward	6

g. Convulsions

I. Clonic

Absent	1
Repetitive movement of mouth and jaws	2
Clonic tremors of the limbs (contraction followed by relaxation)	3
Whole body tremors	4
Clonic convulsions	5
Wet Dog Shakes	6

II. Tonic

Absent	1
Tonic: contraction of extensors such that limbs are rigid and extended	2
Opisthotonus: head, body and limbs rigidly arched backwards	3
Emprosthotonus: head, body and limbs arched forward	4
'Popcorn seizure': animal repeatedly jumps or bounces in air	5
Asphyxial: bouts of severe clonic-tonic convulsions	6

h. Tremors

None	1
Slight (1.5mm)	2
Moderately coarse (3 mm), slight impairment of locomotion	3
Markedly coarse (4.5 mm), moderate/marked impairment of locomotion	4
Extremely coarse (6 mm), locomotion impossible	5

i. Gait Score: Ability to locomote despite abnormalities in gait

Normal	1
Slight impairment, but definite	2
Considerable impairment, without falling	3
Marked impairment, falls every 4 to 6 steps	4
Severe impairment, cannot walk without falling	5

j. Arousal

Very low: Stupor, coma, little or no responsiveness	1
Low: Somewhat stuporous	2
Normal: Alert, exploratory movements	3
Somewhat high: Slight excitement, tense, excited sudden darting or freezing	4
Very high: Hyperalert, excited, sudden bouts of running or body movements	5

k. Bizarre/Stereotypic Behavior

None	1
Head Flick: head shaking or backward flip of head	2
Head Search: stereotyped, repetitive turning of head from side to side as though searching the environment	3
Hallucinatory: animal appears to be responding to objects not present	4
Compulsive licking or biting	5
Prancing: restless shifting from one forelimb to other, with slight turning of the body from side to side	6
Upright walking: on hindlimbs only	7
Aimless wandering: progressive, slow, plodding movements about environment, with no apparent purpose	8
Circling: tendency to move in circles around and along objects, or in an open environment	9
Waltzing: rapid turning in circles	10
Retropulsion: where animal walks backwards	11
Spatial disorientation: walking or stumbling into objects	12
Side to side rocking	13
Straub tail: increased tail elevation	14
Vertical Jumping	15
Pacing without purpose	16
Head bobbing	17

k. Bizarre/Stereotypic Behavior (continued)

Writhing: lying down, wavelike movement of abdomen, alternating limb movements	18

l. Urination

The number of pools of urine in the open-field arena was counted.

m. Defecation

The number of fecal boli in the open-field arena was counted.

4. SENSORY OBSERVATIONS

Sensory tests were performed in the open-field arena as follows:

a. Approach Response

The animal was approached head-on with a blunt object held approximately 3 cm from its face for a 4-second period.

No reaction	1
Slow approach, sniffing or turning away	2
More energetic than (2) may include vocalization	3
Freezes, actual muscle contraction	4
Bizarre reaction: jumps, bites or attacks	5

b. Touch Response

The rump of the animal was approached from the side and touched with a blunt object.

No reaction	1
Animal may slowly turn, walk away	2
More energetic response than (2), may include vocalization	3
Freezes, actual muscle contraction	4
Bizarre reaction: jumps, bites or attacks	5

c. Startle Response

A clicker held approximately 5 cm above the head of the animal was used to make a sudden sound.

No reaction	1
Slight reaction, ear flick or some evidence that snap was heard	2
More energetic response than (2), may include vocalization	3
Freezes, actual muscle contraction	4
Bizarre reactions: jumps, attacks, bites	5

d. Tail Pinch

Metal tweezers were used to squeeze tail approximately 2-3 cm from tip.

No reaction	1
Animal may turn or walk away	2
More energetic than (2), may include vocalization	3
Freezes, actual muscle contraction	4
Bizarre reaction: jumps, attacks or bites	5

e. Olfactory Orientation

Approaching the animal from behind, a cotton swab that had been dipped into a jar of commercially available homogenized baby food was brought to within approximately 4-5 cm of the side of the animal's head.

No reaction present	1
Reaction present, animal approaches swab making sniffing movements with nose, may lick swab	2

f. Pupil Response

The beam from a pen light was brought to within approximately 5 mm of the surface of the eye. Changes in pupil size were recorded.

No pupil response	1
Pupil response present	2

g. Eyeblink Response

The corner of the eye was touched gently with a blunt object.

No eyeblink response	1
Eyeblink response present	2

h. Forelimb Extension

The animal was held by the tail and lowered towards a table top. The presence or absence of normal forelimb extension was recorded.

No forelimb extension	1
Forelimb extension present	2

i. Hindlimb Extension

The animal was placed on a table top and lifted by the tail. The presence of normal hindlimb extension was recorded.

No hindlimb extension	1
Hindlimb extension present	2

j. Air Righting Reflex

The animal was held in a supine position and dropped from a height of approximately 30 cm. The ease of landing was scored as follows:

Normal	1
Slightly uncoordinated	2
Lands on side	3
Lands on back	4

5. NEUROMUSCULAR OBSERVATIONS

a. Hindlimb Extensor Strength

The animal was picked up and slight pressure was applied to its hindlimbs. The normal response is for the animal to extend its hindlimbs against the pressure.

a. Hindlimb Extensor Strength (continued)

Hindlimb resistance absent	1
Reduced hindlimb resistance, animal shows some weakness	2
Hindlimb resistance present	3

b. Grip Strength - hind and forelimb

Forelimb and hindlimb grip strength were measured using a device similar to the one described by Meyer *et al* (Neurobehav. Toxicol. 1:233-239, 1979). The animal was allowed to grip a T-shaped grip bar with its forepaws and was pulled back gently along a platform until its grip was broken. As the backward locomotion continued, the animal's hindpaws reached a T-shaped rearlimb grip bar, which it was allowed to grasp and then forced to release by continued pulling. Chatillon push-pull strain gauges (J.A. King, Greensboro, North Carolina) were used to record the maximum strain required to break forelimb and hindlimb grip. The average of three valid measurements was taken as the animal's score for each grip strength measure.

c. Rotarod Performance

During the pretest period, the animals were trained to walk on a rotarod (a 7.0-cm-diameter rod rotating at 12 rpm; AccuScan Instruments, Inc., Columbus, Ohio) for a period of two minutes. The duration of time each animal remained on the rotarod (up to a maximum time of 120 seconds) during testing was recorded.

d. Hindlimb Foot Splay

The heel pads of the hindfeet of the animal were painted with a non-toxic water-based paint. Animals are dropped from a horizontal position approximately 30 cm above a table onto the Hindlimb Foot Splay Test sheet. The distance (to the nearest millimeter) between the inner edge of the ink blots made by each foot was measured. The test was repeated two more times; and the average score (to the nearest millimeter) of the latter two trials was calculated.

6. PHYSIOLOGICAL OBSERVATIONS

a. Catalepsy

The animal was placed on four Plexiglas® platforms (35 mm high and 40 mm in diameter) that were a distance of 100 mm from each other between the fore and hind feet and 60 mm between right and left feet (when measured from the center of the platforms). The time each animal remained on the four platforms was recorded. The duration of immobility was measured (up to a maximum time of 60 seconds).

b. Body Temperature

A thermometer was inserted into the rectum of the animal, and the body temperature was recorded after an equilibration period of approximately 30 seconds.

c. Body Weight

The weight of the animal was recorded.

The Functional Observational Battery is normally recorded on-line via the "IFOB" program in NT-module. In the event that the Data Management System is unavailable for on-line data collection, data are hand-recorded on the Functional Observational Battery Individual Data Sheets (T1-228, as revised). When appropriate, the hand-recorded data are late entered into the Data Management System.

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX F

Summaries of Validation Studies
(WIL-99032, WIL-99034, WIL-99140 and WIL-99149)

Date Range: April 12-13, 1999

Determination of Test Session Duration and Test Interval for the San Diego Photobeam Activation System Using Untreated Rats

Study Objective:

Regulatory guidelines require that the length of the locomotor activity monitoring session be long enough to allow untreated rats to approach normal activity levels by the last 20% of the session following their placement into a novel environment habituation). The primary objective of this study was to determine the appropriate test session duration for the locomotor activity measuring apparatus (San Diego Instruments - Photobeam Activity System [SDI-PAS]). A secondary objective was to collect data that could be used to determine an appropriate interval length (epoch) within the test session for the capturing and reporting of locomotor activity data.

Test System:

Juvenile (approximately six-week old) Sprague-Dawley Crl:CD®(SD)IGS BR rats weighing approximately 225 ± 75 grams (males) and 135 ± 25 grams (females) were used on the study. The rats were arbitrarily selected from available stock.

Environmental Conditions:

The rats were acclimated to laboratory conditions for five days prior to monitoring locomotor activity. Animals were housed and maintained under conditions consistent with maintaining good health and as per WIL Standard Operating Procedures. Temperature and humidity were maintained at 72 ± 4° F and 50 ± 20%, respectively, in a room with a 12 hours light/12 hours dark (0600-1800 hrs) photoperiod. The facilities at WIL Research Laboratories, Inc. are fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International.

Locomotor Activity Monitoring Methods:

Locomotor activity of 24 untreated rats (12 per sex) was monitored to determine the acceptable test session duration and test interval to be used on subsequent studies. (The test interval is the frequency at which activity counts are captured.) For this testing, the duration of the test session was 120 minutes. The test interval was one minute. That is, total activity (photobeam interruptions) was recorded at one-minute intervals for 120 minutes. Monitoring commenced one minute after placement of the rats into the monitoring units.

Locomotor activity monitoring was performed using the SDI Photobeam Activity System (San Diego Instruments, Inc., San Diego, CA), which includes Photobeam Activity System (PAS) software, analyzer and 24 activity monitors. A local personal computer linked to the laboratory's mainframe computer controls the SDI PAS.

Each locomotor activity monitoring unit consists of seven photobeam emitting/detecting units attached to a mounting frame. A clear acrylic shoe box -style cage (18.5"L x 9.5"W x 8"H) fits into the mounting frame to contain a single animal during the test session. Activity is measured as interruptions of the photobeams.

Photobeam diagnostic checks were performed prior to and following completion of the test session. Confirmation that the software-driven procedure was operating correctly was obtained by manually blocking the photobeams with pre-cut pieces of cardboard.

Monitoring was performed in a sound-attenuated room equipped with a white-noise generator set to operate at approximately 70 db.

Results:

Mean total locomotor activity data are presented graphically as both one-minute and five-minute test intervals (epochs) for the entire 120-minute test session in Figures 1 and 2, respectively. Corresponding numerical data are presented in Tables 1 and 2.

Mean total activity counts per minute were calculated using all 24 animals at each time point. Five-minute epochal data represent grand mean activity counts for each five-minute interval.

Discussion:

Following their placement into the monitoring units, untreated rats returned to normal locomotor activity levels after 36 minutes. Therefore, although a 45-minute test session would be adequate to allow rats to fully habituate to a novel environment, a 60-minute test session was selected for future studies. A test session of 60 minutes duration would comfortably meet the criterion for approaching normal locomotor activity levels by the last 20% of the test session, while providing a slightly extended session that may allow for detection of delayed effects.

No differences in locomotor activity levels were apparent when the data were examined in one-minute versus five-minute test intervals (epochs). Therefore, collection and reporting of locomotor activity with the SDI-PAS using a five-minute test interval was judged to be adequate to detect alterations in locomotor activity.

Alternative locomotor activity monitoring paradigms can be employed as appropriate, necessary or requested, but the above conditions (60-minute test session with five-minute epochs) are considered to be acceptable standards for this laboratory and equipment.

Figure 1

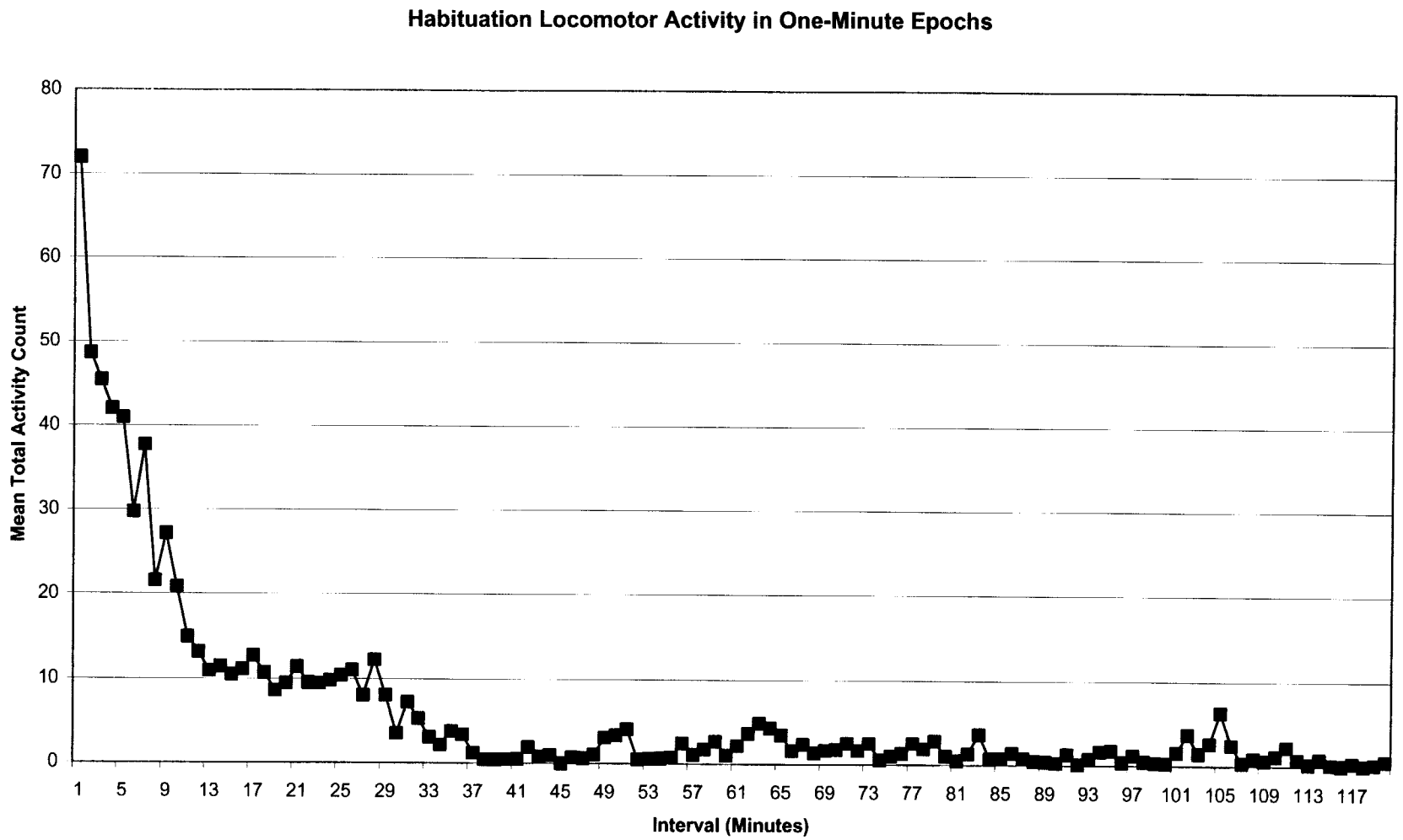

Habituation Locomotor Activity in One-Minute Epochs
Mean Total Activity Count
0
10
20
30
40
50
60
70
80
1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61 65 69 73 77 81 85 89 93 97 101 105 109 113 117
Interval (Minutes)

Figure 2

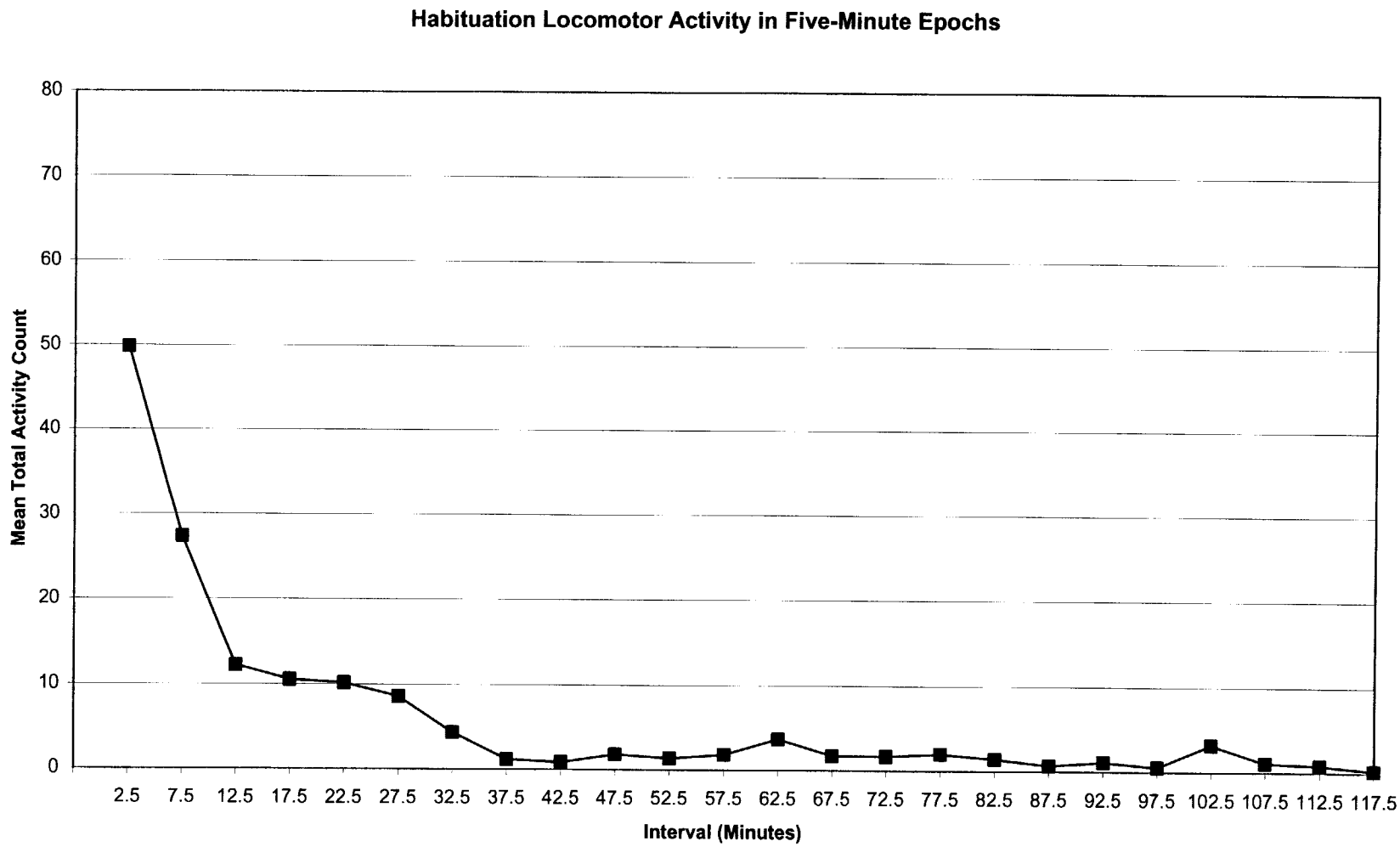

Habituation Locomotor Activity in Five-Minute Epochs
Mean Total Activity Count
80
70
60
50
40
30
20
10
0
2.5
7.5
12.5
17.5
22.5
27.5
32.5
37.5
42.5
47.5
52.5
57.5
62.5
67.5
72.5
77.5
82.5
87.5
92.5
97.5
102.5
107.5
112.5
117.5
Interval (Minutes)

Table 1
Locomotor Activity Data in 1-Minute Epochs

Interval	MAC	Interval	MAC	Interval	MAC	Interval	MAC	Interval	MAC
1	71.95833	25	10.41667	49	3.083333	73	2.5	97	1.208333
2	48.625	26	11.04167	50	3.375	74	0.541667	98	0.458333
3	45.45833	27	8.041667	51	4.125	75	1	99	0.333333
4	42.0833	28	12.25	52	0.5	76	1.375	100	0.25
5	40.95833	29	8.083333	53	0.583333	77	2.541667	101	1.583333
6	29.70833	30	3.541667	54	0.625	78	1.875	102	3.708333
7	37.70833	31	7.25	55	0.75	79	2.833333	103	1.416667
8	21.58333	32	5.291667	56	2.416667	80	1.041667	104	2.625
9	27.16667	33	3.083333	57	1.083333	81	0.5	105	6.333333
10	20.83333	34	2.125	58	1.708333	82	1.333333	106	2.416667
11	14.95833	35	3.791667	59	2.666667	83	3.625	107	0.333333
12	13.16667	36	3.416667	60	1	84	0.708333	108	0.875
13	10.91667	37	1.208333	61	2.125	85	0.791667	109	0.625
14	11.45833	38	0.416667	62	3.625	86	1.416667	110	1.125
15	10.45833	39	0.375	63	4.875	87	0.791667	111	2.208333
16	11.125	40	0.458333	64	4.291667	88	0.5	112	0.708333
17	12.70833	41	0.5	65	3.458333	89	0.375	113	0.208333
18	10.70833	42	1.916667	66	1.583333	90	0.25	114	0.791667
19	8.625	43	0.791667	67	2.333333	91	1.291667	115	0.125
20	9.458333	44	0.958333	68	1.333333	92	0.083333	116	0
21	11.45833	45	0	69	1.666667	93	0.75	117	0.333333
22	9.541667	46	0.708333	70	1.75	94	1.625	118	0
23	9.458333	47	0.625	71	2.5	95	1.75	119	0.166667
24	9.833333	48	1.083333	72	1.666667	96	0.375	120	0.541667

MAC = Mean Activity Count

Table 2
Mean Total Activity Counts in 5-Minute Epochs

Interval	MAC	Interval	MAC	Interval	MAC
5	49.81667	45	0.833334	85	1.391667
10	27.4	50	1.775	90	0.666667
15	12.19167	55	1.316667	95	1.1
20	10.525	60	1.775	100	0.525
25	10.14167	65	3.675	105	3.133333
30	8.591667	70	1.733333	110	1.075
35	4.308333	75	1.641667	115	0.808333
40	1.175	80	1.933333	120	0.208333

MAC = Mean Activity Counts

Date Range: May 17-21, 1999

Demonstration of the Sensitivity of the SDI-PAS
to Detect Alterations in Locomotor Activity in Rats

Study Objective:

Regulatory guidelines require that the testing laboratory demonstrate that the devices and systems used for measuring locomotor activity be able to detect chemically-induced increases and decreases in locomotor activity. The objective of this study was to demonstrate that the locomotor activity measuring apparatus (San Diego Instruments - Photobeam Activity System [SDI-PAS]) and the testing paradigm used by WIL Research Laboratories, Inc., met this criterion.

Test And Control Articles:

Two test articles were employed, one to elicit increases in motor activity (d-amphetamine sulfate, Research Biochemicals International, Natick, MA, Lot. No. BS-111-100) and one to elicit decreases in motor activity (chlorpromazine hydrochloride, Sigma Chemical Company, St. Louis, MO, Lot No. 48 H 1403). Physiological saline was used as the vehicle and for treatment of the concurrent negative control group.

Test System:

Juvenile (approximately six-week old) Sprague-Dawley Crl:CD®(SD)IGS BR rats weighing 175 ± 27 grams (males) and 146 ± 20 grams (females) at the time of randomization were used on the study. The rats were randomly assigned to treatment groups by body weight stratification in a block design, and subsequently allocated to group- and sex-uniform replicates for the locomotor activity evaluations. Dosing and locomotor activity evaluations occurred on the day after randomization (Day 0).

Environmental Conditions:

The rats were acclimated to laboratory conditions for 13 days prior to dosing. Animals were housed and maintained under conditions consistent with maintaining good health and as per WIL Standard Operating Procedures. Temperature and humidity were maintained at 72 ± 4° F and 50 ± 20%, respectively, in a room with a 12 hours light/12 hours dark (0600-1800 hrs) photoperiod. The facilities at WIL Research Laboratories, Inc. are fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International.

Treatment Regimen:

Animals were assigned to treatment groups as follows:

Group Number	Test Article	Dosage Level (mg/kg)	Dosage Concentration (mg/ml)	Dosage Volume (mg/kg)	Number of Animals Male	Number of Animals Female
1	PS	0	0	1.0	12	12
2	AMP	2	2	1.0	12	12
3	AMP	4	4	1.0	12	12
4	CPZ	5	5	1.0	12	12
5	CPZ	10	10	1.0	12	12

PS = Physiological Saline AMP = d-Amphetamine Sulfate CPZ = Chlorpromazine Hydrochloride

The test and control articles were administered as a single intraperitoneal injection (Day 0). Individual doses were calculated based on the animals' body weights recorded on the day of dose administration.

Locomotor Activity Monitoring Methods:

Locomotor activity was monitored once 4-5 days prior to dose administration (pretest) and on the day of dose administration. The duration of each test session was 60 minutes. The test interval was five minutes. Monitoring following dosing commenced 15 minutes after test or control article administration. The duration of the test session and length of the test interval were selected based on results of a previous study (WIL-99140).

Locomotor activity monitoring was performed using the SDI Photobeam Activity System (San Diego Instruments, Inc., San Diego, CA), which includes Photobeam Activity System (PAS) software, analyzer and 24 activity monitors. A local personal computer linked to the laboratory's mainframe computer controls the SDI-PAS.

Each locomotor activity monitoring unit consists of seven photobeam emitting/detecting units attached to a mounting frame. A clear acrylic shoe box -style cage (18.5"L x 9.5"W x 8"H) fits into the mounting frame to contain a single animal during the test session. Activity is measured as interruptions of the photobeams.

Photobeam diagnostic checks were performed prior to and following completion of the test session. Confirmation that the software-driven procedure was operating correctly was obtained by manually blocking the photobeams with pre-cut pieces of cardboard or other appropriate devices. After completion of the test session, motor

activity and photobeam files are transferred electronically to the mainframe computer for subsequent manipulation and presentation of the collected information, i.e., generation of tables, including statistical analysis.

Activity counts are presented as Total Activity Counts (ambulatory plus stereotypic counts) and Ambulatory Activity Counts. Sequential interruption of 2 or more photobeams, i.e., gross motor movement, is recorded as one ambulatory activity count. Repeated beam breaks of the same photobeam, i.e., fine motor movement, is recorded as one stereotypic count.

Monitoring was performed in a sound-attenuated room equipped with a white-noise generator set to operate at approximately 70 db.

Statisical Analysis:

Locomotor activity data were analyzed by analysis of variance. A one-way ANOVA followed by Dunnett's test was conducted to determine significant treatment differences from the control group at significance levels of $p < 0.05$ and $p < 0.01$.

Quality Assurance:

The raw data and draft report were audited by the WIL Quality Assurance Unit to assure that the final report accurately describes the conduct and findings of the study.

Results:

Group mean locomotor activity counts are presented in Table 1. The data are presented graphically by sex, interval and activity type in Figures 1-8.

Discussion:

There were no differences in either total or ambulatory activity counts for either sex during the pretest evaluations.

Dose-dependent increases in both total and ambulatory activity counts were observed for both males and females following administration of d-amphetamine sulfate (AMP). For males, over the entire 60-minute test session, total (ambulatory) counts were increased 103 (135)% at 2 mg/kg AMP and 166 (193)% at 4 mg/kg AMP. For females, over the entire 60-minute test session, total (ambulatory) activity counts were increased 37 (46)% at 2 mg/kg AMP and 146 (184)% at 4 mg/kg AMP. With the exception of the 2 mg/kg AMP females, all differences from the vehicle control group were statistically significant ($p < 0.01$).

Dose-dependent decreases in both total and ambulatory activity counts were observed for both males and females following administration of chlorpromazine hydrochloride (CPZ). For males, over the entire 60-minute test session, total (ambulatory) counts were decreased 77 (85)% at 5 mg/kg CPZ and 96 (98)% at 10 mg/kg CPZ. For females, over the entire 60-minute test session, total (ambulatory) activity counts were decreased 88 (92)% at 5 mg/kg CPZ and 97 (99)% at 10 mg/kg CPZ. All differences from the vehicle control group were statistically significant ($p < 0.01$).

Based on the results obtained, the SDI-PAS is sufficiently sensitive to detect dose-related increases and decreases in locomotor activity under the testing paradigm that was used.

PROJECT NO.:WIL-99149
SPONSOR:WIL RESEARCH LABS

TABLE 1
SENSITIVITY OF THE SDI-PAS TO DETECT LOCOMOTOR ACTIVITY IN RATS
GROUP MEAN MOTOR ACTIVITY COUNTS

GROUP:	0 MG/KG	2 MG/KG AMP	4 MG/KG AMP	5 MG/KG CPZ	10 MG/KG CPZ
		----- M A L E -----			
PRETEST					
TOTAL					
MEAN	1019.	934.	1246.	1163.	1221.
S.D.	398.2	447.5	735.0	377.1	444.6
N	12	12	12	12	12
AMBULATORY					
MEAN	309.	281.	391.	376.	366.
S.D.	139.5	177.0	280.9	154.3	194.8
N	12	12	12	12	12
DAY 0					
TOTAL					
MEAN	794.	1609.**	2110.**	184.**	33.**
S.D.	293.6	655.8	638.9	195.6	25.6
N	12	12	12	12	12
AMBULATORY					
MEAN	234.	549.**	686.**	34.**	5.**
S.D.	114.9	254.8	330.0	71.3	6.0
N	12	12	12	12	12

For statistical analyses, control group 1 was compared to groups 2 and 3; control group 1 was compared to groups 4 and 5.
** = Significantly different from control group 1 at 0.01 using Dunnett's test

TABLE 1
SENSITIVITY OF THE SDI-PAS TO DETECT LOCOMOTOR ACTIVITY IN RATS
GROUP MEAN MOTOR ACTIVITY COUNTS

GROUP:	0 MG/KG	2 MG/KG AMP	4 MG/KG AMP	5 MG/KG CPZ	10 MG/KG CPZ
	----- F E M A L E -----				
PRETEST					
TOTAL					
MEAN	1033.	1190.	974.	853.	1347.
S.D.	463.6	543.2	343.2	231.6	695.0
N	12	12	12	12	12
AMBULATORY					
MEAN	357.	399.	312.	277.	480.
S.D.	193.8	204.5	128.3	105.3	309.4
N	12	12	12	12	12
DAY 0					
TOTAL					
MEAN	1223.	1672.	3005.**	142.**	31.**
S.D.	676.1	759.8	773.4	116.9	45.4
N	12	12	12	12	12
AMBULATORY					
MEAN	442.	646.	1255.**	36.**	4.**
S.D.	251.0	348.5	451.5	39.5	5.2
N	12	12	12	12	12

For statistical analyses, control group 1 was compared to groups 2 and 3; control group 1 was compared to groups 4 and 5.
** = Significantly different from control group 1 at 0.01 using Dunnett's test

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Figure 1

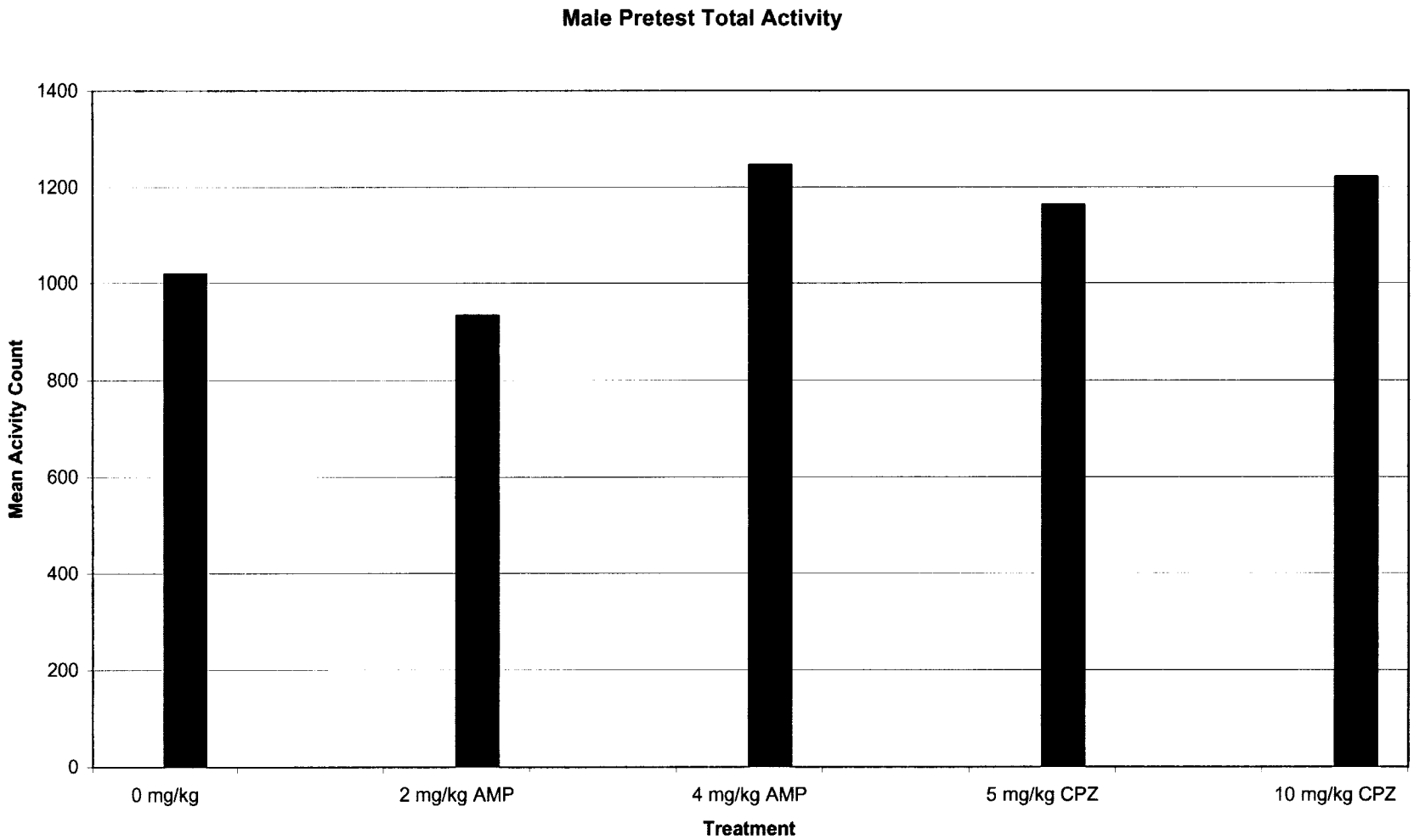

Male Pretest Total Activity
Mean Acivity Count
1400
1200
1000
800
600
400
200
0
0 mg/kg
2 mg/kg AMP
4 mg/kg AMP
5 mg/kg CPZ
10 mg/kg CPZ
Treatment

Figure 2

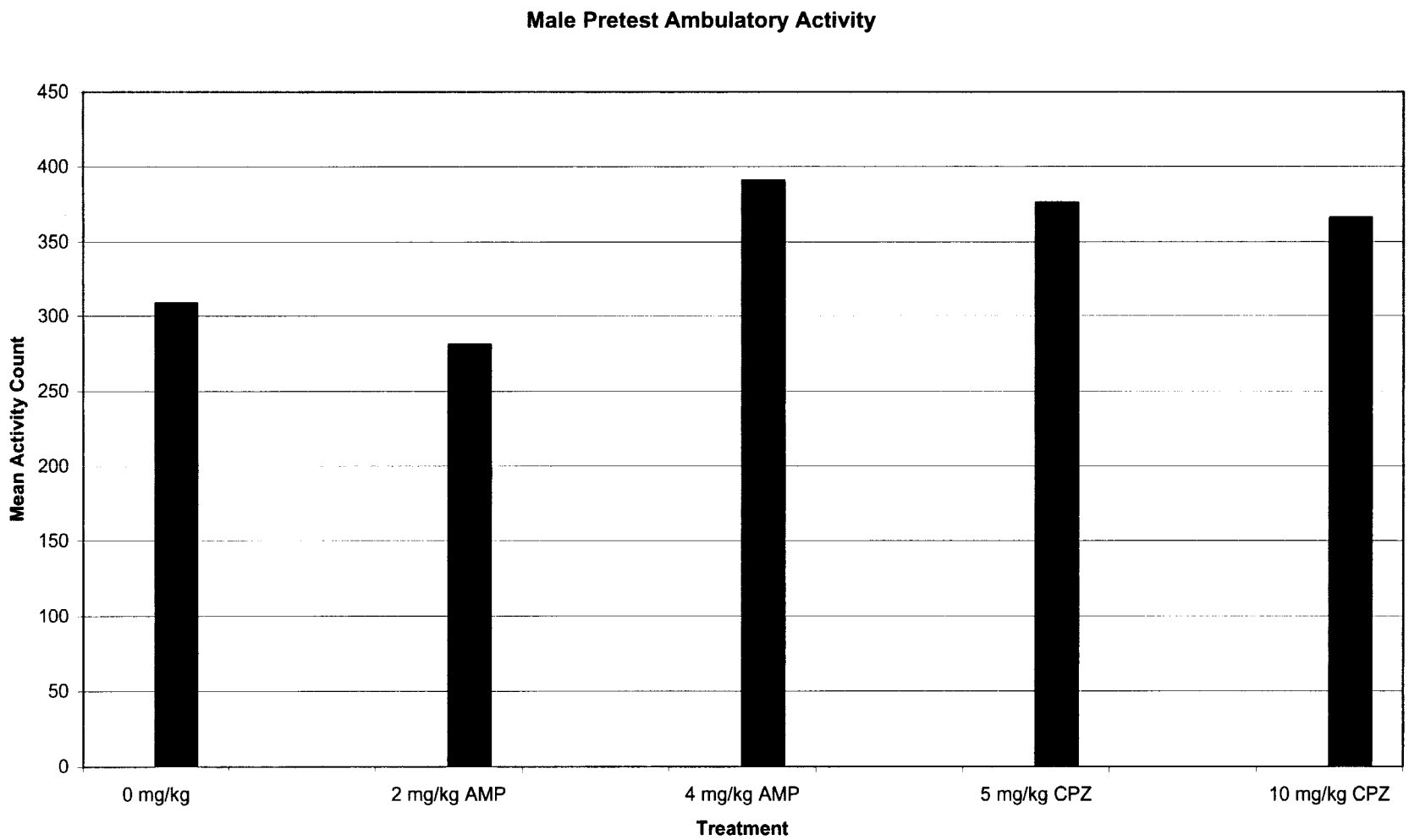

Male Pretest Ambulatory Activity
Mean Activity Count
450
400
350
300
250
200
150
100
50
0
0 mg/kg
2 mg/kg AMP
4 mg/kg AMP
5 mg/kg CPZ
10 mg/kg CPZ
Treatment

Figure 3

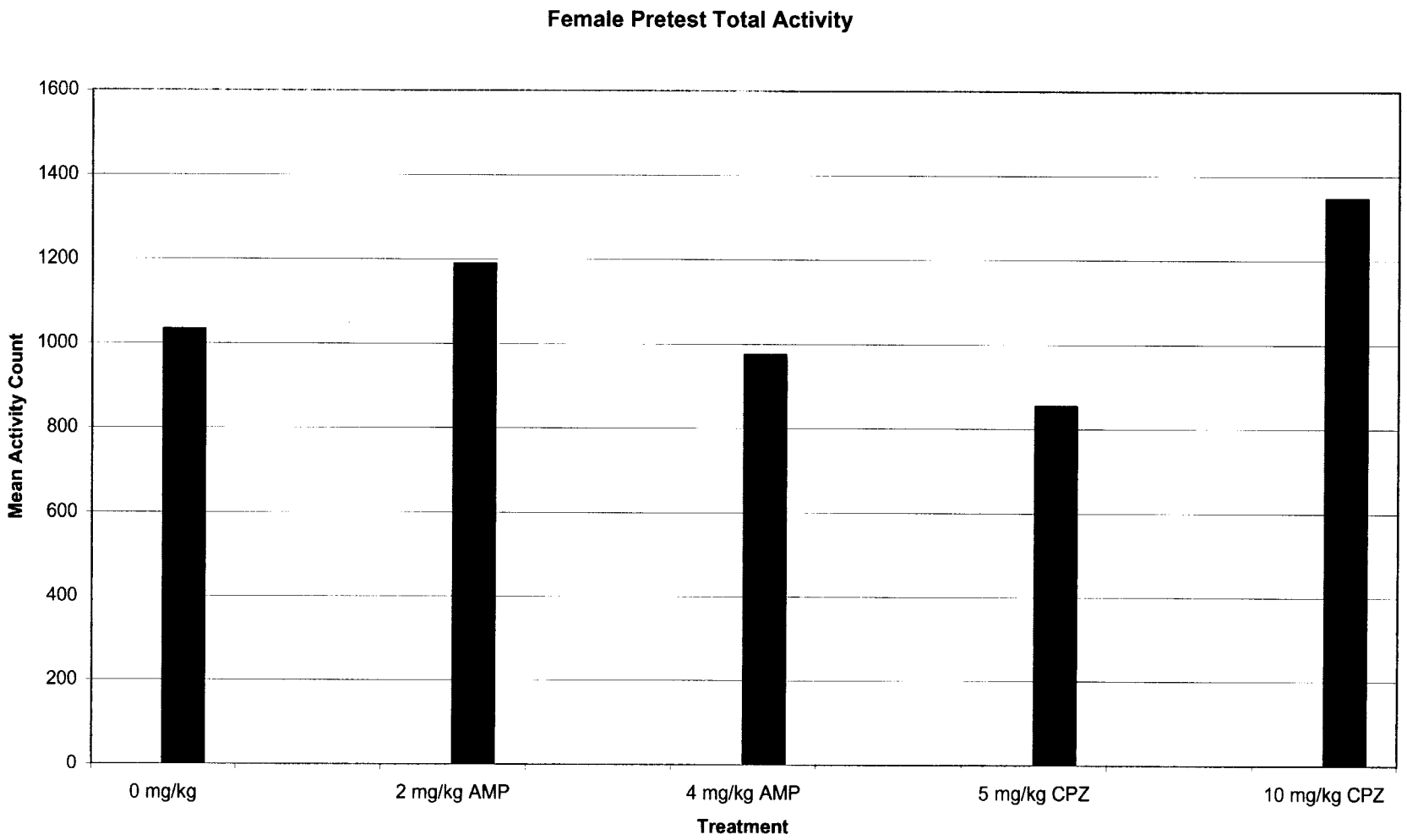

Female Pretest Total Activity
Mean Activity Count
1600
1400
1200
1000
800
600
400
200
0
0 mg/kg
2 mg/kg AMP
4 mg/kg AMP
5 mg/kg CPZ
10 mg/kg CPZ
Treatment

Figure 4

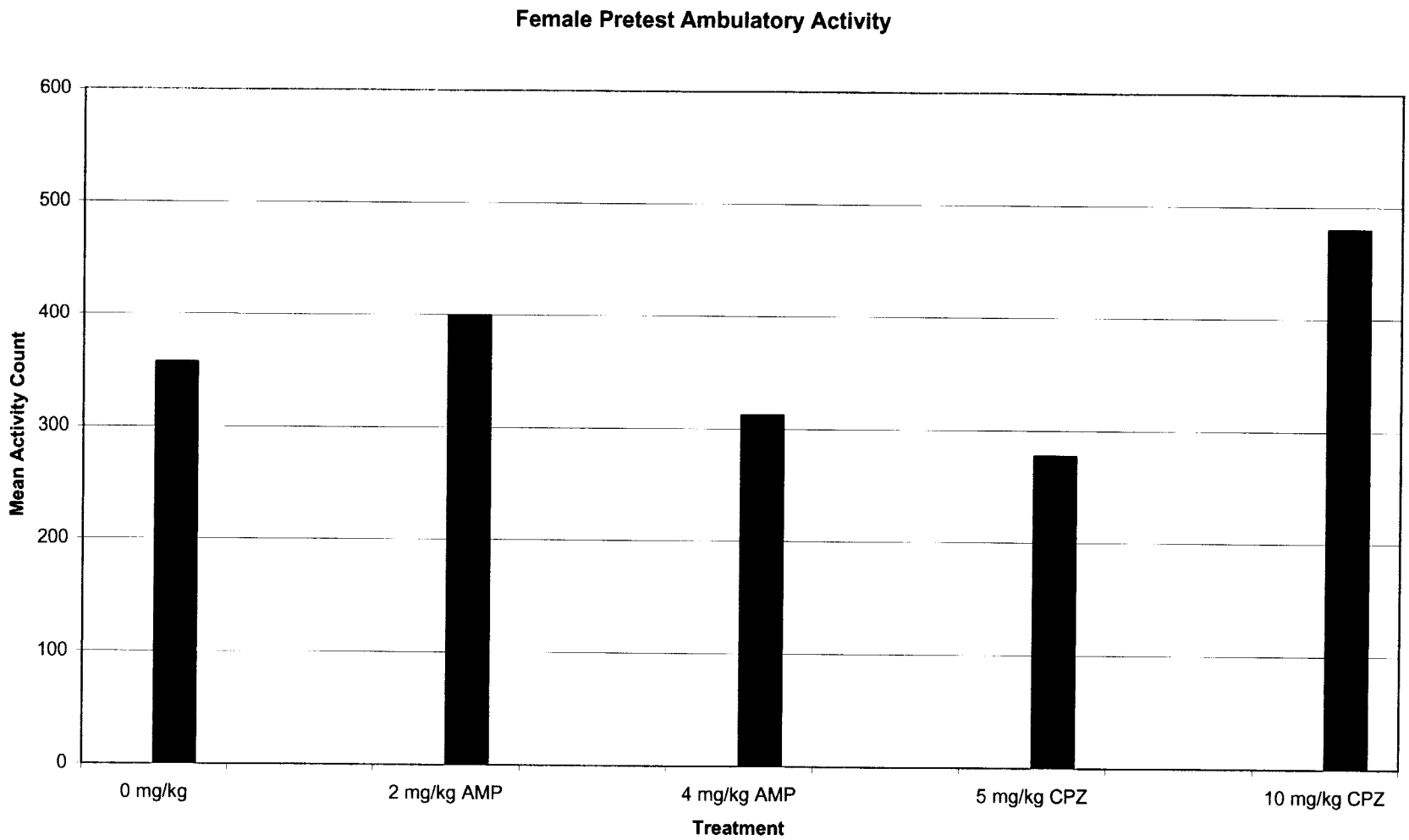
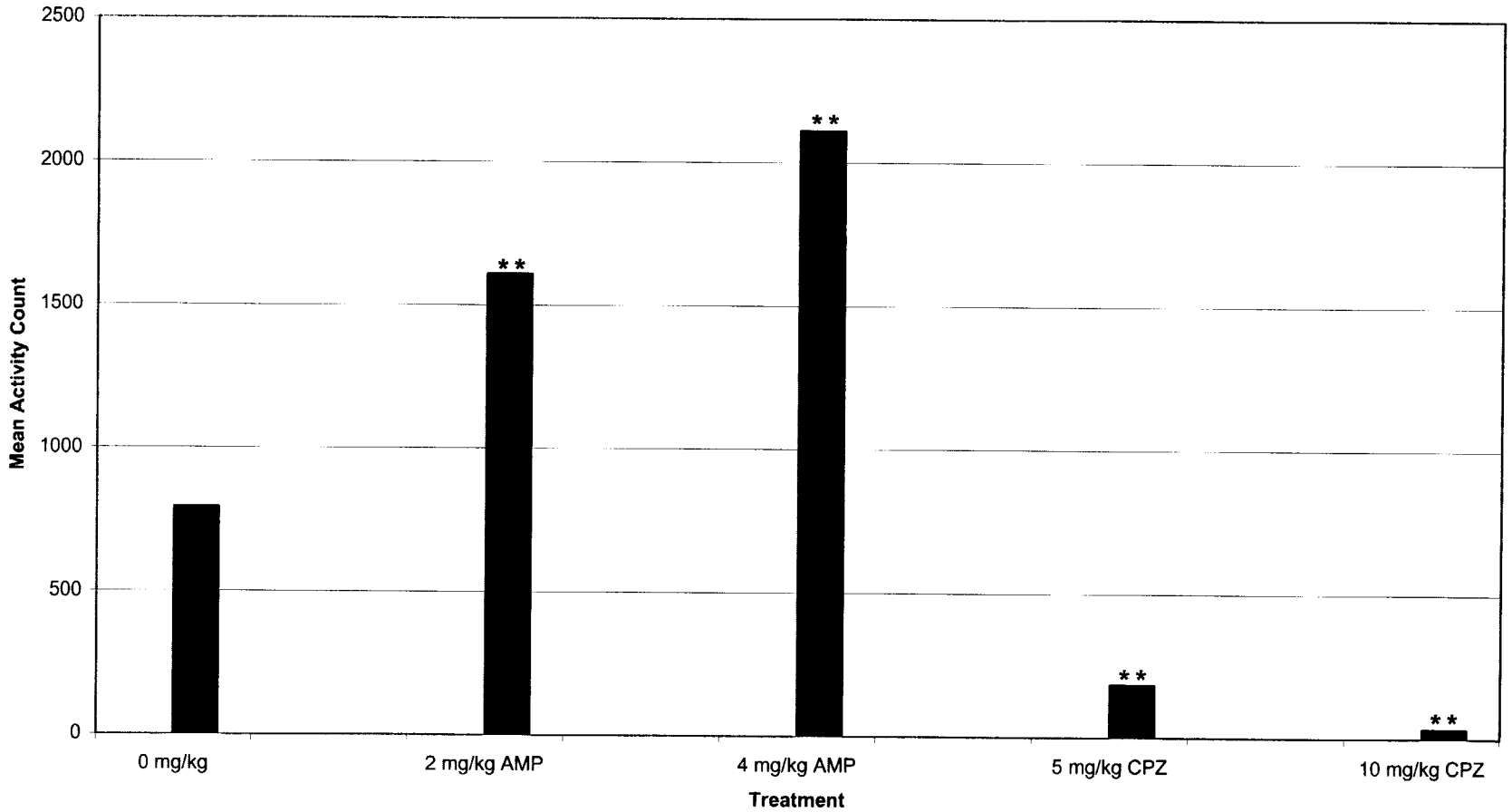
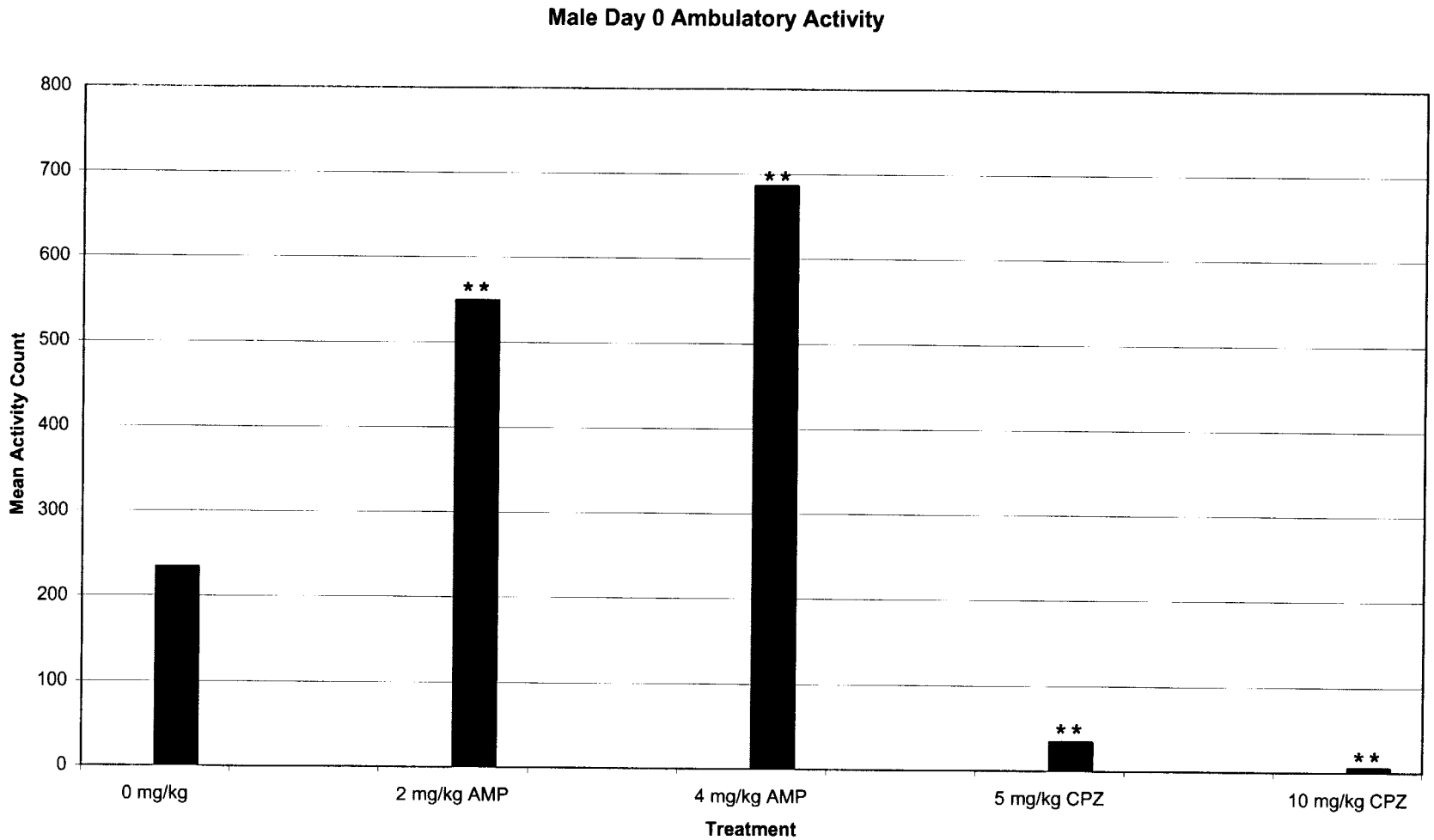

Female Pretest Ambulatory Activity
Mean Activity Count
600
500
400
300
200
100
0
0 mg/kg
2 mg/kg AMP
4 mg/kg AMP
5 mg/kg CPZ
10 mg/kg CPZ
Treatment

Figure 5



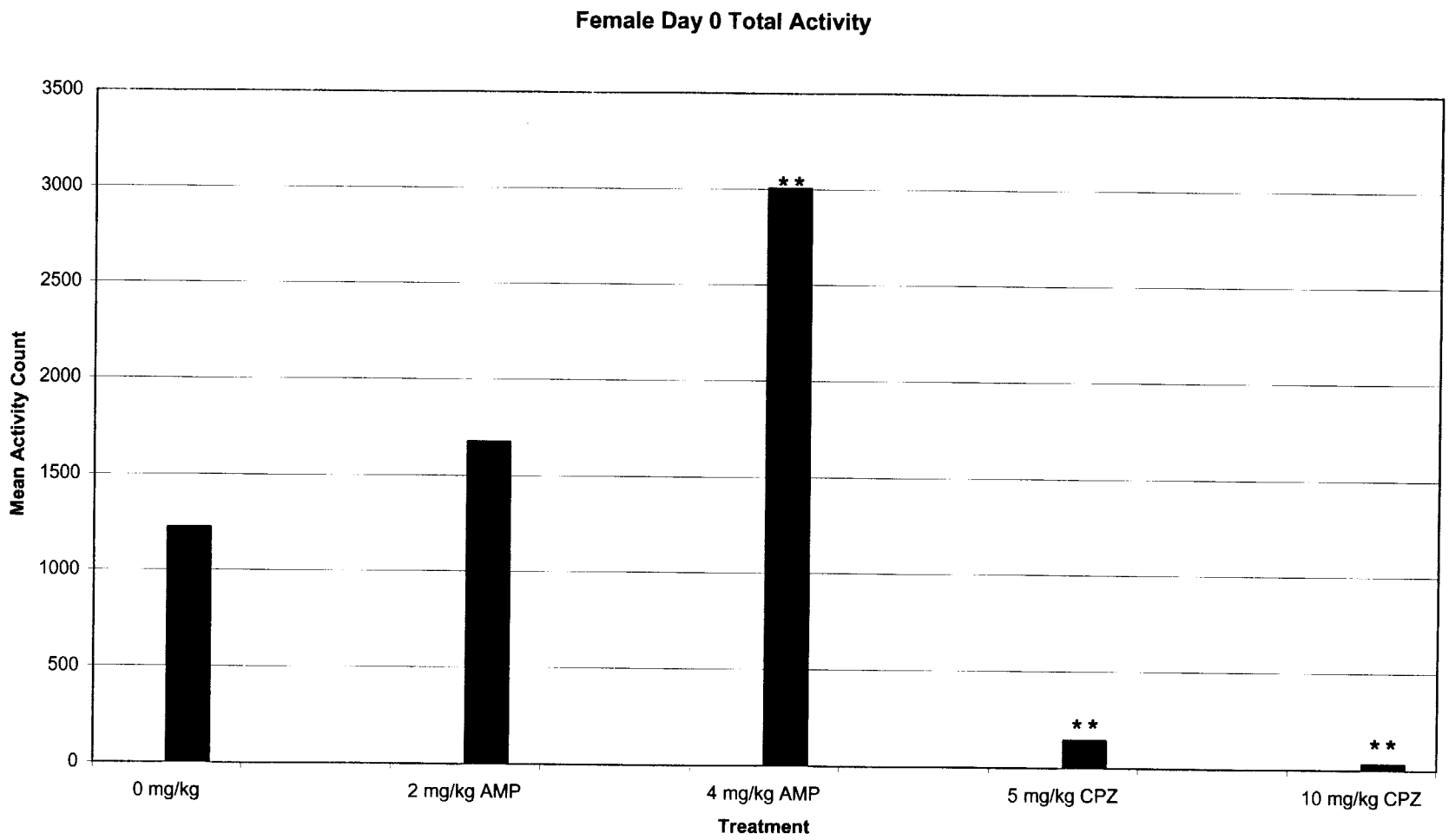
** = Significantly different from control group 1 at 0.01 using Dunnett's test

Figure 6



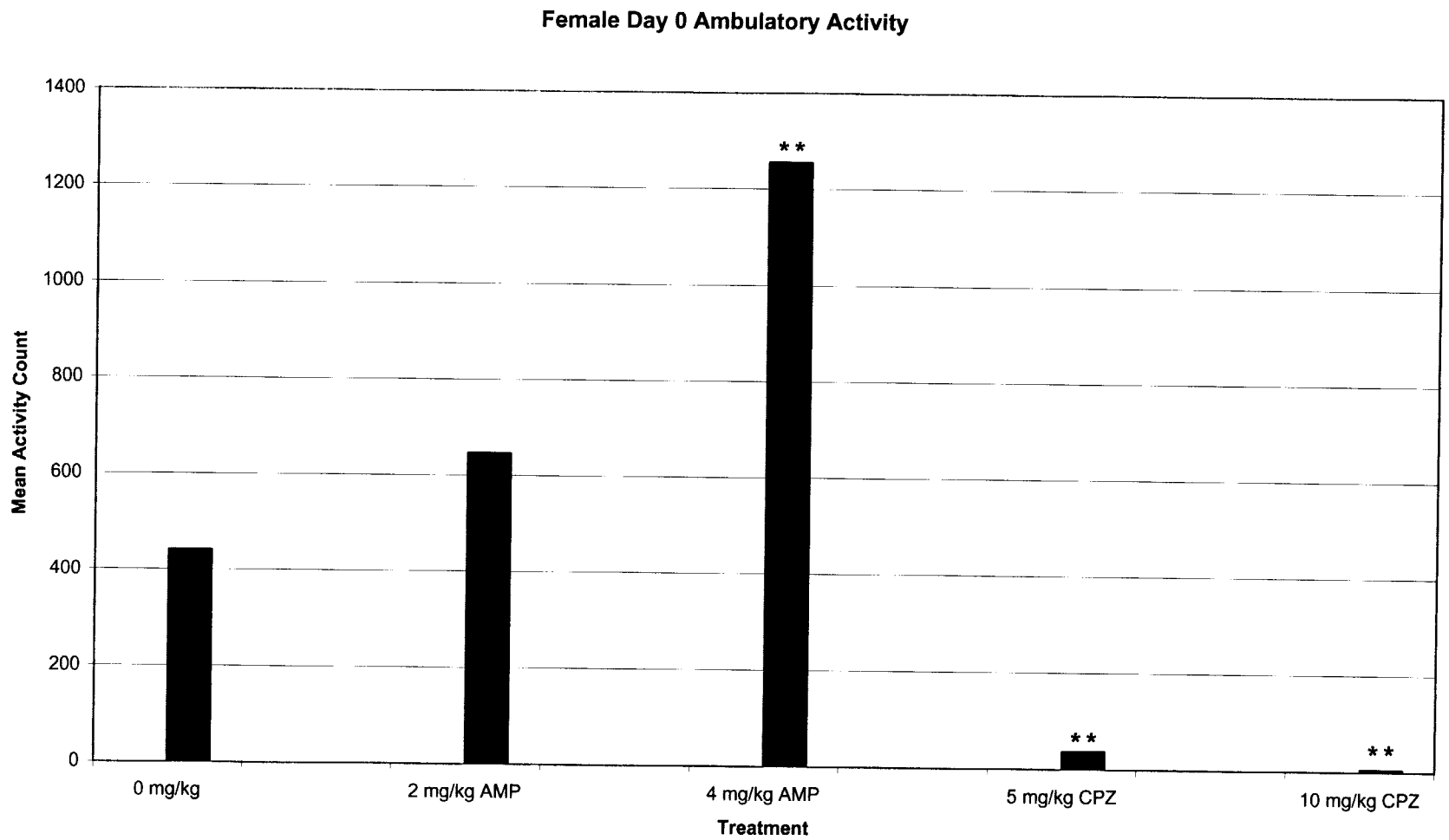
** = Significantly different from control group 1 at 0.01 using Dunnett's test

Figure 7



** = Significantly different from control group 1 at 0.01 using Dunnett's test

Figure 8



** = Significantly different from control group 1 at 0.01 using Dunnett's test

STUDY NUMBER: WIL-99032 Study Date Range: 03-DEC-90 Through 21-DEC-90

STUDY TITLE: An Acute Neurotoxicity Study of 1-Naphthyl-N-Methylcarbamate (Carbaryl) in Rats.

STUDY OBJECTIVE:

To provide evidence that the procedures employed in the conduct of the Functional Observational Battery(F.O.B.) and Motor Activity(M.A.) tests used in this laboratory would detect endpoints indicative of neurotoxicity.

POSITIVE CONTROL MATERIAL:

Carbaryl. This material is an inhibitor of acetylcholinesterase (Ruppert et al, 1983; Cranmer, 1986). Acute administration results in convulsions, autonomic signs, reduced responsiveness, arousal and locomotor activity; these effects are short lived. (Ruppert et al, 1983, Moser et al, 1988; Takahashi, et al, 1991).

METHODS:

Four groups of 24 rats each (12/sex) were administered 0, 2, 10 or 50 mg/kg carbaryl (98% active ingredient in 0.5% methylcellulose) as a single dose by intraperitoneal injection (Dose Volume 1 ml/kg). Dose level selection was based on the results of a range-finding study. Functional Observational Battery and Motor Activity tests were performed as described for WIL-188003, prestudy, 30 minutes (the estimated time of "peak-effect" of dose administration) and 7 days following dose administration. All animals were euthanized on study day 8 and discarded.

RESULTS:

The results of the study are shown in Table 1. All animals survived to study termination. During performance of the F.O.B., remarkable differences were observed between animals receiving 10 and 50 mg/kg carbaryl and the control animals. The responses occurred primarily 30 minutes after dose administration, were dose related and transient in nature (no signs of toxicity were apparent in these animals seven days after dose administration). Specific results included:

- altered posture, palpebral closure and convulsions (tremors) during the home cage observations
- altered ease of removal (from home cage) and handling, salivation, fur appearance and eye prominence during the handling observations
- increased time to first step, alterations in mobility, gait, gait score, arousal, convulsions (tremors) and the number of rearing episodes during the open-field observations
- alterations in the approach, touch, startle, tail pinch and pupil responses, olfactory orientation and air righting reflex during the sensory observations
- alterations in hindlimb extensor strength, grip-strength and rotarod performance during the neuromuscular observations
- alterations in catalepsy time and body temperature during the physiological observations

During the motor activity test, reductions in total and ambulatory activity were observed between animals receiving 10 and 50 mg/kg carbaryl and the control animals. The reduction in activity was noted 30 minutes after dose administration, was dose related and transient in nature (activity levels were comparable to control animals seven days after dose administration).

CONCLUSION:

The results of this study indicate that the procedures employed during the F.O.B. and M.A. tests in this laboratory can successfully identify endpoints indicative of neurotoxicity, produced by a single dose of carbaryl.

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Table 1

Effects of Carbaryl on Determinants of the F.O.B. and Motor Activity: Dosed Rats compared to Control Animals*

OBSERVATION	TIME: Prestudy Male	Prestudy Female	30 minutes p.d. Male	30 minutes p.d. Female	7 days p.d. Male	7 days p.d. Female
HOME CAGE OBSERVATIONS						
Posture	-	-	H	H	-	-
Convulsions-Clonic	-	-	M,H	M,H	-	-
Convulsions-Tonic	-	-	-	-	-	-
Tremors	-	-	M,H	M,H	-	-
Biting	-	-	-	-	-	-
Palpebral Closure	-	-	-	H	-	-
Feces Consistency	-	-	-	-	-	-
HANDLING OBSERVATIONS						
Ease of Removal from Cage	-	-	H	-	L,M	-
Ease of Handling	-	-	H	H	-	-
Lacrimation	-	-	-	-	-	-
Chromodacryorrhea	-	-	-	-	-	-
Salivation	-	-	H	H	-	-
Piloerection	-	-	-	-	-	-
Fur Appearance	-	-	H	-	-	-
Palpebral Closure	-	-	-	-	-	-
Respiratory Rate	-	-	-	-	-	-
Respiratory Character	-	-	-	-	-	-
Red Deposits-Eyes	-	-	-	-	-	-
Red Deposits-Nose	-	-	-	-	-	-
Red Deposits-Mouth	-	-	-	-	-	-
Crusty Deposits-Eyes	-	-	-	-	-	-
Crusty Deposits-Nose	-	-	-	-	-	-
Crusty Deposits-Mouth	-	-	-	-	-	-
Mucous Membranes-Color	-	-	-	-	-	-
Eyes-Color	-	-	-	-	-	-
Skin-Color	-	-	-	-	-	-
Eye Prominence	-	-	-	M	-	-
Muscle Tone	-	-	-	-	-	-
OPEN-FIELD OBSERVATIONS						
Time to First Step	-	-	H	-	-	-
Mobility	-	-	H	H	-	-
Gait	-	-	H	H	-	-

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Convulsions-Clonic	-	-	H	M,H	-	-
Convulsions-Tonic	-	-	-	-	-	-
Tremors	-	-	H	M,H	-	-
Gait Score	-	-	H	H	-	-
Arousal	-	-	H	H	-	-
Bizarre/Stereotypic Behavior	-	-	-	-	-	-
Rearing	-	-	H	H	-	-
Backing	-	-	-	-	-	-
Grooming	-	-	-	-	-	-
Defecation	-	-	-	-	-	-
Urination	-	-	-	-	-	-
SENSORY OBSERVATIONS						
Approach Response	-	-	-	H	-	M
Touch Response	-	-	M	H	-	-
Startle Response	-	-	H	-	-	-
Tail Pinch Response	-	-	H	H	-	-
Olfactory Orientation	-	-	H	-	-	-
Eyeblink Response	-	-	-	-	-	-
Pupil Response	-	-	M,H	H	-	-
Forelimb Extension	-	-	-	-	-	-
Hindlimb Extension	-	-	-	-	-	-
Air Righting Reflex	-	-	M,H	H	-	-
NEUROMUSCULAR OBSERVATIONS						
Hindlimb Extensor Strength	-	-	H	H	-	-
Grip Strength-Forelimb	-	-	-	H	-	L
-Hindlimb	-	-	H	H	-	-
Rotarod Performance	-	-	M,H	H	-	H
Hindlimb Footsplay	-	-	-	-	-	-
PHYSIOLOGICAL OBSERVATIONS						
Catalepsy	-	-	H	H	-	-
Body Temperature	-	-	M,H	M,H	-	-
Body Weight	-	-	-	-	-	-
MOTOR ACTIVITY	-	-	M,H	H	-	-

*Differences between treated groups and control group, significant ($P<0.05$)
H = high dose, M = mid-dose, L = low dose
p.d.: Post Dose

STUDY NUMBER: WIL-99034 Study Date Range: 14-JAN-91 Through 15-FEB-91

STUDY TITLE: **PART 1:** A Repeated Dose Neurotoxicity Study of Acrylamide in Rats.

PART 2: An Acute Neurotoxicity Study of Trimethyltin Chloride in Rats.

STUDY OBJECTIVES:

The overall objective of these studies was to provide evidence that the procedures employed in the conduct of the Neurotoxicity Screening Battery used in this laboratory would detect endpoints indicative of neurotoxicity. The specific objectives of each study are provided below.

PART 1: To validate the procedures used in the Functional Observational Battery (F.O.B.) to detect limb weakness (i.e., neuromuscular deficits). Specifically, this included the hindlimb extensor strength (Cabe and Tilson, 1978), fore- and hindlimb grip strength (Meyer et al, 1978), rotarod (Kaplan and Murphy, 1972) and hindlimb foot-splay (Edwards and Parker, 1977) tests. The study also served to provide positive control groups exhibiting peripheral nervous system pathology with which to validate the pathology procedures utilized in this laboratory.

PART 2: To provide positive control groups exhibiting central nervous system pathology with which to validate the pathology procedures utilized in this laboratory.

POSITIVE CONTROL MATERIALS:

PART 1: Acrylamide. Repeated administration of this material results in alterations in posture, ease of handling, respiratory character, fur appearance, palpebral closure, gait, mobility, air righting reflex, hindlimb extensor strength, fore- and hindlimb grip strength, rotarod performance, hindlimb foot-splay and bodyweight (Kaplan and Murphy, 1972; Edwards and Parker, 1977; Cabe and Tilson, 1978; Tilson et al, 1979; Pryor et al, 1983; Sterman and Sheppard, 1983; Brouxup et al, 1989; Schulze and Boysen, 1991; Moser et al, 1992; Shell et al, 1992). This material also produces a central-peripheral distal axonopathy; the peripheral nervous system is primarily affected and the damage is characterized by primary degeneration of the axon. This can be associated with changes in the neuronal perikarya (Tilson et al, 1979; Miller and Spencer, 1985; Brouxup et al, 1989; Schulze and Boysen, 1991; Moser et al, 1992).

PART 2: Trimethyltin Chloride. Acute administration of this material produces central nervous system pathology characterized by damage to the hippocampal formation (Chang, 1986; O'Shaughnessy and Losos, 1986; Woodruff and Baisden, 1990).

METHODS:

PART 1: Four groups of 24 rats each (12/sex) were administered 0, 5, 10 and 20 mg/kg/day acrylamide (99% active ingredient in deionized water), 5 days/week for four consecutive weeks. The dose volume for all groups was 5 ml/kg. Dose levels were selected from values in the literature (Tilson et al, 1979; Spencer and Schaumberg, 1980). Functional Observational Battery Tests were performed prestudy, 1 and 6 hours, 1, 7, 14, 21 and 28 days after receipt of the first dose of the test material (all F.O.B. tests were performed prior to dose administration with the exception of the 1 and 6 hour tests). Motor activity tests were performed prestudy and 28 days after receipt of the first dose. Functional Observational Battery (F.O.B.) and Motor Activity (M.A.) tests were performed as described for WIL-188003. At the end of the study all animals (24/group) were euthanized and perfused in situ. Each rat received approximately 0.1 ml heparin solution (1000 USP units/ml)/100g body weight, by intravenous injection (tail vein). After a minimum period of 10 minutes each animal was anesthetized by carbon dioxide inhalation and the thoracic cavity opened by a mid-line incision. A 16 or 18 guage cannula was then inserted into the left ventricle via a small incision and clamped with a hemostat. The right atrium was then incised to provide an outlet for blood and perfusion solutions. Each animal was initially perfused with a buffered sodium nitrite solution to displace the blood and dilate the blood vessels. This was followed by the fixative, buffered 1.5% glutaraldehyde-4% formaldehyde solution. Following perfusion fixation of the animal, the hindlimbs, forelimbs, tail, brain (excised from skull), head and vertebral column were dissected and placed in buffered 1.5% glutaraldehyde-4% formaldehyde for a minumum of 24 hours before further dissection. The following central and peripheral nervous system tissues were dissected for 12 animals (6/sex) in the control and high dose group (20 mg/kg/day):

- Brain - forebrain, center of the cerebrum, midbrain, cerebellum and pons, and the medulla oblongata.
- Spinal cord - at cervical swellings C_3-C_8 and at lumbar swellings T_{13}-L_4.
- Gasserian ganglion/Trigeminal nerves.
- Lumbar dorsal root ganglion at T_{13}-L_4.
- Lumbar dorsal root fibers at T_{13}-L_4.
- Lumbar ventral root fibers at T_{13}-L_4.
- Cervical dorsal root ganglion at C_3-C_8.
- Cervical dorsal root fibers at C_3-C_8.
- Cervical ventral root fibers at C_3-C_8.
- Sciatic nerve (mid-thigh region)
- Sciatic nerve (at sciatic notch)
- Sural nerve
- Tibial nerve

- Peroneal nerve
- Optic nerve
- Eyes

Following dissection, central and peripheral nervous system tissues were embedded in paraffin wax, sectioned, mounted on slides and stained with hematoxylin and eosin. Tissues were then examined microscopically for lesions.

PART 2: One group of 10 rats (5/sex) were administered 7.5 mg/kg Trimethyltin Chloride (dissolved in physiological saline; dose volume: 5 ml/kg) as a single dose by intraperitoneal injection. Dose level selection was based on values from the literature (O'Shaughnessy and Losos, 1986). All animals (5/sex) were euthanized and tissues processed for neuropathological examination as described above in PART 1, 15 days after receipt of the dose.

RESULTS:

PART 1:

A. Functional Observational Battery

The results of the study are shown in Table 1. All animals survived to study termination.

- No remarkable differences were observed between animals receiving 5, 10 and 20 mg/kg/day acrylamide and the control animals, during conduct of the F.O.B. 1 and 6 hours and 1 and 7 days after administration of the first dose.

- Differences were observed between animals receiving 10 and 20 mg/kg/day acrylamide and control animals during the conduct of the F.O.B. 14, 21 and 28 days after administration of the first dose, were dose related and more apparent with cumulative exposure (i.e., time.) Specific results included:

  - alterations in muscle tone during the handling observations
  - alterations in the startle and tail pinch responses and air righting reflex during the sensory observations
  - alterations in hindlimb extensor strength, fore- and hindlimb grip strength and rotarod performance (reductions) and hindlimb foot-splay (increased).
  - alterations (decreases) in body temperature and bodyweight.

B. Motor Activity

No remarkable differences were observed between animals receiving 5, 10 and 20 mg/kg/day acrylamide and control animals in total or ambulatory activity counts (across

or within activity sessions) prestudy or 28 days after receipt of the first dose.

C. Neuropathology

- No pathological changes were observed in the brain, spinal cord (cervical or lumbar region), gasserian ganglion, lumbar root (males only), lumbar dorsal ganglion, cervical root, cervical dorsal ganglion, cervical ventral root fibers (males only) optic nerves or eyes for animals of either sex in the control and high dose group (20 mg/kg/day).

- Biologically and/or significantly increased numbers of animals of both sexes from group 4 (20 mg/kg/day) exhibited lesions indicative of neurotoxicity (axonal degeneration, digestion chambers, swollen axon cylinders or demyelination) in the trigeminal nerve, lumbar dorsal and ventral root fibers, cervical dorsal root fibers, sciatic nerve (significantly elevated in the male, $P < 0.05$) sural nerve, tibial nerve (significantly elevated in the male, $P < 0.05$) peroneal nerve, lumbar root (females only) and cervical ventral root fibers (females only) when compared to the control group animals.

PART 2:

Neuropathology

- 2/5 (40%) male rats exhibited neuronal loss in the dentate gyrus. 1/5 (20%) male rats exhibited chromatolysis in the gasserian ganglion neurons.

CONCLUSIONS:

The results of this study indicate that the procedures employed during the conduct of the Neurotoxicity Screening Battery used in this laboratory can detect the primary neurotoxic effects produced by acrylamide and trimethyltin chloride.

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Table 1

Effects of Acrylamide on Determinants of the F.O.B. and Motor Activity: Dosed Rats Compared to Control Animals.*

OBSERVATIONS	Prestudy		1h p.d.		6h p.d.		1d p.d.		7d p.d.		14d p.d.		21d p.d.		28d p.d.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
HOME CAGE OBSERVATIONS																
Posture	-	-	-	-	-	-	-	-	H	-	-	-	-	-	-	M
Convulsions-Clonic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Convulsions-Tonic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tremors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Palpebral Closure	-	-	-	-	-	-	-	-	M,H	-	-	-	-	-	H	-
Feces Consistency	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HANDLING OBSERVATIONS																
Ease of Removal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H	L
Ease of Handling	-	-	-	-	-	-	-	-	-	-	-	-	H	L	-	L,M
Lacrimation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromodacryorrhea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salivation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Piloerection	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fur Appearance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Palpebral Closure	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Respiratory Rate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Respiratory Character	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red Deposits-Eyes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red Deposits-Nose	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red Deposits-Mouth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crusty Deposits-Eyes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crusty Deposits-Nose	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crusty Deposits-Mouth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mucous Membranes-Color	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eyes-Color	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Skin-Color	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eye Prominence	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Muscle Tone	-	-	-	-	-	-	-	-	-	M,H	-	-	-	H	H	H

Table 1 (continued)

OBSERVATIONS	Prestudy		1h p.d.		6h p.d.		1d p.d.		7d p.d.		14d p.d.		21d p.d.		28d p.d.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
OPEN-FIELD OBSERVATIONS																
Time to First Step	-	-	-	-	-	-	-	-	-	-	-	-	-	H	-	-
Mobility	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H	H
Gait	-	-	-	-	-	-	-	-	-	-	-	-	H	H	H	H
Convulsions-Clonic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Convulsions-Tonic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tremors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gait Score	-	-	-	-	-	-	-	-	-	-	-	-	H	H	H	H
Arousal	-	-	-	-	-	-	-	-	-	-	-	L,M	-	-	-	-
Bizarre/Stereotypic Behavior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rearing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H	L,M,H
Backing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grooming	-	-	-	-	-	-	-	-	-	-	-	-	H	-	H	-
Urination	-	-	-	-	-	-	-	-	-	M	-	-	-	-	-	-
Defecation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SENSORY OBSERVATIONS																
Approach Response	-	-	-	-	-	-	-	-	-	-	-	L	-	-	-	-
Touch Response	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Startle Response	-	-	-	-	-	-	-	-	-	-	-	-	-	H	-	-
Tail Pinch Response	-	-	-	-	-	-	-	-	-	-	-	-	H	-	-	H
Olfactory Orientation	-	-	-	-	-	-	M	-	-	-	-	-	-	-	-	-
Eyeblink Response	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pupil Response	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forelimb Extension	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hindlimb Extension	-	-	-	-	-	-	-	-	-	-	-	-	-	H	H	H
Air Righting Reflex	-	-	-	-	-	-	-	-	-	-	-	-	-	H	H	H

Table 1 (continued)

OBSERVATIONS	Prestudy		1h p.d.		6h p.d.		1d p.d.		7d p.d.		14d p.d.		21d p.d.		28d p.d.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
NEUROMUSCULAR OBSERVATIONS																
Hindlimb Extensor Strength	-	-	-	-	-	-	-	-	-	-	-	H	H	H	M,H	H
Grip Strength-Forelimb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H	-
-Hindlimb	-	-	-	-	-	-	-	-	-	-	H	-	H	-	H	-
Rotarod Performance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H	H
Hindlimb Footsplay	-	-	-	-	-	-	-	-	-	-	H	H	H	M,H	H	H
PHYSIOLOGICAL OBSERVATIONS																
Catalepsy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Body Temperature	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H	H
Body Weight	-	-	-	-	-	-	-	-	-	-	-	-	H	H	H	H
MOTOR ACTIVITY	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-

*Differences between treated groups and control group, significant ($P<0.05$)
H = high dose, M = mid-dose, L = low dose
p.d.: Post Dose
h: hour
d: day
N/A = Not Applicable

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX G

Historical Control Data for Serum Chemistry (WIL Research Laboratories, Inc.)

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test Sex

A/G

F

Summary for 'SEX' = F (49 detail records)

Avg	2.35
Min	1.73
Max	3.11
SD	0.335

M

Summary for 'SEX' = M (49 detail records)

Avg	1.86
Min	1.46
Max	2.42
SD	0.250

Summary for 'TEST' = A/G (98 detail records)

Avg	2.11
Min	1.46
Max	3.11
SD	0.384

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
ALB		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	5.18
	Min	4.00
	Max	6.20
	SD	0.445
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	4.53
	Min	4.10
	Max	4.90
	SD	0.170
	Summary for 'TEST' = ALB (98 detail records)	
	Avg	4.86
	Min	4.00
	Max	6.20
	SD	0.469

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
ALP		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	61.47
	Min	24.00
	Max	142.00
	SD	20.673
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	114.51
	Min	61.00
	Max	196.00
	SD	32.344
	Summary for 'TEST' = ALP (98 detail records)	
	Avg	87.99
	Min	24.00
	Max	196.00
	SD	37.944

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
ALT		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	57.86
	Min	22.00
	Max	940.00
	SD	130.990
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	38.35
	Min	25.00
	Max	59.00
	SD	7.111
	Summary for 'TEST' = ALT (98 detail records)	
	Avg	48.10
	Min	22.00
	Max	940.00
	SD	92.800

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
AST		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	115.27
	Min	56.00
	Max	1002.00
	SD	136.636
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	88.57
	Min	61.00
	Max	150.00
	SD	20.791
	Summary for 'TEST' = AST (98 detail records)	
	Avg	101.92
	Min	56.00
	Max	1002.00
	SD	98.144

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex
BILI	

F

Summary for 'SEX' = F (49 detail records)

Avg	0.23
Min	0.10
Max	1.50
SD	0.191

M

Summary for 'SEX' = M (49 detail records)

Avg	0.18
Min	0.10
Max	0.50
SD	0.067

Summary for 'TEST' = BILI (98 detail records)

Avg	0.21
Min	0.10
Max	1.50
SD	0.145

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
BUN		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	15.82
	Min	8.30
	Max	29.90
	SD	3.665
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	13.43
	Min	6.80
	Max	21.50
	SD	3.554
	Summary for 'TEST' = BUN (98 detail records)	
	Avg	14.53
	Min	6.80
	Max	29.90
	SD	3.757

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
CA		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	10.29
	Min	9.30
	Max	11.80
	SD	0.563
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	9.96
	Min	9.00
	Max	10.90
	SD	0.388
	Summary for 'TEST' = CA (98 detail records)	
	Avg	10.12
	Min	9.00
	Max	11.80
	SD	0.509

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
CHOL		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	75.24
	Min	38.00
	Max	132.00
	SD	20.015
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	60.96
	Min	35.00
	Max	126.00
	SD	17.033
	Summary for 'TEST' = CHOL (98 detail records)	
	Avg	68.10
	Min	35.00
	Max	132.00
	SD	19.833

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
CL		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	101.61
	Min	96.00
	Max	108.00
	SD	2.564
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	100.76
	Min	97.00
	Max	107.00
	SD	1.985
	Summary for 'TEST' = CL (98 detail records)	
	Avg	101.18
	Min	96.00
	Max	108.00
	SD	2.321

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
CREA		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	0.37
	Min	0.20
	Max	0.50
	SD	0.068
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	0.28
	Min	0.20
	Max	0.40
	SD	0.069
	Summary for 'TEST' = CREA (98 detail records)	
	Avg	0.32
	Min	0.20
	Max	0.50
	SD	0.083

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex
GGT	

F

Summary for 'SEX' = F (49 detail records)

Avg	0.41
Min	0.00
Max	6.00
SD	0.934

M

Summary for 'SEX' = M (49 detail records)

Avg	0.27
Min	0.00
Max	2.00
SD	0.569

Summary for 'TEST' = GGT (98 detail records)

Avg	0.34
Min	0.00
Max	6.00
SD	0.773

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test Sex

GLOB

F

Summary for 'SEX' = F (49 detail records)

Avg	2.23
Min	1.80
Max	2.90
SD	0.262

M

Summary for 'SEX' = M (49 detail records)

Avg	2.47
Min	1.90
Max	3.00
SD	0.282

Summary for 'TEST' = GLOB (98 detail records)

Avg	2.35
Min	1.80
Max	3.00
SD	0.295

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
GLU		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	128.63
	Min	99.00
	Max	156.00
	SD	14.152
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	135.84
	Min	98.00
	Max	183.00
	SD	18.050
	Summary for 'TEST' = GLU (98 detail records)	
	Avg	132.23
	Min	98.00
	Max	183.00
	SD	16.536

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
K		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	5.27
	Min	4.08
	Max	7.26
	SD	0.667
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	5.31
	Min	4.15
	Max	7.53
	SD	0.616
	Summary for 'TEST' = K (98 detail records)	
	Avg	5.29
	Min	4.08
	Max	7.53
	SD	0.639

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test Sex

NA

F

Summary for 'SEX' = F (49 detail records)

Avg	141.71
Min	139.00
Max	149.00
SD	1.904

M

Summary for 'SEX' = M (49 detail records)

Avg	142.33
Min	138.00
Max	148.00
SD	1.676

Summary for 'TEST' = NA (98 detail records)

Avg	142.02
Min	138.00
Max	149.00
SD	1.811

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
PHOS		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	6.03
	Min	4.00
	Max	7.90
	SD	0.813
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	6.76
	Min	4.60
	Max	8.60
	SD	0.952
	Summary for 'TEST' = PHOS (98 detail records)	
	Avg	6.39
	Min	4.00
	Max	8.60
	SD	0.955

Historical Control Serum Chemistry

Species:	RAT	TA Route:	ORAL GAVAGE
Strain:	CRL:IGS	Fasted:	= YES
Age at Test in Weeks:	BETWEEN 17-22	Finalized:	= YES

Test	Sex	
TP		
	F	
	Summary for 'SEX' = F (49 detail records)	
	Avg	7.41
	Min	5.80
	Max	8.80
	SD	0.525
	M	
	Summary for 'SEX' = M (49 detail records)	
	Avg	7.00
	Min	6.30
	Max	7.60
	SD	0.296
	Summary for 'TEST' = TP (98 detail records)	
	Avg	7.20
	Min	5.80
	Max	8.80
	SD	0.473

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX H

Clinical Pathology Methods, Procedures and References

CLINICAL PATHOLOGY METHODS, PROCEDURES AND REFERENCES

Serum Chemistry - Hitachi 911

Albumin - Bromcresol Green (BCG) Method, Modification of the Doumas reaction. Hitachi 911 Application Code 012. Boehringer Mannheim Reagent, catalog number 450011.

A/G Ratio - Calculated from Albumin and Globulin Results.

Alkaline Phosphatase - Kinetic reaction measuring the rate of p-nitrophenol liberation. Hitachi 911 Application Code 016. Boehringer Mannheim Reagent, catalog number 450012.

Alanine Aminotransferase - Modification of the International Federation of Clinical Chemistry (IFCC) recommended method. Hitachi 911 Application Code 033. Boehringer Mannheim Reagent, catalog number 450065.

Aspartate Aminotransferase - Kinetic method based on the International Federation of Clinical Chemistry (IFCC) recommendations. Hitachi 911 Application Code 199. Boehringer Mannheim Reagent, catalog number 450064.

Bilirubin (Total) - Diazo method developed by Wahlefeld *et al.* Scand J Clin Lab Invest 1972; 29: Supplement 126. Hitachi 911 Application Code 051. Boehringer Mannheim Reagent, catalog number 1039034.

Blood Urea Nitrogen (BUN) - A urease triggered methodology based upon the method of Talke and Schubert Klin Wschr, 1965; 43:174. Hitachi 911 Application Code 053. Boehringer Mannheim Reagent, catalog number 450021.

Calcium - Modified method using a gamma-amino-butyric acid (GABA) buffer. Hitachi 911 Application Code 043. Boehringer Mannheim Reagent, catalog number 1125621.

Chloride - An ion-selective electrode that measures the electrical potential of the ions present in solution. Hitachi 911 Application Codes 097, 098, and 099. Boehringer Mannheim Reagent, catalog numbers 450041, 450042, and 450043.

Cholesterol - Enzymatic reaction as described by Trinder. Ann Clin Biochem 1974; 12:266. Hitachi 911 Application Code 271. Boehringer Mannheim Reagent, catalog number 450061.

Serum Chemistry (continued)

Creatinine - Modified Jaffe reaction based on the work of Poper *et al.* Biochem Z 1937; 291:354 and Seelig and Wuest, Aerztl Labor 1969; 15:34. Hitachi 911 Application Code 077. Boehringer Mannheim Reagent, catalog number 450019.

Gamma-Glutamyltransferase (GGT) - Method based on the studies of Persijn and Van der Slik, J Clin Chem Clin Biochem, 1976; 14:421. Hitachi 911 Application Code 173. Boehringer Mannheim Reagent, catalog number 450067.

Globulin - Calculation obtained by subtracting Albumin from Total Protein.

Glucose - Glucose hexokinase method based on the work of Schmidt, Peterson and Young. Klin Wschr 1961; 39:1244. Methods of Enzymatic Analysis, 2nd Eng ed. New York, Academic Press, 1974:1196. Anal Biochemistry 1958; 23:301. Hitachi 911 Application Code 174. Boehringer Mannheim Reagent, catalog number 450058.

Phosphorus - Method involves the formation of ammonium phosphomolybdate. Hitachi 911 Application Code 133. Boehringer Mannheim Reagent, catalog number 450024.

Potassium - An ion-selective electrode that measures the electrical potential of the ions present in solution. Hitachi 911 Application Codes 097, 098, and 099. Boehringer Mannheim Reagent, catalog numbers 450041, 450042, and 450043.

Sodium - An ion-selective electrode that measures the electrical potential of the ions present in solution. Hitachi 911 Application Codes 097, 098, and 099. Boehringer Mannheim Reagent, catalog number 450041, 450042, and 450043.

Total Protein - Endpoint biuret method that utilizes a sample blank. Hitachi 911 Application Code 155. Boehringer Mannheim Reagent, catalog number 450023.

Immunoassay

Rat TSH - solid-phase, two site chemiluminescent enzyme immunoassay for the quantitative measurement of rat thyroid stimulating hormone. Immulite. Diagnostics Products Corporation. Package insert.

Total T3 - solid-phase, chemiluminescent enzyme immunoassay for the quantitative measurement of total circulating triiodothyronine. Immulite. Diagnostics Products Corporation. Package Insert.

Immunoassay (continued)

Total T4 - solid-phase, chemiluminescent enzyme immunoassay for the quantitative measurement of total circulating thyroxide. Immulite. Diagnostics Products Corporation. Package Insert.

Hematology - CELL-DYN® 3500

HCT - The Hematocrit is the ratio of red blood cells to plasma and is expressed as a percentage of the whole blood volume. The HCT is calculated from the red blood cell count and the mean cell volume as follows:

$$HCT = (RBC \times MCV)/10$$

CELL-DYN® 3500 Operator's Manual. Abbott Diagnostics.

HGB - The Hemoglobin concentration is measured using a modified hemoglobincyanide method. A filtered LED with a wavelength of 540 nm is the light source. A photodetector measures the light that is transmitted. The Hemoglobin is directly measured and expressed in grams of hemoglobin per deciliter of whole blood. CELL-DYN® 3500 Operator's Manual. Abbott Diagnostics.

MCV - The Mean Cell Volume is the average volume of the individual red blood cells. The MCV is derived from the RBC size distribution data and is expressed in femtoliters. CELL-DYN® 3500 Operator's Manual. Abbott Diagnostics.

MCH - The Mean Corpuscular Hemoglobin is the average amount of hemoglobin contained in the red blood cell expressed in picograms. The MCH is calculated from the RBC and HGB as follows:

$$MCH = (HGB/RBC) \times 10$$

CELL-DYN® 3500 Operator's Manual. Abbott Diagnostics.

MCHC - The Mean Corpuscular Hemoglobin Concentration is the ratio of the weight of hemoglobin to the volume of the average red blood cell expressed in percent. It is calculated from the HGB and the HCT as follows:

$$MCHC = (HGB/HCT) \times 100$$

CELL-DYN® 3500 Operator's Manual. Abbott Diagnostics.

PLT - Platelets are counted and sized by the Aperture Impedance method. The Platelet Count is derived from the histogram after the PLT data has been analyzed by the platelet algorithm. The Platelet Count is expressed as $\#x10^3/\mu l$. CELL-DYN® 3500 Operator's Manual. Abbott Diagnostics.

Hematology - CELL-DYN® 3500 (continued)

RBC Count - The Red Blood Cells are counted and sized by the Aperture Impedance method. The Red Blood Cell Count is directly measured and given the number of RBC's. The RBC Count is expressed as #x10^6/µl. CELL-DYN® 3500 Operator's Manual. Abbott Diagnostics.

WBC Count - The White Blood Cell Count is analyzed in two separate channels. Both an optical and impedance analysis are performed. Combining both methodologies minimizes any interference caused by the presence of fragile WBCs, NRBCs or lyse-resistant RBCs. The WBC Count is expressed as #x10^3/µL. CELL-DYN® 3500 Operator's Manual. Abbott Diagnostics.

WBC Differential Count - The light scatter information is graphically presented in the form of scatterplots. Each cell analyzed is represented by a dot on the scatterplot. The dots are plotted at a point determined by the intersection of the channel information designated on the X and Y axes. The scatter information may be plotted in various combinations to yield different information. The CELL-DYN® 3500 uses the scatterplots to differentiate the WBCs into five subpopulations: Neutrophils, Eosinophils, Lymphocytes, Basophils and Monocytes. CELL-DYN® 3500 Operator's Manual. Abbott Diagnostics.

Hematology - Manual Methods

White Cell Differential - Manual method of counting 100 white cells stained with Wright Giemsa and entered on-line into the data files.

Red Blood Cell Morphology - Manual method of evaluating red blood cells on a Wright Giemsa stained slide and entered into the data files.

Coagulation

Prothrombin Time (Protime-PT) - Photometric clot detection is used to measure and record the time required for plasma specimens to clot by adding an excess of thromboplastin reagent and an optional amount of calcium to citrated plasma. Automated Coagulation Analyzer-Electra 1400C. Medical Laboratory Automation, Inc.

Activated Partial Thromboplastin Time (APTT) - Photometric clot detection is used to measure and record clotting time in a one-stage procedure which consists of recalcifying plasma in the presence of an excess of platelet-like reagent (cephalin) containing a plasma activator. Automated Coagulation Analyzer-Electra 1400C. Medical Laboratory Automation, Inc.

Urine Chemistry - CLINITEK® 200+

CLINITEK® 200+ Urine Chemistry Analyzer and BAYER REAGENT STRIPS. The following is a list of tests that are included:

Bilirubin - This test is based on the coupling of bilirubin with diazotized dichloroaniline in a strongly acid medium. The color ranges through various shades of tan. Bayer Reagent Strips, Multistix®. Bayer Corporation Diagnostics Division. Package Insert, 5/95.

Blood - This test is based on the peroxidase-like activity of hemoglobin, which catalyzes the reaction of diisopropylbenzene dihydroperoxide and $3,3^{1},5,5^{1}$-tetramethylbenzidine. The resulting color ranges from orange through green; very high levels of blood may cause the color development to continue to blue. Bayer Reagent Strips, Multistix®. Bayer Corporation Diagnostics Division. Package Insert, 5/95.

Glucose - This test is based on a double sequential enzyme reaction. One enzyme, glucose oxidase, catalyzes the formation of gluconic acid and hydrogen peroxide from the oxidation of glucose. A second enzyme, peroxidase, catalyzes the reaction of hydrogen peroxide with potassium iodide chromogen to oxidize the chromogen to colors ranging from green to brown. Bayer Reagent Strips, Multistix®. Bayer Corporation Diagnostics Division. Package Insert, 5/95.

Ketone - This test is based on the development of colors ranging from buff-pink to purple when acetoacetic acid reacts with nitroprusside. Bayer Reagent Strips, Multistix®. Bayer Corporation Diagnostics Division. Package Insert, 5/95.

Leukocytes - Granulocytic leukocytes contain esterases that catalyze the hydrolysis of the derivatized pyrrole amino acid ester to liberate 3-hydroxy-5-phenyl pyrrole. This pyrrole then reacts with a diazonium salt to produce a purple product. Bayer Reagent Strips, Multistix®. Bayer Corporation Diagnostics Division. Package Insert, 5/95.

Nitrite - This test depends upon the conversion of nitrate to nitrite by the action of Gram negative bacteria in the urine. At the acid pH of the reagent area, nitrite in the urine reacts with p-arsanilic acid to form a diazonium compound. This diazonium compound in turn couples with 1,2,3,4-tetrahydrobenzo(h)quinolin-3-ol to produce a pink color. Bayer Reagent Strips, Multistix®. Bayer Corporation Diagnostics Division. Package Insert, 5/95.

pH - This test is based on a double indicator principle that gives a broad range of colors covering the entire urinary pH range. Colors range from orange through yellow and green to blue. Bayer Reagent Strips, Multistix®. Bayer Corporation Diagnostics Division. Package Insert, 5/95.

Urine Chemistry - CLINITEK® 200+ (continued)

Protein - This test is based on the protein-error-of-indicators principle. The development of any green color is due to the presence of protein. Colors range from yellow to green-blue. Bayer Reagent Strips, Multistix®. Bayer Corporation Diagnostics Division. Package Insert, 5/95.

Urobilinogen - This test is based on a modified Ehrlich reaction, in which p-diethylaminobenzaldehyde in conjunction with a color enhancer reacts with urobilinogen in a strongly acid medium to produce a pink-red color. Bayer Reagent Strips, Multistix®. Bayer Corporation Diagnostics Division. Package Insert, 5/95.

Urine Chemistry

Macroscopic

Color and Appearance - Characteristics that are visually inspected and entered on-line into the data files.

Specific Gravity - Measurement obtained by use of hand refractometer which allows for direct determination of specific gravity of urine; entered on-line into the data files. ATAGO Urine Specific Gravity Refractometer. NSG Pression Cells, Inc. Farmington, New York.

Microscopic

Examination of urine sediment under a microscope and entered on-line into the data files.

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX I

Ophthalmic Examination Report
(David A. Wilkie, D.V.M., M.S., D.A.C.V.O.
and Brian C. Gilger, D.V.M., M.S., D.A.C.V.O.)

Concluding Statement

Pertaining to

Ophthalmic Examinations

Performed During Conduct of

Study WIL-186012

All findings observed during the ophthalmic examinations for the above mentioned study are typical in prevalence and appearance for the species and strain or breed of animals examined. There were no significant differences within or among dose groups or compared to the pretest ophthalmic examinations to suggest a test article-related effect.

Brian C. Gilger, D.V.M., M.S.
Diplomate A.C.V.O.

12-100
Date

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX J

Determination of Test Article Fat Concentration (Wildlife International, Ltd.)

THE ANALYSIS OF HEXABROMOCYCLODODECANE (HBCD-AS SEPARATE ALPHA, BETA, AND GAMMA DIASTEREOMERS) CONCENTRATIONS IN RODENT FAT TISSUE FROM A 90-DAY ORAL (GAVAGE) TOXICITY STUDY IN RATS

IN SUPPORT OF

WIL RESEARCH LABORATORIES, INC. STUDY NO.: WIL-186012

WILDLIFE INTERNATIONAL, LTD. PROJECT NO.: 439C-123

GOOD LABORATORY PRACTICE COMPLIANCE STATEMENT

SPONSOR: Chemical Manufacturers Association's Brominated Flame Retardant Industry Panel

TITLE: A 90-Day Oral (Gavage) Toxicity Study of HBCD in Rats

WIL RESEARCH LABORATORIES, INC. STUDY NO.: WIL-186012

WILDLIFE INTERNATIONAL, LTD. PROJECT NO.: 439C-123

STUDY COMPLETION: August 22, 2001

The portion of this study performed by Wildlife International, Ltd. was conducted in compliance with Good Laboratory Practice Standards as published by the U.S. Environmental Protection Agency in 40 CFR Part 792, 17 August 1989 and OECD, Principles of Good Laboratory Practice [C(97)186/Final].

PRINCIPAL INVESTIGATOR:

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DATE

QUALITY ASSURANCE STATEMENT

The portion of this study performed by Wildlife International, Ltd. was examined for compliance with Good Laboratory Practice Standards as published by the U.S. Environmental Protection Agency in 40 CFR Part 792, 17 August 1989; OECD Principles of Good Laboratory Practice, [C(97)186/Final]. The dates of all inspections and audits and the dates that any findings were reported to the Study Director and Laboratory Management were as follows:

		DATE REPORTED TO:	
ACTIVITY:	DATE CONDUCTED:	STUDY DIRECTOR:	MANAGEMENT:
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Matrix Fortification	March 29, 2001	April 12, 2001	April 12, 2001
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REPORT APPROVAL

SPONSOR: Chemical Manufacturers Association's Brominated Flame Retardant Industry Panel

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The following key Wildlife International. Ltd. personnel were involved in the conduct or management of this study:

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2. Timothy Z. Kendall, Supervisor
3. Jon A. MacGregor, Scientist
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Introduction

Rodent fat tissue samples were collected by WIL Research Laboratories, Inc. from a 90-day oral (gavage) toxicity study to determine concentration of the test article hexabromocyclododecane (HBCD) as individual alpha, beta and gamma diastereomers. Following collection, the tissue samples were frozen in liquid nitrogen and stored at approximately –70°C until shipment for analysis. After the last samples were collected, the samples were shipped by overnight delivery to the Wildlife International, Ltd analytical chemistry facility in Easton, Maryland for analysis using high performance liquid chromatography with mass spectrometry (HPLC/MS). Upon receipt at the analytical facility the samples were logged in and stored in a freezer at approximately –80°C until analyzed. The study was identified at the analytical facility as Wildlife International, Ltd. Project Number 439C-123. Rodent fat samples were received frozen on August 24, 2000 and analyzed between March 6 and April 5, 2001.

Analytical Standards

Separate analytical standards of the alpha, beta and gamma diastereomers of HBCD were received from Albermarle Chemical Corporation on October 30, 2000 and assigned the Wildlife International, Ltd identification numbers of 5417, 5418, and 5419, respectively, upon receipt. The standards were described as white powders and were identified, as: HBCD, Alpha; HBCD, Beta; HBCD, Gamma; CAS number 3194-55-6. The standards had reported purities of 99.4%, 100% and 98.7%, respectively, and were stored under ambient conditions. These analytical standards were used to prepare combined calibration standards and concurrent matrix fortification samples for this study.

Analytical Method

The analytical methodology for the analysis of HBCD in rodent fat tissue samples was developed and validated by Wildlife International, Ltd. The method employed an initial extraction of the HBCD test article with tetrahydrofuran (THF) using a combination of a tissue mizer sample processor, centrifugation and manual shaking. The extracts were then purified using an acetonitrile/ hexane back-partition clean-up procedure. A method flow chart for the analysis of HBCD (as alpha, beta and gamma diastereomers) in rodent fat tissue is presented in Figure 1.

Concentrations of HBCD (as separate alpha, beta and gamma diastereomers) were determined by high performance liquid chromatography using a Hewlett-Packard Model 1100 High Performance

Liquid Chromatograph (HPLC) equipped with a Perkin-Elmer API 100LC Mass Spectrometer and Perkin-Elmer APCI Heated Nebulizer ion source. Chromatographic separations were achieved using a YMC AM C-18 analytical column (150 mm × 4.6 mm, 3-µm particle size). The typical instrument parameters are summarized in Table 1.

Fortification/Calibration Stocks and Standards

Combined primary stocks of alpha, beta, and gamma HBCD diastereomers were prepared for use in the study by accurately weighing 0.0500 g (corrected for active ingredient) of each of the individual analytical standards and volumetrically dissolving them in tetrahydrofuran (THF) solvent. The primary stock solutions contained 1000 µg a.i. (alpha, beta, or gamma HBCD)/mL. Combined standard working solutions were prepared from the primary stock solution by dilution as appropriate with THF, yielding standard solutions that ranged from 1.00 to 100 µg alpha, beta and gamma HBCD/mL. The combined standards were used to prepare both the concurrent matrix fortification samples and calibration standards using the following dilution schemes:

Combined Standard Working Solutions:

Stock Concentration (mg a.i./mL)	Stock Aliquot (mL)	Final Diluted Volume (mL)	Combined Standard Concentration (µg a.i./mL)	Dilution Solvent
1000	5.00	50.0	100	THF
100	5.00	50.0	10.0	THF
10.0	5.00	50.0	1.00	THF

Low-Level Combined Calibration Standards:

Combined Stock Concentration (mg a.i./mL)	Stock Aliquot (mL)	Final Diluted Volume (mL)	Combined Standard Concentration (mg a.i./L)	Dilution Solvent
0.0100	0.0500	100	0.00500	50% THF: 50% Nanopure® water
0.0100	0.100	100	0.0100	50% THF: 50% Nanopure® water
0.0100	0.200	100	0.0200	50% THF: 50% Nanopure® water
0.0100	0.300	100	0.0300	50% THF: 50% Nanopure® water
0.0100	0.500	100	0.0500	50% THF: 50% Nanopure® water

High-Level Combined Calibration Standards:

Combined Stock Concentration (µg a.i./mL)	Stock Aliquot (mL)	Final Diluted Volume (mL)	Combined Standard Concentration (mg a.i./L)	Dilution Solvent
100	0.0500	50.0	0.100	50% THF: 50% Nanopure® water
100	0.125	50.0	0.250	50% THF: 50% Nanopure® water
100	0.250	50.0	0.500	50% THF: 50% Nanopure® water
100	0.350	50.0	0.700	50% THF: 50% Nanopure® water
100	0.500	50.0	1.00	50% THF: 50% Nanopure® water
100	1.00	50.0	2.00	50% THF: 50% Nanopure® water

All stocks and standards were prepared using a combination of Class A volumetric flasks, volumetric pipets, and/or gas tight syringes. Each stock solution was assigned a unique identification code, which was recorded on a stock preparation log sheet.

Calibration Curve and Limits of Quantitation

Two different ranges of combined calibration standards of alpha, beta, and gamma HBCD diastereomers were prepared for the analysis of the study samples. The first set ranged from 0.00500 to 0.0500 mg a.i./ L (low-level) and was used in the analysis of all the control group samples and the Day 2 and 6 treatment group samples, only. The second set ranged from 0.100 to 2.00 mg a.i./L (high-level) and was used in the analysis of the remaining treatment group samples. For each analysis, a set of calibration standards was injected at the beginning and end of the analytical run. In addition, a minimum of one standard was injected following every five test samples. Sample results not bracketed by the upper limit of the calibration range in each analysis set were diluted and re-analyzed in a separate analytical set. A calibration curve for each diastereomer was derived from a weighted (1/x) regression analysis using the instrumental responses of each individual component of the combined calibration standards. Separate regression equations for the potential quantitation of each diastereomer were generated using the peak area responses of each individual component versus their respective concentrations in the combined standards. Typical calibration curves (low and high level) for the alpha, beta, and gamma HBCD diasteriomers are presented in Figures 2-7, respectively. The concentration of HBCD in the rodent fat tissue samples was determined by substituting the peak area responses of each HBCD component into the appropriate weighted (1/x) regression equation as follows:

HBCD in sample (µg a.i./g) = [(peak area – y-intercept)/slope] x (Final volume/Initial mass) x dilution factor

$$\% \text{ Recovery (QCs only)} = \frac{\text{Measured HBCD concentration (µg a.i./g)}}{\text{Nominal HBCD concentration (µg a.i./g)}} \times 100$$

Representative ion chromatograms of low and high combined calibration standards are presented in Figures 8 and 9, respectively.

The method limits of quantitation (LOQ) for the analysis of rodent fat samples were calculated as the product of the lowest calibration standard and the dilution factor of the matrix blank samples analyzed concurrently with each set of test samples. For each analysis set, the LOQ was adjusted to best approximate the levels of HBCD diastereomers anticipated to be detected in the treatment samples from the study. LOQ's utilized in sample analyses were 0.0500, 0.0750 or 50.0 µg a.i./g of fat (adipose) tissue (Table 2).

Control Matrix, Sample Processing and Weighing

Rodent fat tissue from stock animals (I.D. #186012) received from WIL Research Laboratories, Inc. was used for the preparation of quality control samples. The material was received on dry ice on January 26, 2000, was logged in and stored in a freezer at approximately -80°C at the analytical testing facility. Prior to analysis, 1.00 gram aliquots of the control matrix were pre-weighed into 20-mL extraction vials and returned to freezer storage until needed for analyses. At the time of each analysis set, an appropriate number of the pre-weighed tissue aliquots were removed from freezer storage and fortified as necessary to serve as concurrent matrix fortifications for the study.

Definitive study samples were also pre-weighed for analysis. In chronological order starting with the control groups, each study sample was separately logged out of freezer storage. Taking care to minimize thawing, each frozen sample was diced into small pieces to insure homogeneity. Subsequently, approximately 1.00 gram aliquots (nominal) of each study sample were pre-weighed into labeled 20-mL extraction vials and sealed by capping. The weighed samples were then returned to freezer storage until analyzed. Upon analysis, the appropriate samples were logged out from freezer storage and allowed to thaw prior to further processing.

Rodent Fat Tissue Matrix Blank and Fortification Samples

Along with the actual rodent fat tissue sample analyses, 10 fat tissue matrix blank quality control samples were analyzed to determine possible interferences. No interferences were observed at or above the applicable LOQs during the study (Table 2). A representative ion chromatogram of a rodent fat tissue matrix blank sample is presented in Figure 10.

For the preparation of matrix fortification (QC) samples, pre-weighed rodent fat tissue samples were removed from freezer storage and fortified with alpha, beta, and gamma HBCD using a combined standard solution of HBCD prepared in THF. Quality control samples were prepared and analyzed concurrently with each sample set to determine the analytical method procedural recovery. For all the control (Group 5) samples and the Day 2 and 6 treatment (Group 6) sample analyses, QC samples were prepared at 0.100 and 1.00 ug a.i./g of fat (adipose) tissue. The procedural recoveries of alpha, beta and gamma HBCD for these low-level analyses ranged from 65.7 to 109% of nominal concentrations (Table 2). For all other treatment group sample analyses (Day 9 through Day 118) QC samples were prepared at concentrations ranging from 100 to 10000 ug a.i./g. Note: the concentration of the QC samples was adjusted based on the results of the each preceding analysis set in an attempt to bracket the residues found for the study. The procedural recoveries of alpha, beta and gamma HBCD for these high-level (treatment group) analyses ranged from 91.6 to 102% of nominal concentrations (Table 2). The overall mean procedural recoveries for alpha, beta, and gamma for the study were 91.5 ± 11%, 94.4 ± 7.5%, and 96.2 ± 6.5%, respectively. A representative ion chromatogram of a rodent fat tissue matrix fortification is presented in Figure 11.

Example Calculations

The analytical result and percent recovery (as gamma diastereomer) for rodent fat tissue quality control sample 439C-123-MAS-11 (1.00 ug a.i./g nominal concentration), from the Day 2 HBCD treatment group set, were calculated using the following equations:

$$\text{HBCD -gamma in sample } (\mu g \text{ a.i./g}) = \frac{(\text{peak area} - \text{y-intercept})}{\text{slope}} \times \text{overall dilution factor}$$

Peak area =2777
Y-intercept = -19.74
Slope = 286384.38
(Note: Regression = 1/x weighted)

Initial Mass (M_i) = 1.00 g
Primary final volume (V_f) = 5.00 mL
Primary dilution factor (V_f/M_i) = 5.00

Secondary initial volume (V_i) =0.500 mL
Secondary final volume (V_f) = 10.0 mL
Secondary dilution factor (V_f/V_i) = 20.0

Overall Dilution (primary dilution x secondary dilution) =100

$$\text{HBCD –gamma diastereomer in sample (µg a.i./g)} = \frac{(2777 - -19.74)}{286384.38} \times 100$$

$$\text{HBCD – gamma diastereomer in sample (µg a.i./g)} = 0.977$$

$$\text{\% Recovery} = \frac{\text{measured HBCD concentration (µg a.i./g)}}{\text{nominal HBCD concentration (µg a.i./g)}} \times 100$$

$$\text{\% Recovery} = \frac{0.977\ \mu g/g}{1.00\ \mu g/g} \times 100$$

$$\text{\% Recovery} = 97.7\ \%$$

The above equations and calculations were applied to the analytical data for separate quantitation of the alpha and beta diastereomers of HBCD also.

RESULTS

Rodent Fat Tissue Sample Analysis

Rodent fat tissue samples were collected from Satellite Group 5 (control) and Group 6 (1000 mg/kg/day-treatment) on Days 2, 6, 9, 13, 20, 27, 55, 89, 104 and 118 of the study and analyzed for HBCD concentrations (measured as separate alpha, beta, and gamma diastereomers).

Measured concentrations of HBCD (as alpha and beta diastereomers) in the Group 5 (control) samples collected on the Day 2 were all <LOQ (Table 3). Measured concentrations of HBCD (as gamma diastereomer) in the Group 5 (control) samples collected on the Day 2 ranged from 0.172 to 0.439 ug a.i./g. Measured concentrations of HBCD as alpha, beta and gamma diastereomers in the Group 5 (control) samples collected on Days 6, 9, 13, 20, 27, 55, 89, 104 and 188 ranged from 0.0729

to 37.4 ug a.i./g; <LOQ to 5.68 ug a.i./g; and 0.250 to 15.5 ug a.i./g, respectively. A representative ion chromatogram of a Group 5 (control) rodent fat tissue sample on Day 2 is presented in Figure 12.

Measured concentrations of HBCD (as alpha, beta and gamma diastereomers) in the Group 6 (1000 mg/kg/day) male rodent fat samples collected on Day 2 ranged from 250 to 252 ug a.i./g, 53.0 to 61.2 ug a.i./g, and 71.4 to 85.6 ug a.i./g, respectively (Table 4). Measured concentrations of HBCD (as alpha, beta and gamma diastereomers) in the Group 6 (1000 mg/kg/day) male rodent fat samples collected on Days 6, 9, 13, 20, 27, 55, 89, 104 and 118 ranged from 571 to 3129 ug a.i./g; 36.3 to 417 ug a.i./g; and 146 to 578 ug a.i./g, respectively. Representative ion chromatograms of Group 6 (1000 mg/kg/day) rodent fat tissue samples on Day 2 and Day 118 are presented in Figures 13 and 14, respectively. A plot of the days of exposure versus the mean measured HBCD diastereomer concentrations for the male rodents is presented in Figure 15.

Measured concentrations of HBCD (as alpha, beta and gamma diastereomers) in the Group 6 (1000 mg/kg/day) female rodent fat samples collected on Day 2 ranged from 320 to 442 ug a.i./g, 96.9 to 131 ug a.i./g, and 109 to 135 ug a.i./g, respectively (Table 5). Measured concentrations of HBCD (as alpha, beta and gamma diastereomers) in the Group 6 (1000 mg/kg/day) female rodent fat samples collected on Days 6, 9, 13, 20, 27, 55, 89, 104 and 118 ranged from 1318 to 4889 ug a.i./g; 58.5 to 401 ug a.i./g; and 169 to 642 ug a.i./g, respectively. A plot of the days of exposure versus the mean measured HBCD diastereomer concentrations for the female rodents is presented in Figure 16.

Table 1

Typical HPLC/MS Operational Parameters

INSTRUMENT:	Hewlett-Packard Model 1100 High Performance Liquid Chromatograph with a Perkin-Elmer API 100LC Mass Spectrometer
ION SOURCE:	Perkin-Elmer APCI Heated Nebulizer Operated in Selective Ion Monitoring (SIM) Mode
ANALYTICAL COLUMN:	YMC AM C-18 (150 mm × 4.6 mm, 3-µm particle size)
OVEN TEMPERATURE:	40°C
STOP TIME:	12.00 min
FLOW RATE:	0.750 mL/min
MOBILE PHASE:	85% Acetonitrile :15% NANOpure Water® with 0.1% Formic Acid:
INJECTION VOLUME:	100 µL (low level); 25 µL (high level)
HBCD DIASTEREOMER PEAK RETENTION TIMES:	Alpha- ~ 6.4 minutes Beta- ~ 7.0 minutes Gamma- ~ 9.0 minutes
HBCD MONITORED MASS:	640.7 amu

Table 2

Matrix Blanks and Fortifications Analyzed Concurrently During Rodent Fat Tissue Sample Analyses

Sample Number (439C-123-)	Concentration of HBCD (µg a.i./g of fat (adipose) tissue)				Percent Recovery[2]		
	Fortified	Measured (alpha[1])	Measured (beta)	Measured (gamma)	alpha	beta	gamma
MAB-1	0.00	<0.0750	<0.0750	<0.0750	--	--	--
MAS-1	0.100	0.0811	0.0834	0.109	81.1	83.4	109
MAB-2	0.00	<0.0500	<0.0500	<0.0500	--	--	--
MAS-2	0.100	0.0900	0.0981	0.104	90.0	98.1	104
MAS-3	1.00	0.968	0.954	0.923	96.8	95.4	92.3
MAB-3	0.00	<0.0500	<0.0500	<0.0500	--	--	--
MAS-4	0.100	0.0682	0.0802	0.0900	68.2	80.2	90.0
MAS-5	1.00	0.983	0.999	0.995	98.3	99.9	99.5
MAB-4	0.00	<0.0500	<0.0500	<0.0500	--	--	--
MAS-6	0.100	0.0657	0.0809	0.0826	65.7	80.9	82.6
MAS-7	1.00	0.937	0.941	0.916	93.7	94.1	91.6
MAB-5	0.00	<0.0500	<0.0500	<0.0500	--	--	--
MAS-8	0.100	0.0806	0.0827	0.0850	80.6	82.7	85.0
MAS-9	1.00	0.916	0.935	0.978	91.6	93.5	97.8
MAB-6	0.00	<0.0500	<0.0500	<0.0500	--	--	--
MAS-10	0.100	0.0735	0.0845	0.0885	73.5	84.5	88.5
MAS-11	1.00	0.985	0.992	0.977	98.5	99.2	97.7
MAB-7	0.00	<50.0	<50.0	<50.0	--	--	--
MAS-12	100	102	101	98.9	102	101	98.9
MAS-13	2000	1994	1979	1962	99.7	98.9	98.1
MAB-8	0.00	<50.0	<50.0	<50.0	--	--	--
MAS-14	100	97.5	99.4	99.3	97.5	99.4	99.3
MAS-15	3000	2954	2942	2946	98.5	98.1	98.2

[1]The limits of quantitation (LOQ) were calculated as the product of the lowest combined calibration standard concentration and the dilution factor of the matrix blank sample analyzed in each analysis set.
[2]Results were generated using MacQuan, version 1.6 software. Manual calculations may differ slightly.

Table 2 (Continued)

Matrix Blanks and Fortifications Analyzed Concurrently During Rodent Fat Tissue Sample Analyses

Sample Number (439C-123-)	Concentration of HBCD (µg a.i./g of fat (adipose) tissue)				Percent Recovery[2]		
	Fortified	Measured (alpha[1])	Measured (beta)	Measured (gamma)	alpha	beta	gamma
MAB-9	0.00	<50.0	<50.0	<50.0	--	--	--
MAS-16	100	99.9	102	102	99.9	102	102
MAS-17	4000	3963	3994	3973	99.1	99.9	99.3
MAB-10	0.00	<50.0	<50.0	<50.0	--	--	--
MAS-18	100	99.7	101	99.9	99.7	101	99.9
MAS-19	5000	5022	4975	4955	100	99.5	99.1
MAS-20	10000	9498	9578	9164	95.0	95.8	91.6
				Mean =	91.5%	94.4%	96.2%
				Std. Dev. =	11%	7.5%	6.5%
				N =	20	20	20

[1]The limits of quantitation (LOQ) were calculated as the product of the lowest combined calibration standard concentration and the dilution factor of the matrix blank sample analyzed in each analysis set.
[2]Results were generated using MacQuan, version 1.6 software. Manual calculations may differ slightly.

Table 3

Measured Concentrations of Hexabromocyclododecane (HBCD) in Group 5 (Control) Rodent Fat Tissue Samples from a 90 Day Oral (Gavage) Test

Nominal Test Concentration (mg/kg/day)	Sample Number (WIL-186012-)	Sampling Time (Day)	Measured Concentration of HBCD[1] (µg a.i./g of fat (adipose) tissue)			Mean/Standard Deviation (µg a.i./g of fat (adipose) tissue)		
			Alpha	beta	gamma	alpha	beta	gamma
0.00 (Group 5)	43301	2	<0.0750	<0.0750	0.439	<0.0750	<0.0750	0.246
	43317	2	<0.0750	<0.0750	0.176	–	–	±0.129
	43408	2	<0.0750	<0.0750	0.196			
	43415	2	<0.0750	<0.0750	0.172			
	43319	6	0.140	<0.0750	1.36	0.179	<0.0750	1.94
	43330	6	0.218	<0.0750	1.41	±.0412	–	±0.670
	43422	6	0.147	<0.0750	2.74			
	43424	6	0.211	<0.0750	2.24			
	43337	9	0.118	<0.0500	1.48	0.0943	<0.0500	1.32
	43338	9	0.0729	<0.0500	1.24	±0.0185	–	±0.116
	43434	9	0.0948	<0.0500	1.23			
	43437	9	0.0915	<0.0500	1.33			
	43344	13	0.188	<0.0500	2.07	0.159	<0.0500	1.99
	43345	13	0.0925	<0.0500	1.17	±0.0579	–	±0.778
	43441	13	0.197	<0.0500	2.72			
	43448	13	37.4[2]	5.68[2]	14.2[2]			
	43347	20	0.184	<0.0500	1.03	0.221	<0.0500	1.68
	43348	20	0.174	<0.0500	1.05	±0.0625	–	±0.743
	43450	20	0.311	<0.0500	2.27			
	43451	20	0.216	<0.0500	2.38			
	43358	27	0.112	<0.0500	0.667	0.205	<0.0500	1.06
	43366	27	0.0880	<0.0500	0.454	±0.124	–	±0.589
	43452	27	0.341	<0.0500	1.50			
	43453	27	0.279	<0.0500	1.63			
	43367	55	5.81	0.474	15.5	3.66	0.278	10.9
	43370	55	3.74	0.187	8.32	±1.54	±0.132	±3.40
	43469	55	2.44	0.213	11.6			
	43470	55	2.64	0.237	8.37			
	43375	89	3.14	0.244	9.60	2.57	0.131	7.09
	43387	89	1.84	0.0840	4.28	±0.561	±0.0755	±2.18
	43472	89	2.84	0.0978	7.25			
	43473	89	2.46	0.0991	7.23			
	43389	104	1.11	<0.0500	1.79	1.18	0.0764	2.40
	43390	104	0.144	<0.0500	0.250	±0.747	–	±2.05
	43487	104	1.72	<0.0500	2.39			
	43498	104	1.73	0.0764	5.16			
	43394	118	0.389	<0.0500	0.734	1.32	<0.0500	2.11
	43396	118	0.259	<0.0500	0.414	±1.15	–	±1.78
	43500	118	2.22	<0.0500	3.63			
	43514	118	2.41	<0.0500	3.66			

1 The limits of quantitation (LOQ) were calculated as the product of the lowest calibration standard and the dilution factor of the matrix blank samples analyzed with each analysis set.
2 Outliers; not used in statistical calculations.

Table 4

Measured Concentrations of Hexabromocyclododecane (HBCD) in Group 6 (1000 mg/kg/day) Male Rodent Fat Tissue Samples from a 90 Day Oral (Gavage) Test

Nominal Test Concentration (mg/kg/day)	Sample Number (WIL-186012-)	Sampling Time (Day)	Measured Concentration of HBCD[1] (µg a.i./g of fat (adipose) tissue)			Mean/Standard Deviation (µg a.i./g of fat (adipose) tissue)		
			Alpha	beta	gamma	alpha	beta	gamma
1000	43286	2	250	53.0	71.4	251	57.1	78.5
(Group 6)	43287	2	252	61.2	85.6	±1.41	±5.80	±10.0
	43291	6	718	123	185	645	120	166
	43294	6	571	117	146	±104	±4.24	±27.6
	43298	9	734	136	184	856	163	212
	43299	9	978	189	239	±173	±37.5	±38.9
	43302	13	1325	236	319	1247	213	308
	43304	13	1168	189	296	±111	±33.2	±16.3
	43314	20	1623	283	387	1555	263	376
	43321	20	1486	242	365	±96.9	±29.0	±15.6
	43324	27	2046	301	464	2066	313	465
	43333	27	2085	324	465	±27.6	±16.3	±0.707
	43343	55	3149	417	578	2995	406	547
	43352	55	2841	395	515	±218	±15.6	±44.5
	43353	89	3073	390	519	3101	392	547
	43356	89	3129	393	574	±39.6	±2.12	±38.9
	43357	104	1652	163	303	1979	218	368
	43360	104	2305	272	432	±462	±77.1	±91.2
	43374	118	1952	36.3	158	1968	72.2	195
	43393	118	1983	108	232	±21.9	±50.7	±52.3

[1] The limits of quantitation (LOQ) were calculated as the product of the lowest calibration standard and the dilution factor of the matrix blank samples analyzed with each analysis set.

Table 5

Measured Concentrations of Hexabromocyclododecane (HBCD) in Group 6 (1000 mg/kg/day) Female Rodent Fat Tissue Samples from a 90 Day Oral (Gavage) Test

Nominal Test Concentration (mg/kg/day)	Sample Number (WIL-186012-)	Sampling Time (Day)	Measured Concentration of HBCD[1] (µg a.i./g of fat (adipose) tissue)			Mean/Standard Deviation (µg a.i./g of fat (adipose) tissue)		
			Alpha	beta	gamma	alpha	beta	gamma
1000	43404	2	320	96.9	109	381	114	122
(Group 6)	43406	2	442	131	135	±86.3	±24.1	±18.4
	43417	6	1318	217	301	1470	237	328
	43418	6	1621	256	355	±214	±27.6	±38.2
	43428	9	1874	270	359	1653	238	326
	43445	9	1431	206	293	±313	±45.3	±46.7
	43447	13	1327	174	251	1896	253	352
	43454	13	2465	332	452	±805	±112	±142
	43459	20	2535	294	467	2446	261	409
	43464	20	2356	227	351	±127	±47.4	±82.0
	43465	27	2895	294	445	2962	301	438
	43476	27	3029	308	431	±94.8	±9.90	±9.90
	43482	55	3714	282	438	3402	301	438
	43488	55	3089	320	437	±442	±26.9	0.707
	43493	89	3794	312	445	4342	357	544
	43494	89	4889	401	642	±774	±62.9	±139
	43499	104	3309	239	429	2514	149	299
	43504	104	1719	58.5	169	±1124	±128	±184
	43507	118	2936	128	353	3200	136	325
	43519	118	3464	144	296	±373	±11.3	±40.3

[1] The limits of quantitation (LOQ) were calculated as the product of the lowest calibration standard and the dilution factor of the matrix blank samples analyzed with each analysis set.

** Prepare all glassware by successively rinsing with a 5% solution of KOH in methanol (Base), followed by tap water, followed by 10% HCL (Acid), followed by tap water, followed by acetone, followed by Tetrahydrofuran (THF). Allow glassware to set or remove solvent residues using nitrogen.

Weigh 1.00 gram of rat fat tissue sample into 20-mL extraction vial. Fortify concurrent matrix fortification samples using appropriate volumes of HBCD stock solutions prepared in THF solvent. Remove excess THF co-solvent by nitrogen evaporation, if necessary. Prepare matrix blank samples the same way, with the exception of the addition of HBCD test substance. Add ~1.0 grams of anhydrous sodium sulfate to each sample.

Add 10 mL of THF extraction solvent to each sample.

Homogenize each sample for approximately 1 minute using a tissue mizer sample processor.

Cap the vials and centrifuge at 2000 rpm for approximately 5 minutes. Using a disposable pasteur pipette, transfer the organic extract (top layer) to a 50-mL pear shaped flask. Add a second 10-mL aliquot of THF and shake the samples by hand for approximately 1 minute. Centrifuge the sample as above, and combine the extracts in the 50-mL pear shaped flask.

Evaporate the THF extracts in the pear-shaped flasks down to the fat tissue oily residues using rotary evaporation.

Quantitatively transfer the oily residues from the pear-shaped flasks into 125-mL separatory funnels using 15 mL of hexane. Rinse each flask further using successive 10 and 15-mL rinse volumes of acetonitrile (ACN). Transfer each rinse into the corresponding separatory funnels for each sample. Shake the funnels for approximately 30 seconds. Allow the layers to separate and drain the ACN extract (bottom layer) into 100-mL pear-shaped or round-bottom flasks. Repeat the rinse/extraction with a second 25-mL aliquot of ACN and combine the extracts in the appropriate flasks.

Evaporate the samples to dryness using rotary evaporation. Reconstitute each sample with 5.00 mL or 10 mL volumes of THF solvent using Class A volumetric pipets. Volumetrically dilute a portion of each reconstituted extract either 1:1 with NANOpure® water, with 30% THF:70% NANOpure® water (low-levels) or 50% THF: 50%NANOpure® water (higher levels) such that the final solvent concentration is ~ 50 %THF/: 50% NANOpure® water using 15-mL tubes or equivalent. Volumetrically dilute further, as necessary using the 50:50 reagent solution. Mix well before each subsequent dilution with the aid of a bench top vortex apparatus.

Transfer an aliquot of each final diluted extract to an autosampler vial and submit for LC/MS analysis.

Figure 1. Analytical method flow chart for the analysis of hexabromocyclododecane (HBCD) in rodent fat tissue.

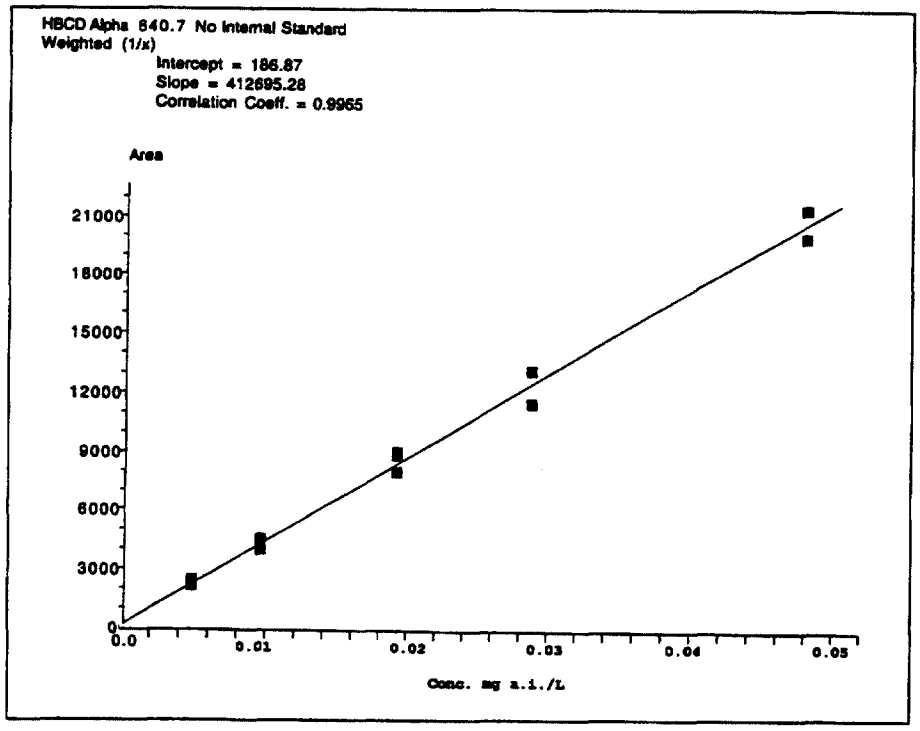

Figure 2. A typical low-level calibration curve for alpha diastereomer of hexabromocyclododecane (HBCD).

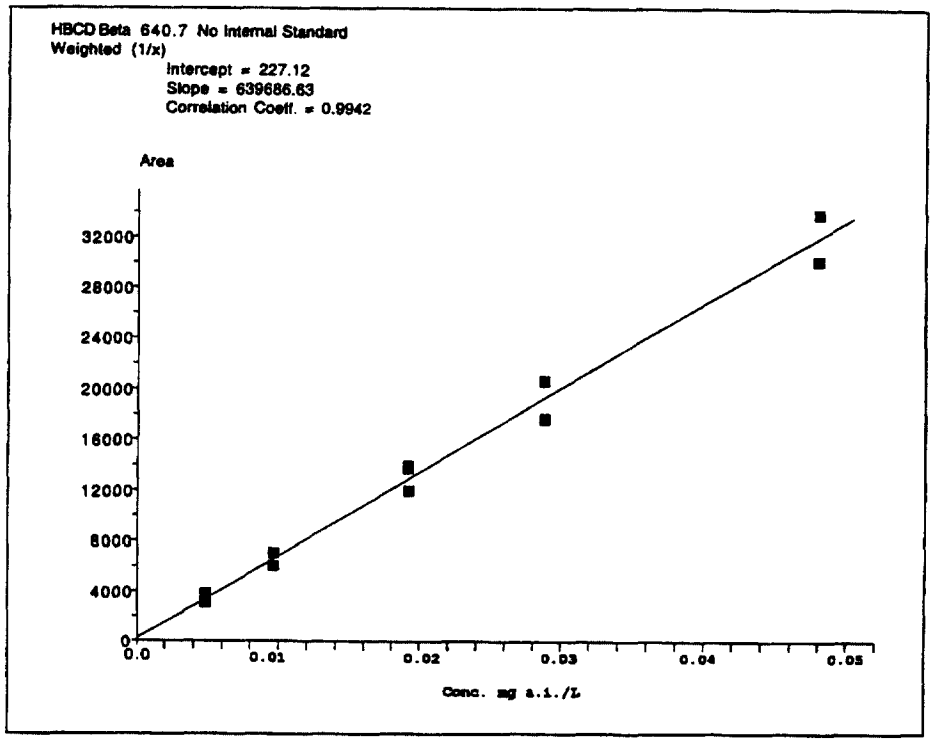

Figure 3. A typical low-level calibration curve for beta diastereomer of hexabromocyclododecane (HBCD).

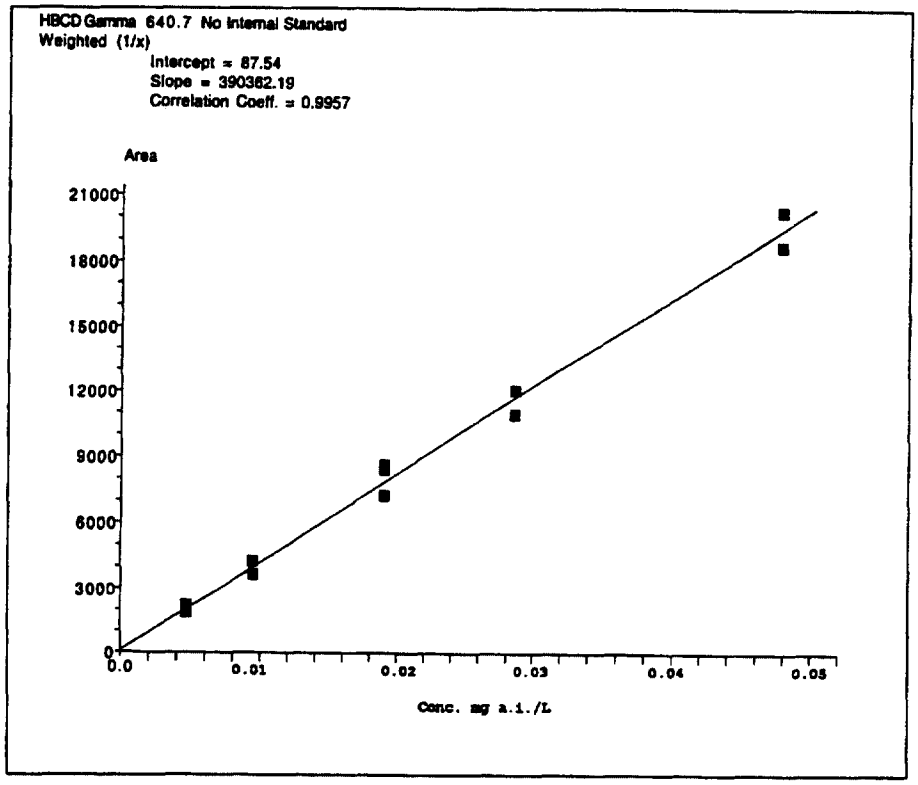

Figure 4. A typical low-level calibration curve for gamma diastereomer of hexabromocyclododecane (HBCD).

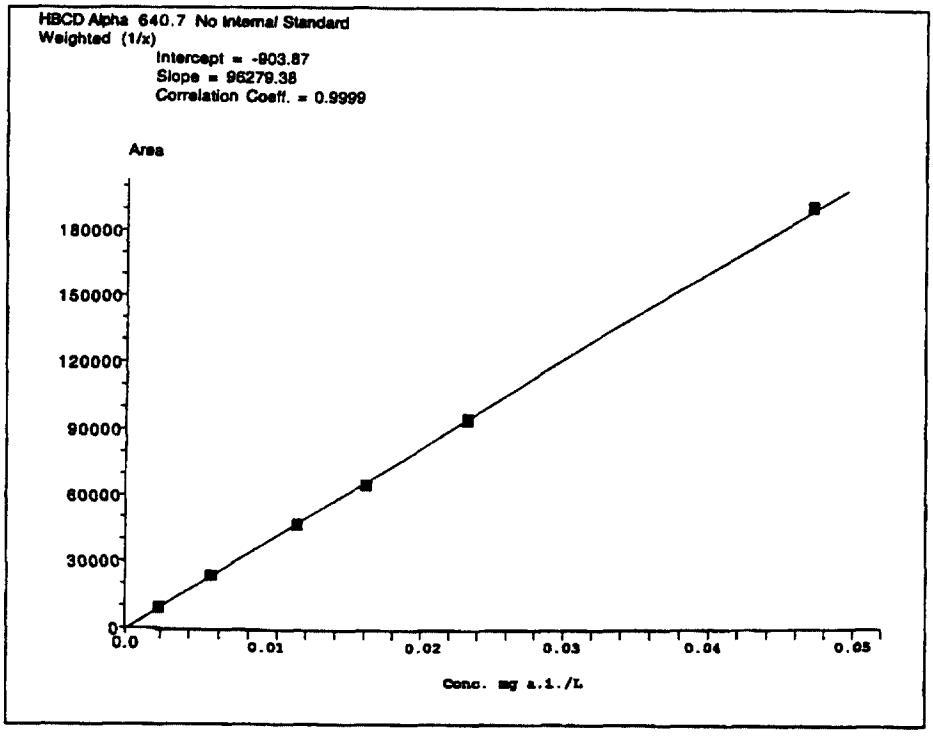

Figure 5. A typical high-level calibration curve for alpha diastereomer of hexabromocyclododecane (HBCD).

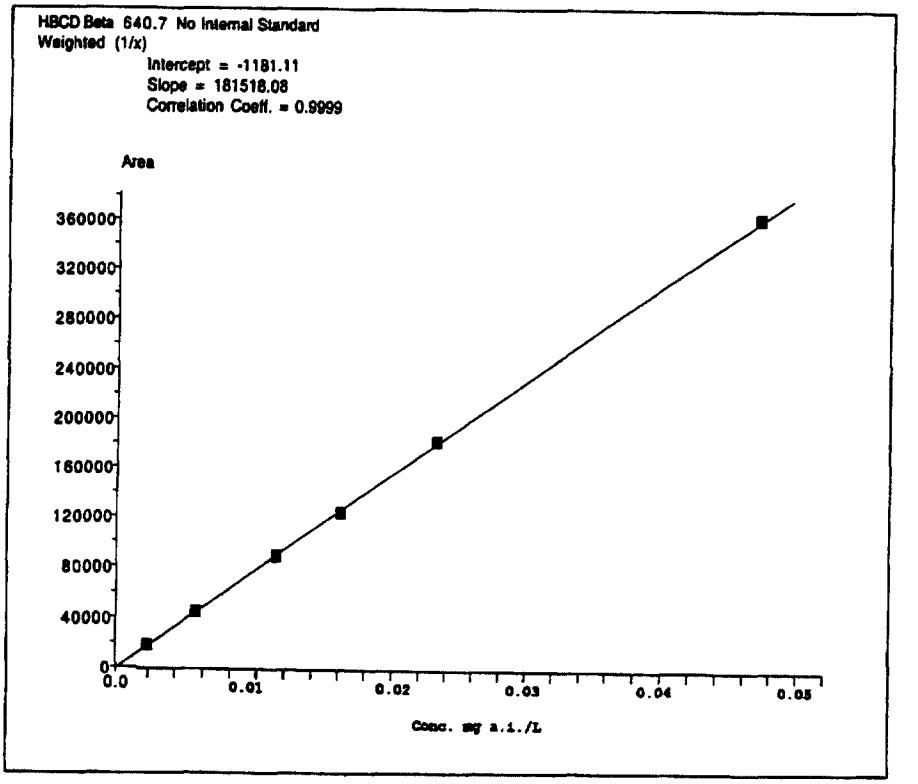

Figure 6. A typical high-level calibration curve for beta diastereomer of hexabromocyclododecane (HBCD).

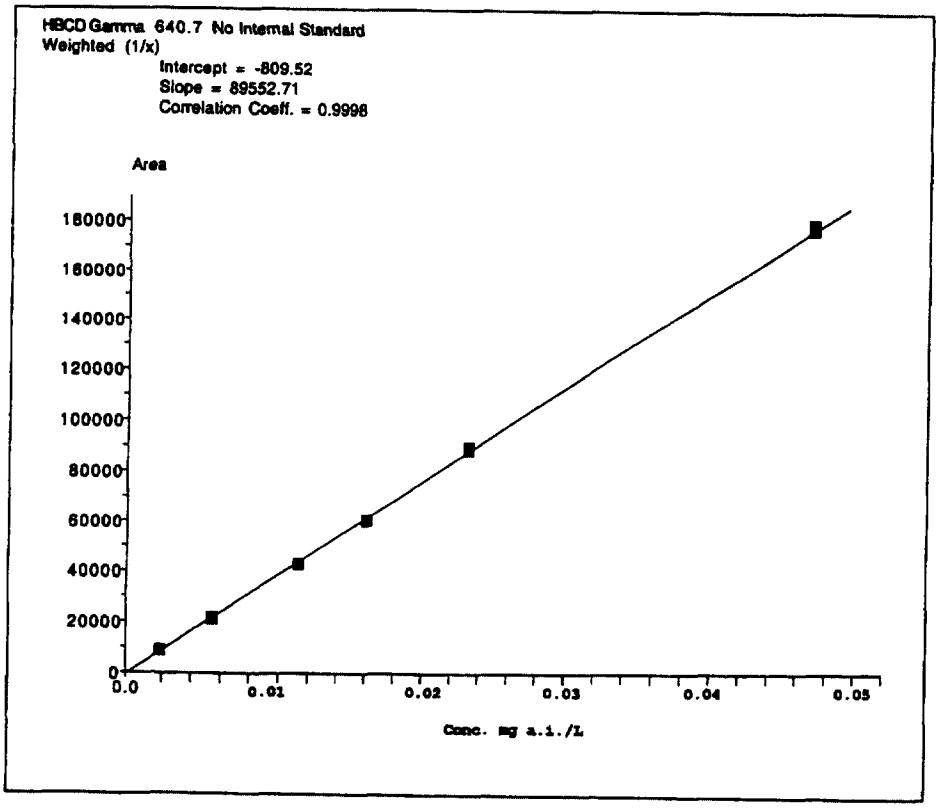

Figure 7. A typical high-level calibration curve for gamma diastereomer of hexabromocyclododecane (HBCD).

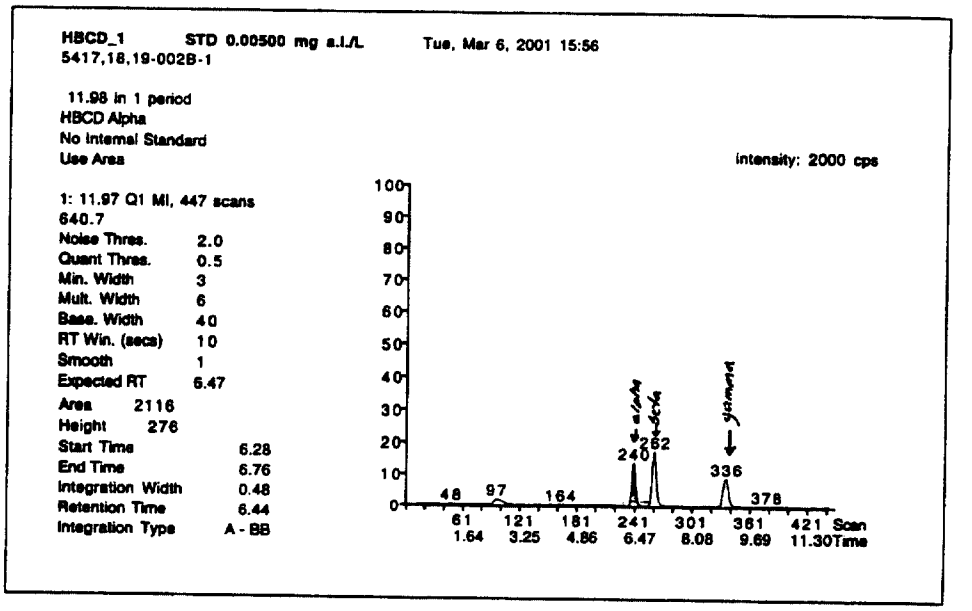

Figure 8. A representative ion chromatogram of a low-level combined alpha, beta, gamma HBCD diastereomer standard (0.00500 mg a.i./L).

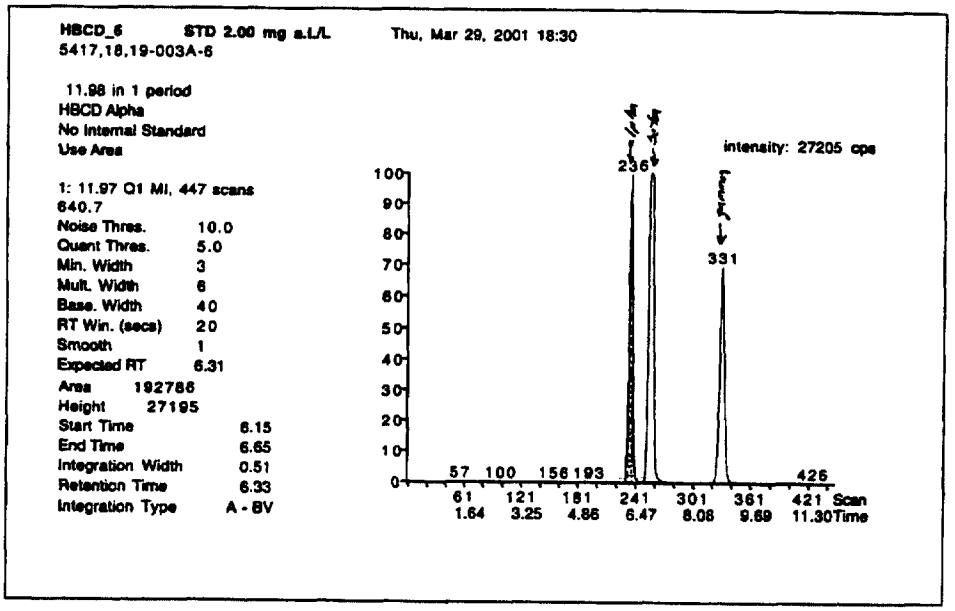

Figure 9. A representative ion chromatogram of a high-level combined alpha, beta, gamma HBCD diastereomer standard (2.00 mg a.i./L).

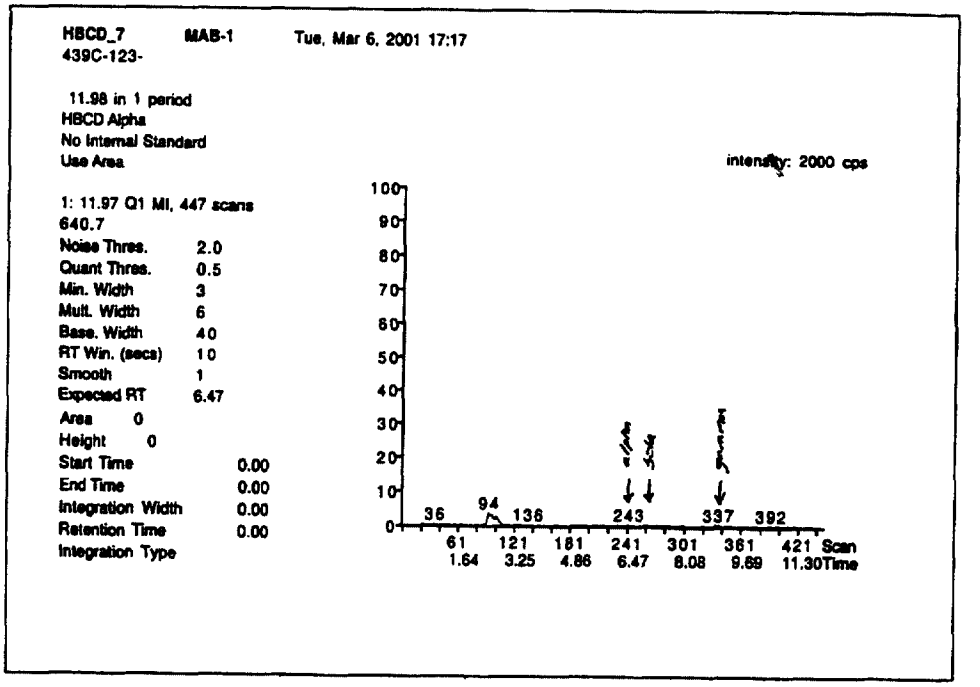

Figure 10. A representative chromatogram of a rodent fat tissue matrix blank sample (439C-123-MAB-1). The arrows indicate the approximate retention times of the alpha, beta and gamma diastereomers.

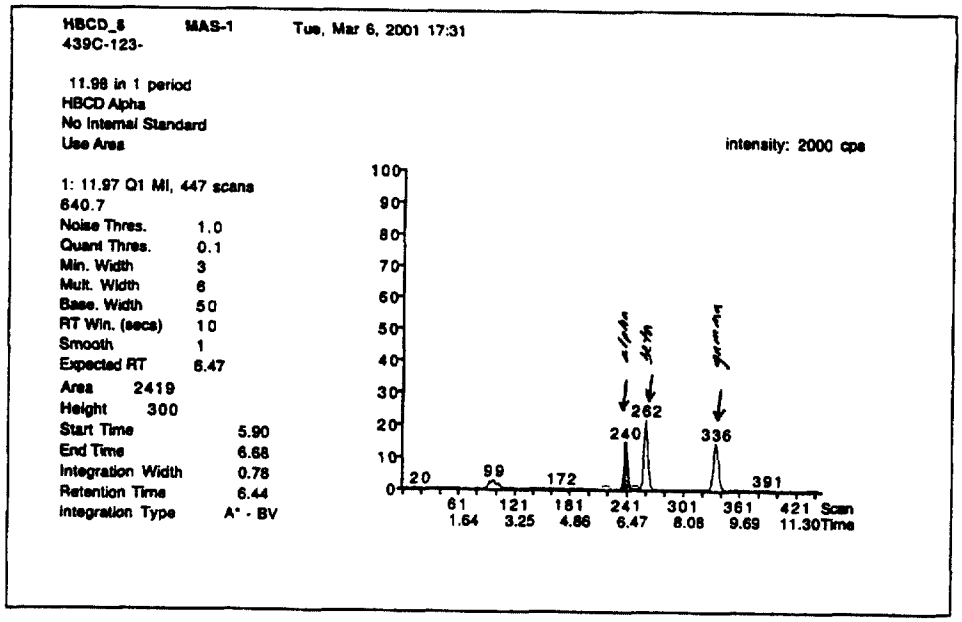

Figure 11. A representative chromatogram of a rodent fat tissue matrix fortification sample (439C-123-MAS-1, 0.100 µg alpha, beta, gamma HBCD diastereomer/g nominal concentration).

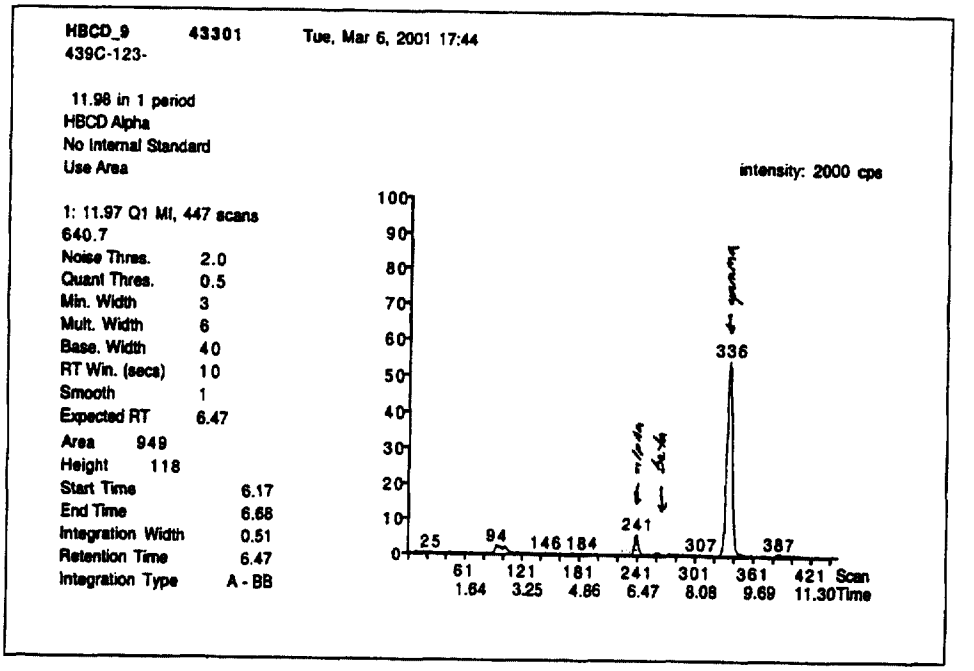

Figure 12. A representative chromatogram of a control group rodent fat tissue study sample at Day 2 (439C-123-43301; 0.00 mg HBCD test substance/kg/day treatment level).

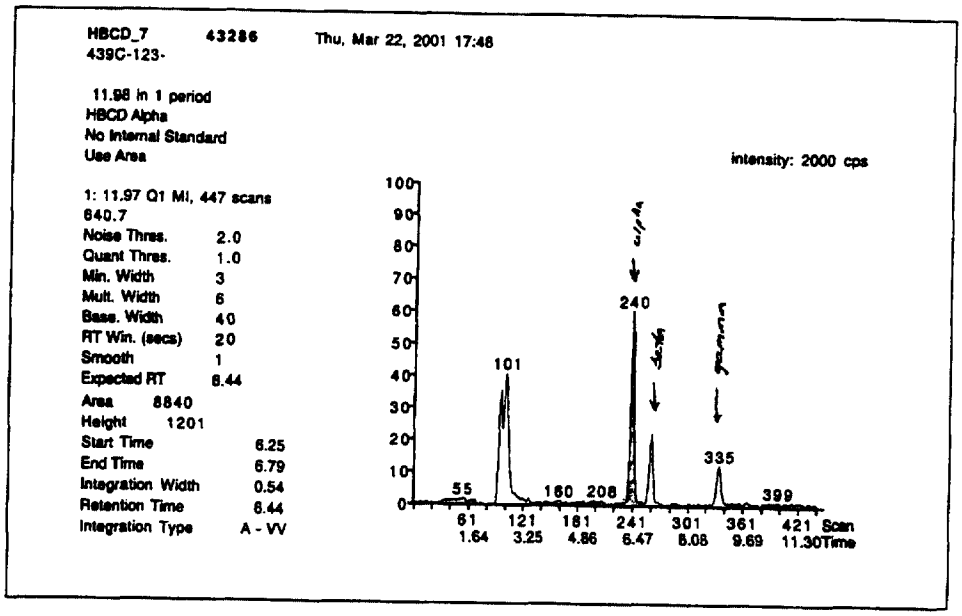

Figure 13. A representative chromatogram of a treatment group rodent fat tissue study sample at Day 2 (439C-123-43286; 1000 mg HBCD test substance/kg/day treatment level)

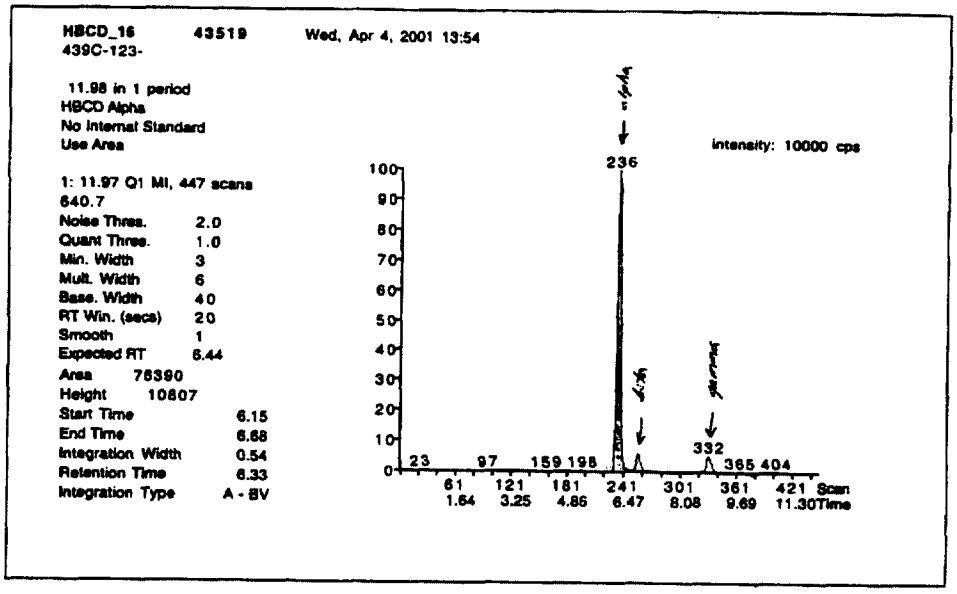

Figure 14. A representative chromatogram of a treatment group rodent fat tissue study sample at Day 118 (439C-123-43519; 1000 mg HBCD test substance/kg/day treatment level).

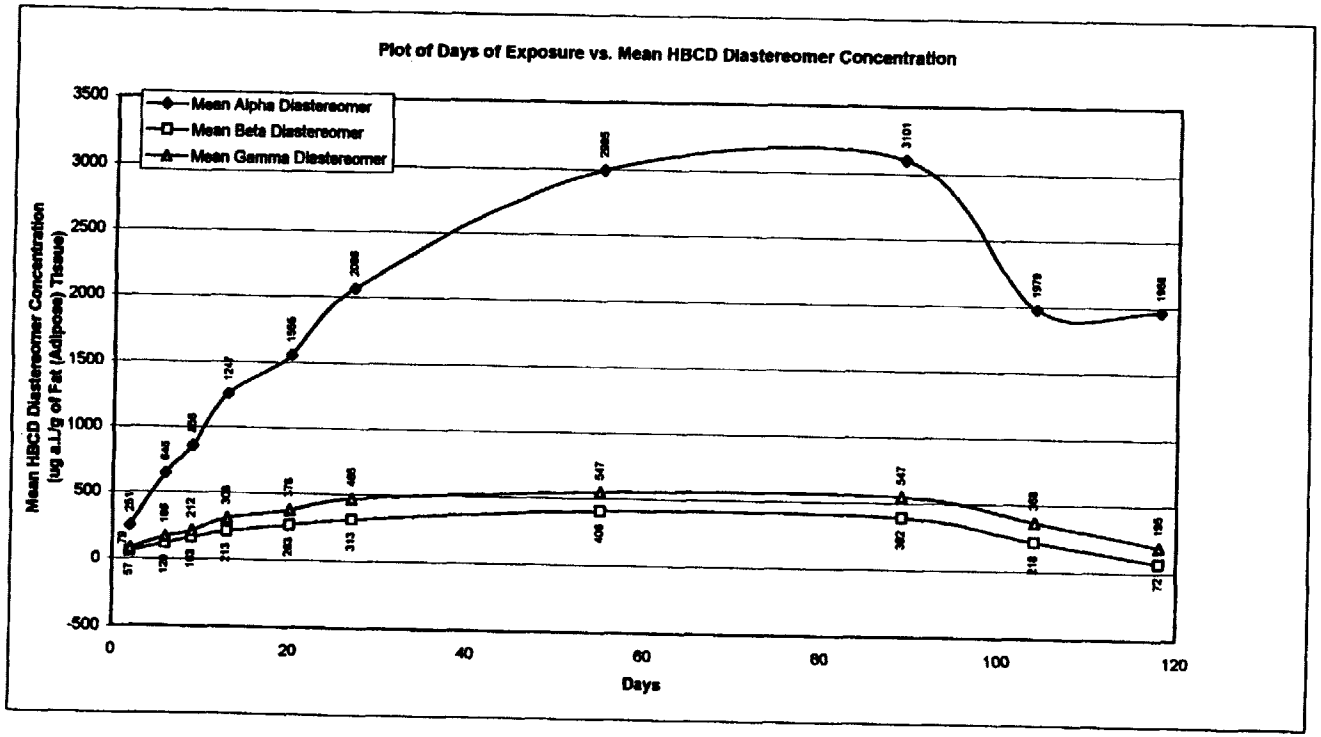

Figure 15. Plot of Days of Exposure vs. Mean Diastereomer Concentration – Male Rodents

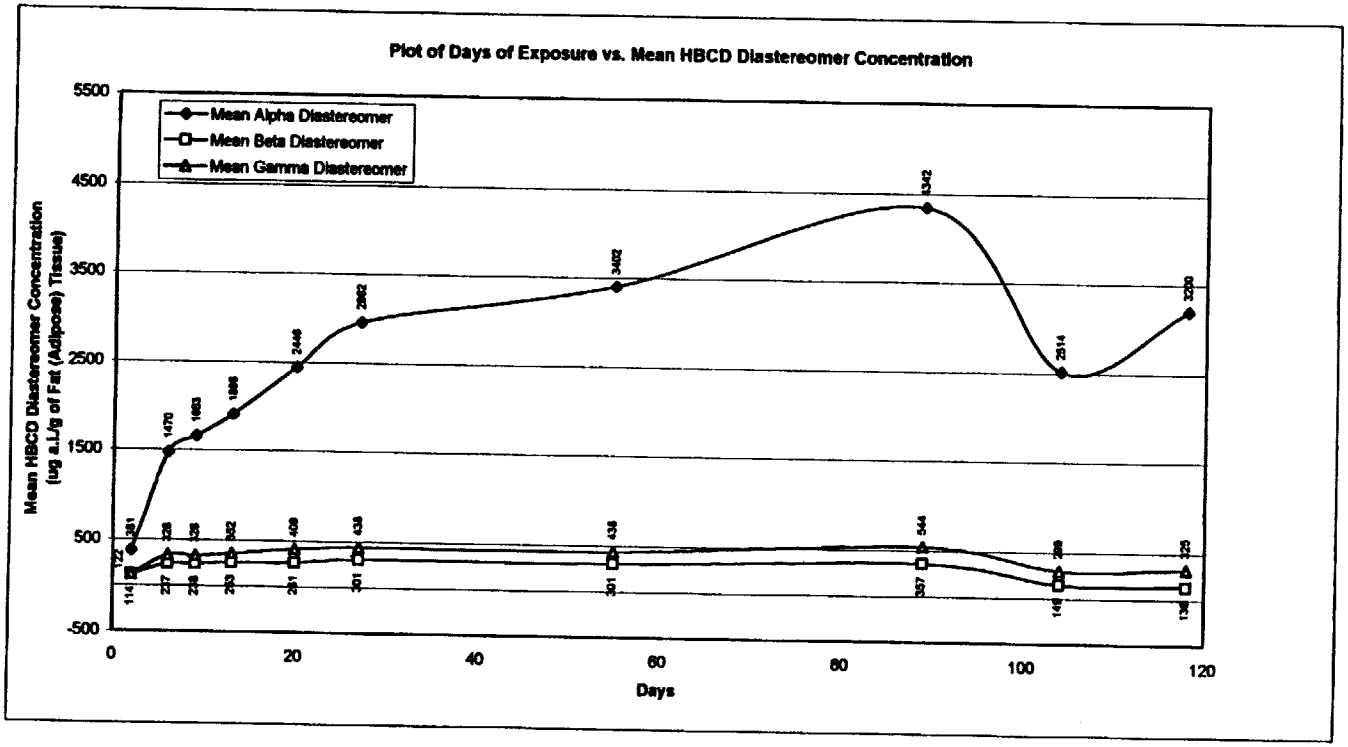

Figure 16. Plot of Days of Exposure vs. Mean Diastereomer Concentration – Female Rodents

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX K

Individual Clinical Observations

PROJECT NO.:WIL-186012
SPONSOR:CMA-BFRIP

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43289	M	0 MG/KG/DAY	NORMAL	05-02-00	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	13:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43289	M	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43295	M	0 MG/KG/DAY	NORMAL	05-02-00	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43295	M	0 MG/KG/DAY	NORMAL	07-11-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	13:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43295	M	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43295	M	0 MG/KG/DAY	EYES/EARS/NOSE	08-08-00	13:50	P	OPACITY LEFT EYE
43308	M	0 MG/KG/DAY	NORMAL	05-02-00	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	13:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43308	M	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43308	M	0 MG/KG/DAY	EYES/EARS/NOSE	07-25-00	12:38	P	DRIED RED MATERIAL AROUND NOSE
43316	M	0 MG/KG/DAY	NORMAL	05-02-00	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43316	M	0 MG/KG/DAY	NORMAL	05-09-00	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43316	M	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43316	M	0 MG/KG/DAY	BODY/INTEGUMENT	05-30-00	9:19	P	HAIR LOSS FORELIMB(S)
				06-06-00	7:40	P	HAIR LOSS FORELIMB(S)
				06-13-00	9:16	P	HAIR LOSS FORELIMB(S)
				07-04-00	11:33	P	HAIR LOSS FORELIMB(S)
				07-11-00	9:22	P	HAIR LOSS FORELIMB(S)
				07-18-00	8:01	P	HAIR LOSS FORELIMB(S)
				07-25-00	12:39	P	HAIR LOSS FORELIMB(S)
				08-01-00	13:56	P	HAIR LOSS FORELIMB(S)
				08-08-00	13:52	P	HAIR LOSS FORELIMB(S)
				08-15-00	13:10	P	HAIR LOSS FORELIMB(S)
				08-23-00	7:55	P	HAIR LOSS FORELIMB(S)
43326	M	0 MG/KG/DAY	NORMAL	05-02-00	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43326	M	0 MG/KG/DAY	NORMAL	07-18-00	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	13:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43326	M	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43326	M	0 MG/KG/DAY	SPECIAL II	08-08-00	13:53	P	TAIL BROKEN
				08-22-00	7:55	P	TAIL BROKEN
				08-23-00	7:47	P	TAIL BROKEN
43332	M	0 MG/KG/DAY	NORMAL	05-02-00	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43332	M	0 MG/KG/DAY	DISPOSITION	07-28-00	11:07	P	PRIMARY NECROPSY (INTERVAL 13)
43334	M	0 MG/KG/DAY	NORMAL	05-02-00	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43334	M	0 MG/KG/DAY	DISPOSITION	07-28-00	11:06	P	PRIMARY NECROPSY (INTERVAL 13)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43334	M	0 MG/KG/DAY	BODY/INTEGUMENT	05-09-00	7:05	P	HAIR LOSS FORELIMB(S)
				05-16-00	9:41	P	HAIR LOSS FORELIMB(S)
				05-23-00	7:33	P	HAIR LOSS FORELIMB(S)
				06-13-00	9:18	P	HAIR LOSS FORELIMB(S)
				07-04-00	11:34	P	HAIR LOSS FORELIMB(S)
				07-11-00	9:24	P	HAIR LOSS FORELIMB(S)
				07-18-00	8:02	P	HAIR LOSS FORELIMB(S)
				07-25-00	12:39	P	HAIR LOSS FORELIMB(S)
				07-28-00	11:06	P	HAIR LOSS FORELIMB(S)
43334	M	0 MG/KG/DAY	SPECIAL I	07-28-00	11:06	P	WET YELLOW MATERIAL ANOGENITAL AREA
43336	M	0 MG/KG/DAY	NORMAL	05-02-00	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43336	M	0 MG/KG/DAY	DISPOSITION	07-26-00	9:16	P	PRIMARY NECROPSY (INTERVAL 13)
43336	M	0 MG/KG/DAY	BODY/INTEGUMENT	05-30-00	9:21	P	HAIR LOSS FORELIMB(S)
43339	M	0 MG/KG/DAY	NORMAL	05-02-00	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43339	M	0 MG/KG/DAY	NORMAL	05-30-00	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43339	M	0 MG/KG/DAY	DISPOSITION	07-28-00	11:10	P	PRIMARY NECROPSY (INTERVAL 13)
43349	M	0 MG/KG/DAY	NORMAL	05-02-00	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43349	M	0 MG/KG/DAY	DISPOSITION	07-27-00	12:59	P	PRIMARY NECROPSY (INTERVAL 13)
43365	M	0 MG/KG/DAY	NORMAL	05-02-00	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43365	M	0 MG/KG/DAY	NORMAL	05-30-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43365	M	0 MG/KG/DAY	DISPOSITION	07-27-00	13:00	P	PRIMARY NECROPSY (INTERVAL 13)
43365	M	0 MG/KG/DAY	BODY/INTEGUMENT	05-23-00	7:35	P	HAIR LOSS FORELIMB(S)
43365	M	0 MG/KG/DAY	EYES/EARS/NOSE	07-27-00	10:25	P	DRIED RED MATERIAL AROUND LEFT EYE
				07-27-00	10:25	P	DRIED RED MATERIAL AROUND NOSE
43365	M	0 MG/KG/DAY	ORAL/DENTAL	07-27-00	10:26	P	UPPER INCISOR(S) MALALIGNED
43365	M	0 MG/KG/DAY	SPECIAL I	07-27-00	10:26	P	DRIED BROWN MATERIAL ANOGENITAL AREA
43368	M	0 MG/KG/DAY	NORMAL	05-02-00	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43368	M	0 MG/KG/DAY	DISPOSITION	07-27-00	13:01	P	PRIMARY NECROPSY (INTERVAL 13)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43368	M	0 MG/KG/DAY	SPECIAL I	07-27-00	10:29	P	DRIED BROWN MATERIAL ANOGENITAL AREA
43369	M	0 MG/KG/DAY	NORMAL	05-02-00	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43369	M	0 MG/KG/DAY	DISPOSITION	07-26-00	9:17	P	PRIMARY NECROPSY (INTERVAL 13)
43369	M	0 MG/KG/DAY	EXCRETA	05-23-00	7:36	P	SOFT FECES
43379	M	0 MG/KG/DAY	NORMAL	05-02-00	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43379	M	0 MG/KG/DAY	NORMAL	07-26-00	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43379	M	0 MG/KG/DAY	DISPOSITION	07-26-00	9:17	P	PRIMARY NECROPSY (INTERVAL 13)
43391	M	0 MG/KG/DAY	NORMAL	05-02-00	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43391	M	0 MG/KG/DAY	DISPOSITION	07-28-00	11:20	P	PRIMARY NECROPSY (INTERVAL 13)
43285	M	100 MG/KG/DAY	NORMAL	05-02-00	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43285	M	100 MG/KG/DAY	NORMAL	07-25-00	12:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43285	M	100 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43293	M	100 MG/KG/DAY	NORMAL	05-02-00	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43293	M	100 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43311	M	100 MG/KG/DAY	NORMAL	05-02-00	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43311	M	100 MG/KG/DAY	NORMAL	05-23-00	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43311	M	100 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43320	M	100 MG/KG/DAY	NORMAL	05-02-00	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43320	M	100 MG/KG/DAY	NORMAL	08-08-00	13:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43320	M	100 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43320	M	100 MG/KG/DAY	ORAL/DENTAL	07-25-00	12:47	P	LOWER INCISOR(S) LONG, TRIMMED
43340	M	100 MG/KG/DAY	NORMAL	05-02-00	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43340	M	100 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43340	M	100 MG/KG/DAY	EYES/EARS/NOSE	05-30-00	9:42	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-06-00	7:50	P	CLEAR DISCHARGE LEFT EYE
				06-13-00	9:46	P	RED DISCHARGE LEFT EYE
				06-20-00	9:49	P	DRIED RED MATERIAL AROUND LEFT EYE
				08-08-00	13:59	P	DRIED RED MATERIAL AROUND LEFT EYE
43340	M	100 MG/KG/DAY	EXCRETA	08-23-00	7:54	P	SOFT FECES
43340	M	100 MG/KG/DAY	ORAL/DENTAL	07-25-00	12:48	P	LOWER INCISOR(S) LONG, TRIMMED
				05-16-00	10:22	P	UPPER INCISOR(S) BROKEN
43342	M	100 MG/KG/DAY	NORMAL	05-02-00	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43342	M	100 MG/KG/DAY	NORMAL	05-30-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43342	M	100 MG/KG/DAY	DISPOSITION	07-28-00	11:19	P	PRIMARY NECROPSY (INTERVAL 13)
43350	M	100 MG/KG/DAY	NORMAL	05-02-00	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43350	M	100 MG/KG/DAY	DISPOSITION	07-27-00	13:01	P	PRIMARY NECROPSY (INTERVAL 13)
43351	M	100 MG/KG/DAY	NORMAL	05-02-00	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43351	M	100 MG/KG/DAY	NORMAL	05-23-00	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43351	M	100 MG/KG/DAY	DISPOSITION	07-27-00	12:59	P	PRIMARY NECROPSY (INTERVAL 13)
43354	M	100 MG/KG/DAY	NORMAL	05-02-00	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43354	M	100 MG/KG/DAY	DISPOSITION	07-28-00	11:18	P	PRIMARY NECROPSY (INTERVAL 13)
43364	M	100 MG/KG/DAY	NORMAL	05-02-00	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43364	M	100 MG/KG/DAY	NORMAL	05-16-00	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43364	M	100 MG/KG/DAY	DISPOSITION	07-26-00	9:18	P	PRIMARY NECROPSY (INTERVAL 13)
43364	M	100 MG/KG/DAY	BODY/INTEG II	07-11-00	9:49	P	SCABBING END OF TAIL
43364	M	100 MG/KG/DAY	SPECIAL II	06-13-00	9:53	P	END OF TAIL MISSING
				06-20-00	9:55	P	END OF TAIL MISSING
				06-27-00	9:09	P	END OF TAIL MISSING
				07-04-00	11:55	P	END OF TAIL MISSING
43371	M	100 MG/KG/DAY	NORMAL	05-02-00	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43371	M	100 MG/KG/DAY	DISPOSITION	07-27-00	13:01	P	PRIMARY NECROPSY (INTERVAL 13)
43371	M	100 MG/KG/DAY	ORAL/DENTAL	05-16-00	10:28	P	WET CLEAR MATERIAL AROUND MOUTH
43380	M	100 MG/KG/DAY	NORMAL	05-02-00	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43380	M	100 MG/KG/DAY	NORMAL	05-09-00	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43380	M	100 MG/KG/DAY	DISPOSITION	07-26-00	9:16	P	PRIMARY NECROPSY (INTERVAL 13)
43382	M	100 MG/KG/DAY	NORMAL	05-02-00	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43382	M	100 MG/KG/DAY	DISPOSITION	07-27-00	13:00	P	PRIMARY NECROPSY (INTERVAL 13)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43384	M	100 MG/KG/DAY	NORMAL	05-02-00	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43384	M	100 MG/KG/DAY	DISPOSITION	07-26-00	9:17	P	PRIMARY NECROPSY (INTERVAL 13)
43384	M	100 MG/KG/DAY	EYES/EARS/NOSE	06-27-00	9:10	P	DRIED RED MATERIAL AROUND RIGHT EYE
43384	M	100 MG/KG/DAY	SPECIAL II	07-13-00	12:57	P	6MM X 6MM X 4MM FIRM IMMOVEABLE MASS LEFT SIDE OF MOUTH
				07-18-00	8:26	P	6MM X 6MM X 4MM FIRM IMMOVEABLE MASS LEFT SIDE OF MOUTH
				07-25-00	12:51	P	6MM X 6MM X 4MM FIRM IMMOVEABLE MASS LEFT SIDE OF MOUTH
				07-26-00	8:49	P	6MM X 6MM X 4MM FIRM IMMOVEABLE MASS LEFT SIDE OF MOUTH
43386	M	100 MG/KG/DAY	NORMAL	05-02-00	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43386	M	100 MG/KG/DAY	NORMAL	07-04-00	11:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43386	M	100 MG/KG/DAY	DISPOSITION	07-28-00	11:04	P	PRIMARY NECROPSY (INTERVAL 13)
43290	M	300 MG/KG/DAY	NORMAL	05-02-00	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43290	M	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43290	M	300 MG/KG/DAY	EYES/EARS/NOSE	05-30-00	10:03	P	DRIED RED MATERIAL AROUND RIGHT EYE
43290	M	300 MG/KG/DAY	ORAL/DENTAL	05-30-00	10:03	P	UPPER INCISOR(S) MALALIGNED
				06-06-00	8:02	P	UPPER INCISOR(S) MALALIGNED
				06-06-00	8:02	P	LOWER INCISOR(S) LONG, TRIMMED
				06-27-00	9:17	P	UPPER INCISOR(S) MALALIGNED
				06-27-00	9:17	P	LOWER INCISOR(S) LONG, TRIMMED
				07-04-00	12:09	P	UPPER INCISOR(S) MALALIGNED
				07-04-00	12:10	P	LOWER INCISOR(S) LONG, TRIMMED
				06-20-00	10:16	P	UPPER INCISOR(S) MALALIGNED
				06-20-00	10:16	P	LOWER INCISOR(S) LONG, TRIMMED
				07-25-00	12:55	P	UPPER INCISOR(S) MALALIGNED
				08-01-00	14:08	P	UPPER INCISOR(S) MALALIGNED
				08-01-00	14:08	P	LOWER INCISOR(S) LONG, TRIMMED
				08-08-00	14:06	P	UPPER INCISOR(S) MISSING

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43290	M	300 MG/KG/DAY	ORAL/DENTAL	08-08-00	14:06	P	LOWER INCISOR(S) LONG, TRIMMED
				08-22-00	8:53	P	LOWER INCISOR(S) LONG, TRIMMED
				08-22-00	8:53	P	UPPER INCISOR(S) MALALIGNED
				08-23-00	7:57	P	UPPER INCISOR(S) MALALIGNED
				05-30-00	10:02	P	UPPER INCISOR(S) BROKEN
				08-22-00	8:53	P	UPPER INCISOR(S) BROKEN
				08-23-00	7:57	P	UPPER INCISOR(S) BROKEN
43307	M	300 MG/KG/DAY	NORMAL	05-02-00	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43307	M	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43309	M	300 MG/KG/DAY	NORMAL	05-02-00	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43309	M	300 MG/KG/DAY	NORMAL	05-23-00	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43309	M	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43318	M	300 MG/KG/DAY	NORMAL	05-02-00	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43318	M	300 MG/KG/DAY	NORMAL	08-01-00	14:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43318	M	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43322	M	300 MG/KG/DAY	NORMAL	05-02-00	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43322	M	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43323	M	300 MG/KG/DAY	NORMAL	05-02-00	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43323	M	300 MG/KG/DAY	NORMAL	05-30-00	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43323	M	300 MG/KG/DAY	DISPOSITION	07-28-00	11:16	P	PRIMARY NECROPSY (INTERVAL 13)
43323	M	300 MG/KG/DAY	SPECIAL I	07-28-00	11:16	P	DRIED YELLOW MATERIAL UROGENITAL AREA
				07-28-00	11:16	P	DRIED BROWN MATERIAL UROGENITAL AREA
43331	M	300 MG/KG/DAY	NORMAL	05-02-00	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43331	M	300 MG/KG/DAY	DISPOSITION	07-26-00	9:18	P	PRIMARY NECROPSY (INTERVAL 13)
43341	M	300 MG/KG/DAY	NORMAL	05-02-00	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43341	M	300 MG/KG/DAY	NORMAL	05-30-00	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43341	M	300 MG/KG/DAY	DISPOSITION	07-27-00	13:00	P	PRIMARY NECROPSY (INTERVAL 13)
43341	M	300 MG/KG/DAY	EYES/EARS/NOSE	05-16-00	11:17	P	DRIED RED MATERIAL AROUND RIGHT EYE
				05-23-00	9:00	P	DRIED RED MATERIAL AROUND RIGHT EYE
43355	M	300 MG/KG/DAY	NORMAL	05-09-00	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43355	M	300 MG/KG/DAY	DISPOSITION	07-28-00	11:17	P	PRIMARY NECROPSY (INTERVAL 13)
43355	M	300 MG/KG/DAY	BODY/INTEG II	05-02-00	7:37	P	SCABBING VENTRAL NECK AREA
43361	M	300 MG/KG/DAY	NORMAL	05-02-00	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43361	M	300 MG/KG/DAY	NORMAL	05-09-00	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43361	M	300 MG/KG/DAY	DISPOSITION	07-28-00	11:07	P	PRIMARY NECROPSY (INTERVAL 13)
43363	M	300 MG/KG/DAY	NORMAL	05-02-00	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43363	M	300 MG/KG/DAY	DISPOSITION	07-26-00	9:15	P	PRIMARY NECROPSY (INTERVAL 13)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43383	M	300 MG/KG/DAY	NORMAL	05-02-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43383	M	300 MG/KG/DAY	DISPOSITION	07-27-00	12:59	P	PRIMARY NECROPSY (INTERVAL 13)
43383	M	300 MG/KG/DAY	EYES/EARS/NOSE	07-27-00	10:21	P	DRIED RED MATERIAL AROUND NOSE
43383	M	300 MG/KG/DAY	EXCRETA	07-27-00	10:21	P	WET YELLOW MATERIAL UROGENITAL AREA
43385	M	300 MG/KG/DAY	NORMAL	05-02-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43385	M	300 MG/KG/DAY	DISPOSITION	07-27-00	12:59	P	PRIMARY NECROPSY (INTERVAL 13)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43385	M	300 MG/KG/DAY	EYES/EARS/NOSE	07-04-00	12:16	P	DRIED RED MATERIAL AROUND RIGHT EYE
				07-11-00	13:18	P	DRIED RED MATERIAL AROUND RIGHT EYE
43388	M	300 MG/KG/DAY	NORMAL	05-02-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43388	M	300 MG/KG/DAY	DISPOSITION	07-27-00	13:00	P	PRIMARY NECROPSY (INTERVAL 13)
43392	M	300 MG/KG/DAY	NORMAL	05-02-00	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43392	M	300 MG/KG/DAY	NORMAL	07-26-00	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43392	M	300 MG/KG/DAY	DISPOSITION	07-26-00	9:14	P	PRIMARY NECROPSY (INTERVAL 13)
43392	M	300 MG/KG/DAY	ORAL/DENTAL	07-11-00	13:20	P	WET CLEAR MATERIAL VENTRAL NECK
43392	M	300 MG/KG/DAY	SPECIAL I	07-11-00	13:19	P	WET CLEAR MATERIAL FORELIMB(S)
43277	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	12:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43277	M	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43277	M	1000 MG/KG/DAY	BODY/INTEGUMENT	05-23-00	9:12	P	HAIR LOSS FORELIMB(S)
				05-30-00	10:23	P	HAIR LOSS FORELIMB(S)
				06-06-00	8:13	P	HAIR LOSS FORELIMB(S)
				06-13-00	12:17	P	HAIR LOSS FORELIMB(S)
				06-20-00	10:42	P	HAIR LOSS FORELIMB(S)
				06-27-00	9:27	P	HAIR LOSS FORELIMB(S)
				07-04-00	12:26	P	HAIR LOSS FORELIMB(S)
				07-11-00	13:29	P	HAIR LOSS FORELIMB(S)
				07-18-00	9:36	P	HAIR LOSS FORELIMB(S)
				07-25-00	13:06	P	HAIR LOSS FORELIMB(S)
				08-01-00	14:14	P	HAIR LOSS FORELIMB(S)
				08-15-00	13:25	P	HAIR LOSS FORELIMB(S)
				08-22-00	8:57	P	HAIR LOSS FORELIMB(S)
				08-23-00	7:45	P	HAIR LOSS FORELIMB(S)
43278	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	12:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43278	M	1000 MG/KG/DAY	NORMAL	06-13-00	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43278	M	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43278	M	1000 MG/KG/DAY	SPECIAL II	08-23-00	7:51	P	3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP
43280	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	12:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43280	M	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43280	M	1000 MG/KG/DAY	BEHAVIOR/CNS	05-23-00	9:14	P	UNKEMPT APPEARANCE
43280	M	1000 MG/KG/DAY	EYES/EARS/NOSE	07-25-00	13:07	P	DRIED RED MATERIAL AROUND NOSE
43280	M	1000 MG/KG/DAY	EXCRETA	08-23-00	7:44	P	RED PENILE DISCHARGE
43280	M	1000 MG/KG/DAY	SPECIAL I	07-25-00	13:08	P	DRIED YELLOW MATERIAL UROGENITAL AREA
43281	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	12:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43281	M	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43281	M	1000 MG/KG/DAY	CARDIO-PULMONARY	07-11-00	13:32	P	RALES
				08-01-00	14:16	P	RALES
43281	M	1000 MG/KG/DAY	EXCRETA	07-25-00	13:08	P	SOFT FECES
43281	M	1000 MG/KG/DAY	SPECIAL I	07-11-00	13:32	P	DRIED BROWN MATERIAL ANOGENITAL AREA
43282	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	12:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43282	M	1000 MG/KG/DAY	NORMAL	06-06-00	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43282	M	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43282	M	1000 MG/KG/DAY	ORAL/DENTAL	05-23-00	9:16	P	WET CLEAR MATERIAL AROUND MOUTH
43297	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	12:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43297	M	1000 MG/KG/DAY	DISPOSITION	07-28-00	11:05	P	PRIMARY NECROPSY (INTERVAL 13)
43325	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	12:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43325	M	1000 MG/KG/DAY	DISPOSITION	07-27-00	12:59	P	PRIMARY NECROPSY (INTERVAL 13)
43325	M	1000 MG/KG/DAY	EXCRETA	07-25-00	13:10	P	SOFT FECES
43325	M	1000 MG/KG/DAY	BODY/INTEG II	07-27-00	10:22	P	SCABBING UROGENITAL AREA
43325	M	1000 MG/KG/DAY	ACUTES	07-25-00	13:24	P	PROLAPSED PENIS
				07-27-00	10:22	P	PROLAPSED PENIS
43325	M	1000 MG/KG/DAY	SPECIAL II	07-25-00	13:21	P	5MM X 5MM X 5MM FIRM MOVABLE MASS UROGENITAL AREA
43328	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	12:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43328	M	1000 MG/KG/DAY	NORMAL	07-11-00	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43328	M	1000 MG/KG/DAY	DISPOSITION	07-26-00	9:15	P	PRIMARY NECROPSY (INTERVAL 13)
43328	M	1000 MG/KG/DAY	SPECIAL II	07-13-00	13:05	P	3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP
				07-18-00	9:40	P	3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP
				07-25-00	13:11	P	3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP
43346	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43346	M	1000 MG/KG/DAY	DISPOSITION	07-28-00	11:17	P	PRIMARY NECROPSY (INTERVAL 13)
43359	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43359	M	1000 MG/KG/DAY	DISPOSITION	05-07-00	11:48	P	FOUND DEAD
43362	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43362	M	1000 MG/KG/DAY	NORMAL	05-23-00	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43362	M	1000 MG/KG/DAY	DISPOSITION	07-27-00	13:01	P	PRIMARY NECROPSY (INTERVAL 13)
43362	M	1000 MG/KG/DAY	EXCRETA	07-27-00	10:28	P	WET YELLOW MATERIAL UROGENITAL AREA
43362	M	1000 MG/KG/DAY	SPECIAL I	07-27-00	10:28	P	WET YELLOW MATERIAL VENTRAL TRUNK
43372	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43372	M	1000 MG/KG/DAY	DISPOSITION	07-26-00	9:17	P	PRIMARY NECROPSY (INTERVAL 13)
43372	M	1000 MG/KG/DAY	ORAL/DENTAL	05-16-00	13:04	P	WET CLEAR MATERIAL VENTRAL NECK
				05-16-00	13:04	P	WET CLEAR MATERIAL AROUND MOUTH

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43373	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43373	M	1000 MG/KG/DAY	DISPOSITION	07-26-00	9:16	P	PRIMARY NECROPSY (INTERVAL 13)
43377	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43377	M	1000 MG/KG/DAY	DISPOSITION	07-27-00	13:01	P	PRIMARY NECROPSY (INTERVAL 13)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43377	M	1000 MG/KG/DAY	ORAL/DENTAL	07-27-00	10:30	P	WET CLEAR MATERIAL VENTRAL NECK
				07-27-00	10:30	P	WET CLEAR MATERIAL AROUND MOUTH
43377	M	1000 MG/KG/DAY	SPECIAL I	07-27-00	10:30	P	WET BROWN MATERIAL ANOGENITAL AREA
				07-27-00	10:30	P	WET CLEAR MATERIAL FORELIMB(S)
43397	M	1000 MG/KG/DAY	NORMAL	05-02-00	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43397	M	1000 MG/KG/DAY	DISPOSITION	07-28-00	11:19	P	PRIMARY NECROPSY (INTERVAL 13)
43397	M	1000 MG/KG/DAY	SPECIAL I	07-28-00	11:19	P	DRIED YELLOW MATERIAL UROGENITAL AREA
43398	F	0 MG/KG/DAY	NORMAL	05-02-00	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43398	F	0 MG/KG/DAY	NORMAL	07-11-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	13:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43398	F	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43405	F	0 MG/KG/DAY	NORMAL	05-02-00	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	13:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43405	F	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43409	F	0 MG/KG/DAY	NORMAL	05-02-00	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43409	F	0 MG/KG/DAY	NORMAL	05-09-00	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	13:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43409	F	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43423	F	0 MG/KG/DAY	NORMAL	05-02-00	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43423	F	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43423	F	0 MG/KG/DAY	BODY/INTEGUMENT	05-16-00	9:56	P	HAIR LOSS FORELIMB(S)
				05-23-00	7:39	P	HAIR LOSS FORELIMB(S)
				05-30-00	9:30	P	HAIR LOSS FORELIMB(S)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43423	F	0 MG/KG/DAY	BODY/INTEGUMENT	06-06-00	7:45	P	HAIR LOSS FORELIMB(S)
				07-04-00	11:41	P	HAIR LOSS FORELIMB(S)
				07-11-00	9:32	P	HAIR LOSS FORELIMB(S)
				07-18-00	8:11	P	HAIR LOSS FORELIMB(S)
				07-25-00	12:42	P	HAIR LOSS FORELIMB(S)
				08-01-00	13:59	P	HAIR LOSS FORELIMB(S)
				08-15-00	13:13	P	HAIR LOSS FORELIMB(S)
				08-23-00	7:46	P	HAIR LOSS FORELIMB(S)
43423	F	0 MG/KG/DAY	BODY/INTEG II	05-16-00	9:57	P	SCABBING FORELIMB(S)
43432	F	0 MG/KG/DAY	NORMAL	05-02-00	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	13:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	13:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43432	F	0 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43433	F	0 MG/KG/DAY	NORMAL	05-02-00	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43433	F	0 MG/KG/DAY	NORMAL	05-09-00	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43433	F	0 MG/KG/DAY	DISPOSITION	07-27-00	12:57	P	PRIMARY NECROPSY (INTERVAL 13)
43433	F	0 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE ESTROUS PRIOR TO NECROPSY
43435	F	0 MG/KG/DAY	NORMAL	05-02-00	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43435	F	0 MG/KG/DAY	NORMAL	07-28-00	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43435	F	0 MG/KG/DAY	DISPOSITION	07-28-00	11:21	P	PRIMARY NECROPSY (INTERVAL 13)
43435	F	0 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43436	F	0 MG/KG/DAY	NORMAL	05-02-00	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43436	F	0 MG/KG/DAY	DISPOSITION	07-28-00	11:22	P	PRIMARY NECROPSY (INTERVAL 13)
43436	F	0 MG/KG/DAY	SPECIAL II	05-16-00	10:05	P	TAIL BROKEN
				05-23-00	7:42	P	TAIL BROKEN
				05-30-00	9:33	P	TAIL BROKEN
				06-06-00	7:46	P	TAIL BROKEN
				06-13-00	9:34	P	TAIL BROKEN
				06-20-00	9:35	P	TAIL BROKEN
				06-27-00	9:03	P	TAIL BROKEN
				07-04-00	11:43	P	TAIL BROKEN
				07-11-00	9:35	P	TAIL BROKEN
				07-28-00	11:22	P	TAIL BROKEN
				07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43438	F	0 MG/KG/DAY	NORMAL	05-02-00	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43438	F	0 MG/KG/DAY	NORMAL	07-04-00	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43438	F	0 MG/KG/DAY	DISPOSITION	07-26-00	9:14	P	PRIMARY NECROPSY (INTERVAL 13)
43438	F	0 MG/KG/DAY	BODY/INTEGUMENT	06-20-00	9:37	P	HAIR LOSS FORELIMB(S)
				07-25-00	12:43	P	HAIR LOSS FORELIMB(S)
				07-26-00	8:46	P	HAIR LOSS FORELIMB(S)
43438	F	0 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43449	F	0 MG/KG/DAY	NORMAL	05-02-00	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43449	F	0 MG/KG/DAY	DISPOSITION	07-27-00	13:00	P	PRIMARY NECROPSY (INTERVAL 13)
43449	F	0 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43467	F	0 MG/KG/DAY	NORMAL	05-02-00	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43467	F	0 MG/KG/DAY	NORMAL	07-26-00	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43467	F	0 MG/KG/DAY	DISPOSITION	07-26-00	9:14	P	PRIMARY NECROPSY (INTERVAL 13)
43467	F	0 MG/KG/DAY	BODY/INTEGUMENT	05-23-00	7:43	P	HAIR LOSS FORELIMB(S)
				05-30-00	9:35	P	HAIR LOSS FORELIMB(S)
				06-06-00	7:47	P	HAIR LOSS FORELIMB(S)
				06-13-00	9:36	P	HAIR LOSS FORELIMB(S)
				06-20-00	9:39	P	HAIR LOSS FORELIMB(S)
				06-27-00	9:04	P	HAIR LOSS FORELIMB(S)
				07-04-00	11:45	P	HAIR LOSS FORELIMB(S)
				07-11-00	9:37	P	HAIR LOSS FORELIMB(S)
				07-18-00	8:15	P	HAIR LOSS FORELIMB(S)
				07-25-00	12:44	P	HAIR LOSS FORELIMB(S)
43467	F	0 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43474	F	0 MG/KG/DAY	NORMAL	05-02-00	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43474	F	0 MG/KG/DAY	DISPOSITION	07-26-00	9:17	P	PRIMARY NECROPSY (INTERVAL 13)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43474	F	0 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43483	F	0 MG/KG/DAY	NORMAL	05-02-00	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43483	F	0 MG/KG/DAY	DISPOSITION	07-27-00	13:00	P	PRIMARY NECROPSY (INTERVAL 13)
43483	F	0 MG/KG/DAY	BODY/INTEG II	07-11-00	9:38	P	SCABBING END OF TAIL
				07-27-00	10:24	P	SCABBING END OF TAIL
43483	F	0 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE ESTROUS PRIOR TO NECROPSY
43497	F	0 MG/KG/DAY	NORMAL	05-02-00	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43497	F	0 MG/KG/DAY	NORMAL	07-11-00	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43497	F	0 MG/KG/DAY	DISPOSITION	07-28-00	11:22	P	PRIMARY NECROPSY (INTERVAL 13)
43497	F	0 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43501	F	0 MG/KG/DAY	NORMAL	05-02-00	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43501	F	0 MG/KG/DAY	DISPOSITION	07-28-00	11:18	P	PRIMARY NECROPSY (INTERVAL 13)
43501	F	0 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43400	F	100 MG/KG/DAY	NORMAL	05-02-00	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43400	F	100 MG/KG/DAY	NORMAL	06-06-00	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43400	F	100 MG/KG/DAY	DISPOSITION	08-23-00	11:20	P	RECOVERY NECROPSY (INTERVAL 17)
43407	F	100 MG/KG/DAY	NORMAL	05-02-00	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	11:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43407	F	100 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43407	F	100 MG/KG/DAY	EYES/EARS/NOSE	08-01-00	14:05	P	DRIED RED MATERIAL AROUND RIGHT EYE

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43407	F	100 MG/KG/DAY	EYES/EARS/NOSE	08-01-00	14:05	P	DRIED RED MATERIAL AROUND LEFT EYE
				08-01-00	14:05	P	RED DISCHARGE RIGHT EYE
				08-01-00	14:05	P	RED DISCHARGE LEFT EYE
				08-01-00	14:05	P	DRIED RED MATERIAL AROUND NOSE
				08-01-00	14:05	P	DRIED RED MATERIAL FACIAL AREA
				08-08-00	14:01	P	DRIED RED MATERIAL AROUND RIGHT EYE
				08-08-00	14:01	P	DRIED RED MATERIAL AROUND LEFT EYE
				08-15-00	13:17	P	DRIED RED MATERIAL AROUND LEFT EYE
				08-15-00	13:17	P	RED DISCHARGE LEFT EYE
				08-22-00	8:52	P	DRIED RED MATERIAL AROUND LEFT EYE
				08-22-00	8:52	P	RED DISCHARGE LEFT EYE
				08-23-00	7:49	P	DRIED RED MATERIAL AROUND LEFT EYE
43407	F	100 MG/KG/DAY	ORAL/DENTAL	08-01-00	14:04	P	UPPER INCISOR(S) MALALIGNED
				08-01-00	14:04	P	LOWER INCISOR(S) LONG, TRIMMED
				08-08-00	14:01	P	LOWER INCISOR(S) LONG, TRIMMED
				08-16-00	7:54	P	LOWER INCISOR(S) LONG, TRIMMED
				08-22-00	8:52	P	UPPER INCISOR(S) MALALIGNED
				08-23-00	7:49	P	UPPER INCISOR(S) MALALIGNED
43407	F	100 MG/KG/DAY	SPECIAL I	08-01-00	14:05	P	DRIED RED MATERIAL FORELIMB(S)
				08-08-00	14:02	P	DRIED YELLOW MATERIAL UROGENITAL AREA
43413	F	100 MG/KG/DAY	NORMAL	05-02-00	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43413	F	100 MG/KG/DAY	NORMAL	07-04-00	12:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43413	F	100 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43416	F	100 MG/KG/DAY	NORMAL	05-02-00	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43416	F	100 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43416	F	100 MG/KG/DAY	BODY/INTEGUMENT	07-04-00	12:00	P	HAIR LOSS HINDLIMB(S)
				07-18-00	8:28	P	HAIR LOSS HINDLIMB(S)
				08-01-00	14:07	P	HAIR LOSS HINDLIMB(S)
				08-23-00	7:45	P	HAIR LOSS HINDLIMB(S)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43419	F	100 MG/KG/DAY	NORMAL	05-02-00	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43419	F	100 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43420	F	100 MG/KG/DAY	NORMAL	05-02-00	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43420	F	100 MG/KG/DAY	NORMAL	07-11-00	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43420	F	100 MG/KG/DAY	DISPOSITION	07-26-00	9:16	P	PRIMARY NECROPSY (INTERVAL 13)
43420	F	100 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43439	F	100 MG/KG/DAY	NORMAL	05-02-00	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43439	F	100 MG/KG/DAY	DISPOSITION	07-28-00	11:21	P	PRIMARY NECROPSY (INTERVAL 13)
43439	F	100 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO METESTROUS PRIOR TO NECROPSY
43458	F	100 MG/KG/DAY	NORMAL	05-02-00	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43458	F	100 MG/KG/DAY	NORMAL	06-06-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43458	F	100 MG/KG/DAY	DISPOSITION	07-27-00	13:00	P	PRIMARY NECROPSY (INTERVAL 13)
43458	F	100 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE ESTROUS PRIOR TO NECROPSY
43462	F	100 MG/KG/DAY	NORMAL	05-02-00	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43462	F	100 MG/KG/DAY	DISPOSITION	07-26-00	9:15	P	PRIMARY NECROPSY (INTERVAL 13)
43462	F	100 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43468	F	100 MG/KG/DAY	NORMAL	05-02-00	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43468	F	100 MG/KG/DAY	NORMAL	05-09-00	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43468	F	100 MG/KG/DAY	DISPOSITION	07-27-00	12:59	P	PRIMARY NECROPSY (INTERVAL 13)
43468	F	100 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43486	F	100 MG/KG/DAY	NORMAL	05-02-00	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43486	F	100 MG/KG/DAY	NORMAL	07-27-00	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43486	F	100 MG/KG/DAY	DISPOSITION	07-27-00	12:59	P	PRIMARY NECROPSY (INTERVAL 13)
43486	F	100 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43489	F	100 MG/KG/DAY	NORMAL	05-02-00	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43489	F	100 MG/KG/DAY	DISPOSITION	07-27-00	12:58	P	PRIMARY NECROPSY (INTERVAL 13)
43489	F	100 MG/KG/DAY	BODY/INTEGUMENT	05-09-00	7:28	P	HAIR LOSS FORELIMB(S)
				05-16-00	10:57	P	HAIR LOSS FORELIMB(S)
				05-23-00	8:49	P	HAIR LOSS FORELIMB(S)
				05-30-00	9:57	P	HAIR LOSS FORELIMB(S)
				06-06-00	7:58	P	HAIR LOSS FORELIMB(S)
				06-13-00	10:18	P	HAIR LOSS FORELIMB(S)
				06-20-00	10:10	P	HAIR LOSS FORELIMB(S)
				06-27-00	9:15	P	HAIR LOSS FORELIMB(S)
				07-04-00	12:06	P	HAIR LOSS FORELIMB(S)
				07-11-00	10:00	P	HAIR LOSS FORELIMB(S)
				07-18-00	9:18	P	HAIR LOSS FORELIMB(S)
				07-25-00	12:54	P	HAIR LOSS FORELIMB(S)
				07-27-00	10:19	P	HAIR LOSS FORELIMB(S)
43489	F	100 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43502	F	100 MG/KG/DAY	NORMAL	05-02-00	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43502	F	100 MG/KG/DAY	DISPOSITION	07-28-00	11:10	P	PRIMARY NECROPSY (INTERVAL 13)
43502	F	100 MG/KG/DAY	BODY/INTEGUMENT	05-09-00	7:29	P	HAIR LOSS FORELIMB(S)
				05-16-00	10:59	P	HAIR LOSS FORELIMB(S)
				05-23-00	8:49	P	HAIR LOSS FORELIMB(S)
				05-30-00	9:58	P	HAIR LOSS FORELIMB(S)
				06-06-00	7:59	P	HAIR LOSS FORELIMB(S)
				06-13-00	10:20	P	HAIR LOSS FORELIMB(S)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43502	F	100 MG/KG/DAY	BODY/INTEGUMENT	06-13-00	10:21	P	HAIR LOSS HINDLIMB(S)
				06-20-00	10:11	P	HAIR LOSS FORELIMB(S)
				06-27-00	9:16	P	HAIR LOSS FORELIMB(S)
				07-04-00	12:07	P	HAIR LOSS FORELIMB(S)
				07-11-00	10:01	P	HAIR LOSS FORELIMB(S)
				07-18-00	9:18	P	HAIR LOSS FORELIMB(S)
				07-25-00	12:54	P	HAIR LOSS FORELIMB(S)
				07-28-00	11:09	P	HAIR LOSS FORELIMB(S)
43502	F	100 MG/KG/DAY	BODY/INTEG II	06-20-00	10:11	P	SCABBING FORELIMB(S)
43502	F	100 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE ESTROUS PRIOR TO NECROPSY
43511	F	100 MG/KG/DAY	NORMAL	05-02-00	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43511	F	100 MG/KG/DAY	DISPOSITION	07-28-00	11:05	P	PRIMARY NECROPSY (INTERVAL 13)
43511	F	100 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43515	F	100 MG/KG/DAY	NORMAL	05-02-00	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43515	F	100 MG/KG/DAY	NORMAL	05-09-00	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	12:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43515	F	100 MG/KG/DAY	DISPOSITION	07-26-00	9:15	P	PRIMARY NECROPSY (INTERVAL 13)
43515	F	100 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43402	F	300 MG/KG/DAY	NORMAL	05-02-00	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43402	F	300 MG/KG/DAY	NORMAL	08-22-00	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43402	F	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43402	F	300 MG/KG/DAY	SPECIAL II	07-13-00	13:04	P	3MM X 3MM X 2MM FIRM REDDENED IMMOVEABLE MASS RIGHT SIDE OF MOUTH ON LIP
				07-13-00	13:04	P	2MM X 2MM X 1MM FIRM REDDENED IMMOVEABLE MASS LEFT SIDE OF MOUTH ON LIP
				07-18-00	9:28	P	2MM X 2MM X 1MM FIRM REDDENED IMMOVEABLE MASS ON RIGHT SIDE OF MOUTH ON LIP
				07-25-00	13:00	P	2MM X 2MM X 1MM FIRM REDDENED IMMOVEABLE MASS ON RIGHT SIDE OF MOUTH ON LIP
				08-01-00	14:11	P	2MM X 2MM X 1MM FIRM REDDENED IMMOVEABLE MASS ON RIGHT SIDE OF MOUTH ON LIP
43426	F	300 MG/KG/DAY	NORMAL	05-02-00	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43426	F	300 MG/KG/DAY	NORMAL	08-22-00	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43426	F	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43442	F	300 MG/KG/DAY	NORMAL	05-02-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43442	F	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43442	F	300 MG/KG/DAY	BODY/INTEG II	08-22-00	8:56	P	SCABBING FORELIMB(S)
43446	F	300 MG/KG/DAY	NORMAL	05-02-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43446	F	300 MG/KG/DAY	NORMAL	06-20-00	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43446	F	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43461	F	300 MG/KG/DAY	NORMAL	05-02-00	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43461	F	300 MG/KG/DAY	NORMAL	08-23-00	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43461	F	300 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43463	F	300 MG/KG/DAY	NORMAL	05-02-00	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43463	F	300 MG/KG/DAY	DISPOSITION	07-26-00	9:26	P	PRIMARY NECROPSY (INTERVAL 13)
43463	F	300 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43475	F	300 MG/KG/DAY	NORMAL	05-02-00	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43475	F	300 MG/KG/DAY	NORMAL	07-11-00	13:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43475	F	300 MG/KG/DAY	DISPOSITION	07-26-00	9:15	P	PRIMARY NECROPSY (INTERVAL 13)
43475	F	300 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43478	F	300 MG/KG/DAY	NORMAL	05-02-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43478	F	300 MG/KG/DAY	DISPOSITION	07-27-00	13:00	P	PRIMARY NECROPSY (INTERVAL 13)
43478	F	300 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	SLIDE UNAVAILABLE; UNABLE TO DETERMINE ESTROUS STAGE
43491	F	300 MG/KG/DAY	NORMAL	05-02-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43491	F	300 MG/KG/DAY	NORMAL	06-13-00	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43491	F	300 MG/KG/DAY	DISPOSITION	07-26-00	9:17	P	PRIMARY NECROPSY (INTERVAL 13)
43491	F	300 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE ESTROUS PRIOR TO NECROPSY
43495	F	300 MG/KG/DAY	NORMAL	05-02-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43495	F	300 MG/KG/DAY	DISPOSITION	07-28-00	11:23	P	PRIMARY NECROPSY (INTERVAL 13)
43495	F	300 MG/KG/DAY	SPECIAL I	07-28-00	11:23	P	DRIED YELLOW MATERIAL UROGENITAL AREA
43495	F	300 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43496	F	300 MG/KG/DAY	NORMAL	05-02-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43496	F	300 MG/KG/DAY	NORMAL	05-09-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43496	F	300 MG/KG/DAY	DISPOSITION	07-28-00	11:09	P	PRIMARY NECROPSY (INTERVAL 13)
43496	F	300 MG/KG/DAY	BODY/INTEGUMENT	07-11-00	13:26	P	HAIR LOSS FORELIMB(S)
				07-18-00	9:33	P	HAIR LOSS FORELIMB(S)
				07-25-00	13:03	P	HAIR LOSS FORELIMB(S)
				07-28-00	11:08	P	HAIR LOSS FORELIMB(S)
43496	F	300 MG/KG/DAY	EYES/EARS/NOSE	07-28-00	11:08	P	DRIED RED MATERIAL AROUND NOSE
43496	F	300 MG/KG/DAY	BODY/INTEG II	07-28-00	11:08	P	SCABBING END OF TAIL
43496	F	300 MG/KG/DAY	SPECIAL II	07-28-00	11:08	P	END OF TAIL MISSING
				07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO METESTROUS PRIOR TO NECROPSY
43508	F	300 MG/KG/DAY	NORMAL	05-02-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43508	F	300 MG/KG/DAY	NORMAL	07-11-00	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43508	F	300 MG/KG/DAY	DISPOSITION	07-27-00	12:59	P	PRIMARY NECROPSY (INTERVAL 13)
43508	F	300 MG/KG/DAY	EYES/EARS/NOSE	07-25-00	13:03	P	DRIED RED MATERIAL AROUND NOSE
43508	F	300 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43513	F	300 MG/KG/DAY	NORMAL	05-02-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43513	F	300 MG/KG/DAY	DISPOSITION	07-27-00	12:58	P	PRIMARY NECROPSY (INTERVAL 13)
43513	F	300 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43516	F	300 MG/KG/DAY	NORMAL	05-02-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43516	F	300 MG/KG/DAY	NORMAL	06-06-00	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43516	F	300 MG/KG/DAY	DISPOSITION	07-28-00	11:09	P	PRIMARY NECROPSY (INTERVAL 13)
43516	F	300 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43517	F	300 MG/KG/DAY	NORMAL	05-02-00	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43517	F	300 MG/KG/DAY	DISPOSITION	07-27-00	12:58	P	PRIMARY NECROPSY (INTERVAL 13)
43517	F	300 MG/KG/DAY	ACUTES	07-25-00	13:05	P	SWOLLEN RIGHT EAR
				07-25-00	13:05	P	REDDENED RIGHT EAR
				07-27-00	10:18	P	SWOLLEN RIGHT EAR
				07-27-00	10:18	P	REDDENED RIGHT EAR

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43517	F	300 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO METESTROUS PRIOR TO NECROPSY
43401	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43401	F	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43410	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43410	F	1000 MG/KG/DAY	NORMAL	06-27-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43410	F	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43421	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43421	F	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43429	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43429	F	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43430	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43430	F	1000 MG/KG/DAY	NORMAL	07-04-00	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-01-00	14:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-08-00	14:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-15-00	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-22-00	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				08-23-00	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43430	F	1000 MG/KG/DAY	DISPOSITION	08-23-00	11:21	P	RECOVERY NECROPSY (INTERVAL 17)
43440	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43440	F	1000 MG/KG/DAY	DISPOSITION	07-27-00	12:58	P	PRIMARY NECROPSY (INTERVAL 13)
43440	F	1000 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43456	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43456	F	1000 MG/KG/DAY	NORMAL	05-16-00	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43456	F	1000 MG/KG/DAY	DISPOSITION	07-28-00	11:20	P	PRIMARY NECROPSY (INTERVAL 13)
43456	F	1000 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43460	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43460	F	1000 MG/KG/DAY	DISPOSITION	07-27-00	13:01	P	PRIMARY NECROPSY (INTERVAL 13)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43460	F	1000 MG/KG/DAY	EXCRETA	05-16-00	13:17	P	WET YELLOW MATERIAL UROGENITAL AREA
43460	F	1000 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43466	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43466	F	1000 MG/KG/DAY	DISPOSITION	07-26-00	9:17	P	PRIMARY NECROPSY (INTERVAL 13)
43466	F	1000 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43477	F	1000 MG/KG/DAY	NORMAL	05-09-00	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43477	F	1000 MG/KG/DAY	DISPOSITION	07-28-00	11:15	P	PRIMARY NECROPSY (INTERVAL 13)
43477	F	1000 MG/KG/DAY	BODY/INTEGUMENT	07-25-00	13:15	P	HAIR LOSS FORELIMB(S)
				07-28-00	11:15	P	HAIR LOSS FORELIMB(S)
43477	F	1000 MG/KG/DAY	EXCRETA	07-18-00	9:49	P	WET YELLOW MATERIAL UROGENITAL AREA
43477	F	1000 MG/KG/DAY	BODY/INTEG II	06-06-00	8:23	P	SCABBING FORELIMB(S)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43477	F	1000 MG/KG/DAY	BODY/INTEG II	06-27-00	9:36	P	SCABBING FORELIMB(S)
				07-04-00	12:41	P	SCABBING FORELIMB(S)
				07-11-00	13:47	P	SCABBING FORELIMB(S)
				07-25-00	13:15	P	SCABBING FORELIMB(S)
				07-28-00	11:11	P	SCABBING FORELIMB(S)
43477	F	1000 MG/KG/DAY	ORAL/DENTAL	05-02-00	7:54	P	UPPER INCISOR(S) MALALIGNED
43477	F	1000 MG/KG/DAY	SPECIAL I	07-28-00	11:11	P	WET YELLOW MATERIAL ANOGENITAL AREA
				07-28-00	11:11	P	WET BROWN MATERIAL ANOGENITAL AREA
				07-28-00	11:14	P	WET RED MATERIAL FORELIMB(S)
43477	F	1000 MG/KG/DAY	SPECIAL II	06-06-00	8:24	P	15MM X 10MM X 5 MM FIRM, MOVABLE MASS LEFT FORELIMB
				06-13-00	12:44	P	5MM X 5MM X 5MM FIRM, MOVABLE MASS LEFT FORELIMB
				06-13-00	12:46	P	5MM X 5MM X 3MM FIRM, MOVABLE, SCABBING MASS LEFT FORELIMB
				06-13-00	12:48	P	7MM X 7MM X 5MM FIRM, MOVABLE MASS LEFT FORELIMB
				06-13-00	12:50	P	10MM X 10MM X 10MM FIRM, MOVABLE MASS LEFT FORELIMB
				06-20-00	11:07	P	5MM X 5MM X 5MM FIRM, MOVABLE MASS LEFT FORELIMB
				06-20-00	11:09	P	5MM X 5MM X 3MM FIRM, MOVABLE, SCABBING MASS LEFT FORELIMB
				06-20-00	11:11	P	7MM X 7MM X 3MM FIRM, MOVABLE, RUPTURED, PURULENT DISCHARGE, MASS LEFT FORELIMB
				06-20-00	11:11	P	10MM X 10MM X 10MM FIRM, MOVABLE MASS LEFT FORELIMB
				06-27-00	9:40	P	5MM X 5MM X 5MM FIRM, MOVABLE MASS LEFT FORELIMB
				06-27-00	9:41	P	10MM X 10MM X 10MM FIRM, MOVABLE MASS LEFT FORELIMB
				06-27-00	9:42	P	3MM X 3MM X 3MM FIRM, MOVABLE MASS LEFT FORELIMB
				07-04-00	12:41	P	5MM X 5MM X 5MM FIRM, MOVABLE MASS LEFT FORELIMB
				07-04-00	12:41	P	10MM X 10MM X 10MM FIRM, MOVABLE MASS LEFT FORELIMB
				07-04-00	12:41	P	3MM X 3MM X 3MM FIRM, MOVABLE MASS LEFT FORELIMB
				07-11-00	13:47	P	15MM X 10MM X 5 MM FIRM, MOVABLE MASS LEFT FORELIMB
				07-18-00	9:49	P	15MM X 10MM X 5 MM FIRM, MOVABLE MASS LEFT FORELIMB

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43477	F	1000 MG/KG/DAY	SPECIAL II	07-25-00	13:15	P	15MM X 10MM X 5 MM FIRM, MOVABLE MASS LEFT FORELIMB
				07-28-00	11:14	P	30MM X 20MM X 10MM FIRM, IMMOVEABLE, RUPTURED, RED DISCHARGE, SCABBING MASS LEFT FORELIMB
				07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43479	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-27-00	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43479	F	1000 MG/KG/DAY	DISPOSITION	07-27-00	12:58	P	PRIMARY NECROPSY (INTERVAL 13)
43479	F	1000 MG/KG/DAY	SPECIAL II	07-27-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE ESTROUS PRIOR TO NECROPSY
43481	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43481	F	1000 MG/KG/DAY	NORMAL	06-20-00	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43481	F	1000 MG/KG/DAY	DISPOSITION	07-26-00	9:18	P	PRIMARY NECROPSY (INTERVAL 13)
43481	F	1000 MG/KG/DAY	ORAL/DENTAL	07-11-00	13:49	P	WET CLEAR MATERIAL AROUND MOUTH
43481	F	1000 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43484	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-26-00	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43484	F	1000 MG/KG/DAY	DISPOSITION	07-26-00	9:15	P	PRIMARY NECROPSY (INTERVAL 13)
43484	F	1000 MG/KG/DAY	SPECIAL II	07-26-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY
43492	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43492	F	1000 MG/KG/DAY	NORMAL	05-16-00	13:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
43492	F	1000 MG/KG/DAY	DISPOSITION	07-28-00	11:21	P	PRIMARY NECROPSY (INTERVAL 13)
43492	F	1000 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO METESTROUS PRIOR TO NECROPSY
43503	F	1000 MG/KG/DAY	NORMAL	05-02-00	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-09-00	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-16-00	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-23-00	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				05-30-00	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-06-00	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-13-00	12:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-20-00	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				06-27-00	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-04-00	12:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-11-00	13:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-18-00	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-25-00	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				07-28-00	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

DETAILED PHYSICAL EXAMINAITONS/DISPOSITIONS
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 08-23-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43503	F	1000 MG/KG/DAY	DISPOSITION	07-28-00	11:04	P	PRIMARY NECROPSY (INTERVAL 13)
43503	F	1000 MG/KG/DAY	SPECIAL II	07-28-00	0:00	P	ESTROUS SMEAR DETERMINED TO BE DIESTROUS PRIOR TO NECROPSY

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

1-HOUR POST-DOSING
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 07-27-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43316	M	0 MG/KG/DAY	SPECIAL I	07-13-00	12:40	P	WET YELLOW MATERIAL ANOGENITAL AREA
43334	M	0 MG/KG/DAY	SPECIAL I	07-08-00	12:24	P	WET BROWN MATERIAL ANOGENITAL AREA
				07-13-00	12:40	P	WET YELLOW MATERIAL ANOGENITAL AREA
43311	M	100 MG/KG/DAY	CARDIO-PULMONARY	07-08-00	12:25	P	RALES
43320	M	100 MG/KG/DAY	EXCRETA	05-28-00	11:39	P	WET YELLOW MATERIAL UROGENITAL AREA
43340	M	100 MG/KG/DAY	EYES/EARS/NOSE	05-23-00	12:05	P	DRIED RED MATERIAL AROUND LEFT EYE
				05-29-00	12:17	P	DRIED RED MATERIAL AROUND RIGHT EYE
				05-30-00	13:50	P	DRIED RED MATERIAL AROUND LEFT EYE
				05-31-00	14:34	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-01-00	12:29	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-02-00	12:04	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-03-00	12:19	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-04-00	12:43	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-09-00	12:40	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-10-00	11:36	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-10-00	11:36	P	CLEAR DISCHARGE LEFT EYE
				06-11-00	12:42	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-20-00	12:17	P	DRIED RED MATERIAL AROUND LEFT EYE
				06-24-00	12:13	P	CLEAR DISCHARGE LEFT EYE
				07-01-00	12:05	P	DRIED RED MATERIAL AROUND LEFT EYE
43331	M	300 MG/KG/DAY	ORAL/DENTAL	07-13-00	12:44	P	WET CLEAR MATERIAL AROUND MOUTH
43341	M	300 MG/KG/DAY	EYES/EARS/NOSE	05-16-00	12:27	P	RED DISCHARGE RIGHT EYE
43361	M	300 MG/KG/DAY	ORAL/DENTAL	07-13-00	12:44	P	WET CLEAR MATERIAL AROUND MOUTH
43385	M	300 MG/KG/DAY	EYES/EARS/NOSE	06-28-00	13:09	P	DRIED RED MATERIAL AROUND RIGHT EYE
				07-01-00	12:08	P	DRIED RED MATERIAL AROUND RIGHT EYE
				07-11-00	13:59	P	DRIED RED MATERIAL AROUND RIGHT EYE
43392	M	300 MG/KG/DAY	ORAL/DENTAL	07-11-00	13:59	P	WET CLEAR MATERIAL VENTRAL NECK
43278	M	1000 MG/KG/DAY	BEHAVIOR/CNS	06-28-00	13:09	P	UNKEMPT APPEARANCE
43278	M	1000 MG/KG/DAY	EXCRETA	05-28-00	11:36	P	SOFT FECES

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

1-HOUR POST-DOSING
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 07-27-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43278	M	1000 MG/KG/DAY	EXCRETA	06-11-00	13:18	P	SOFT FECES
				06-25-00	12:09	P	SOFT FECES
43278	M	1000 MG/KG/DAY	SPECIAL I	05-28-00	11:36	P	DRIED BROWN MATERIAL ANOGENITAL AREA
43280	M	1000 MG/KG/DAY	BEHAVIOR/CNS	05-23-00	12:07	P	UNKEMPT APPEARANCE
43280	M	1000 MG/KG/DAY	SPECIAL I	07-10-00	14:32	P	DRIED YELLOW MATERIAL UROGENITAL AREA
43281	M	1000 MG/KG/DAY	BEHAVIOR/CNS	05-29-00	12:20	P	UNKEMPT APPEARANCE
43281	M	1000 MG/KG/DAY	CARDIO-PULMONARY	07-10-00	14:32	P	RALES
43281	M	1000 MG/KG/DAY	EXCRETA	05-18-00	11:37	P	SOFT FECES
43281	M	1000 MG/KG/DAY	ORAL/DENTAL	07-11-00	14:01	P	WET CLEAR MATERIAL AROUND MOUTH
43281	M	1000 MG/KG/DAY	SPECIAL I	05-11-00	12:10	P	DRIED BROWN MATERIAL ANOGENITAL AREA
				05-18-00	11:36	P	DRIED BROWN MATERIAL ANOGENITAL AREA
				05-26-00	12:56	P	DRIED BROWN MATERIAL ANOGENITAL AREA
				06-21-00	12:10	P	WET BROWN MATERIAL ANOGENITAL AREA
				07-11-00	14:01	P	DRIED BROWN MATERIAL ANOGENITAL AREA
43297	M	1000 MG/KG/DAY	ORAL/DENTAL	05-27-00	11:51	P	WET CLEAR MATERIAL AROUND MOUTH
				07-13-00	12:46	P	WET CLEAR MATERIAL AROUND MOUTH
43328	M	1000 MG/KG/DAY	EXCRETA	05-27-00	11:52	P	WET YELLOW MATERIAL UROGENITAL AREA
43328	M	1000 MG/KG/DAY	ORAL/DENTAL	06-20-00	12:21	P	WET CLEAR MATERIAL VENTRAL NECK
				06-20-00	12:21	P	WET CLEAR MATERIAL AROUND MOUTH
43346	M	1000 MG/KG/DAY	ORAL/DENTAL	07-13-00	12:48	P	WET CLEAR MATERIAL AROUND MOUTH
43359	M	1000 MG/KG/DAY	ORAL/DENTAL	04-27-00	11:55	P	WET CLEAR MATERIAL VENTRAL NECK
				04-27-00	11:55	P	WET CLEAR MATERIAL AROUND MOUTH
43359	M	1000 MG/KG/DAY	SPECIAL I	04-27-00	11:56	P	WET CLEAR MATERIAL FORELIMB(S)
43372	M	1000 MG/KG/DAY	ORAL/DENTAL	04-26-00	12:31	P	WET CLEAR MATERIAL VENTRAL NECK
				05-16-00	12:31	P	WET CLEAR MATERIAL VENTRAL NECK
				05-16-00	12:31	P	WET CLEAR MATERIAL AROUND MOUTH
				05-27-00	11:54	P	WET CLEAR MATERIAL AROUND MOUTH
				06-19-00	12:06	P	WET CLEAR MATERIAL AROUND MOUTH
43373	M	1000 MG/KG/DAY	EXCRETA	06-29-00	12:31	P	WET YELLOW MATERIAL UROGENITAL AREA

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

1-HOUR POST-DOSING
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 04-26-00 TO 07-27-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43397	M	1000 MG/KG/DAY	EXCRETA	05-27-00	11:55	P	WET YELLOW MATERIAL UROGENITAL AREA
43401	F	1000 MG/KG/DAY	EYES/EARS/NOSE	07-25-00	14:56	P	DRIED RED MATERIAL FACIAL AREA
43430	F	1000 MG/KG/DAY	ORAL/DENTAL	06-17-00	14:03	P	WET CLEAR MATERIAL VENTRAL NECK
				06-17-00	14:03	P	WET CLEAR MATERIAL AROUND MOUTH
43440	F	1000 MG/KG/DAY	ORAL/DENTAL	06-04-00	13:05	P	WET CLEAR MATERIAL AROUND MOUTH
43440	F	1000 MG/KG/DAY	SPECIAL I	06-24-00	12:14	P	DRIED YELLOW MATERIAL UROGENITAL AREA
				06-26-00	12:11	P	DRIED YELLOW MATERIAL ANOGENITAL AREA
43460	F	1000 MG/KG/DAY	EYES/EARS/NOSE	07-10-00	14:34	P	CLEAR DISCHARGE RIGHT EYE
43460	F	1000 MG/KG/DAY	EXCRETA	05-25-00	12:01	P	SOFT FECES
				06-05-00	12:00	P	SOFT FECES
43460	F	1000 MG/KG/DAY	SPECIAL I	07-25-00	14:56	P	DRIED YELLOW MATERIAL UROGENITAL AREA
43466	F	1000 MG/KG/DAY	EXCRETA	06-14-00	11:38	P	WET YELLOW MATERIAL UROGENITAL AREA
43477	F	1000 MG/KG/DAY	EXCRETA	07-13-00	12:50	P	WET YELLOW MATERIAL UROGENITAL AREA
43481	F	1000 MG/KG/DAY	ORAL/DENTAL	07-11-00	14:04	P	WET CLEAR MATERIAL VENTRAL NECK
43492	F	1000 MG/KG/DAY	ORAL/DENTAL	04-27-00	11:57	P	WET CLEAR MATERIAL VENTRAL NECK
				04-27-00	11:57	P	WET CLEAR MATERIAL AROUND MOUTH
43492	F	1000 MG/KG/DAY	SPECIAL I	04-27-00	11:57	P	WET CLEAR MATERIAL FORELIMB(S)
				04-27-00	11:57	P	WET CLEAR MATERIAL VENTRAL TRUNK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

RECOVRY PERIOD
A 90-DAY ORAL TOXICITY STUDY OF HBCD IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS
TABLE RANGE: 07-26-00 TO 08-22-00

ANIMAL	SEX	GROUP	CATEGORY	DATE	TIME	GRADE	OBSERVATIONS
43311	M	100 MG/KG/DAY	EYES/EARS/NOSE	08-09-00	14:12	P	DRIED RED MATERIAL AROUND NOSE
43340	M	100 MG/KG/DAY	EYES/EARS/NOSE	07-28-00	12:48	P	DRIED RED MATERIAL AROUND LEFT EYE
43309	M	300 MG/KG/DAY	EYES/EARS/NOSE	08-02-00	10:32	P	DRIED RED MATERIAL AROUND NOSE
43407	F	100 MG/KG/DAY	EYES/EARS/NOSE	08-09-00	14:12	P	RED DISCHARGE RIGHT EYE
				08-09-00	14:13	P	RED DISCHARGE LEFT EYE
				08-09-00	14:13	P	DRIED RED MATERIAL AROUND RIGHT EYE
				08-09-00	14:13	P	DRIED RED MATERIAL AROUND LEFT EYE
				08-12-00	14:09	P	DRIED RED MATERIAL AROUND LEFT EYE
				08-12-00	14:09	P	RED DISCHARGE LEFT EYE
				08-17-00	15:29	P	DRIED RED MATERIAL AROUND LEFT EYE
				08-17-00	15:29	P	RED DISCHARGE LEFT EYE
				08-18-00	14:47	P	DRIED RED MATERIAL AROUND LEFT EYE
43407	F	100 MG/KG/DAY	EXCRETA	08-03-00	10:23	P	DEFECATION DECREASED
				08-04-00	7:54	P	DEFECATION DECREASED
				08-05-00	13:09	P	FECES SMALLER THAN NORMAL
				08-06-00	12:14	P	DEFECATION DECREASED
43407	F	100 MG/KG/DAY	SPECIAL I	08-04-00	7:54	P	DRIED YELLOW MATERIAL UROGENITAL AREA
				08-05-00	13:09	P	DRIED YELLOW MATERIAL UROGENITAL AREA
				08-06-00	12:14	P	DRIED YELLOW MATERIAL UROGENITAL AREA
				08-07-00	10:06	P	DRIED BROWN MATERIAL ANOGENITAL AREA
				08-07-00	10:06	P	DRIED BROWN MATERIAL UROGENITAL AREA
				08-07-00	10:06	P	DRIED RED MATERIAL FORELIMB(S)
				08-08-00	14:23	P	DRIED YELLOW MATERIAL UROGENITAL AREA
				08-09-00	14:13	P	DRIED YELLOW MATERIAL UROGENITAL AREA
				08-12-00	14:09	P	DRIED YELLOW MATERIAL UROGENITAL AREA
43426	F	300 MG/KG/DAY	EXCRETA	07-28-00	12:49	P	RED MATERIAL ON CAGE FLOOR
43442	F	300 MG/KG/DAY	EXCRETA	08-14-00	8:16	P	RECTAL MUCOUS EXUDATE

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

A 90-Day Oral (Gavage) Toxicity
Study of HBCD in Rats

APPENDIX L

Study Protocol

Study Number: WIL-186012

PROTOCOL AMENDMENT IV

Sponsor: Brominated Flame Retardant Industry Panel
Chemical Manufacturer's Association

A. Title of Study:

A 90-Day Oral (Gavage) Toxicity Study of HBCD in Rats

B. Protocol Modifications:

1) **IX. Statistical Methods:**

A. Standard Evaluation:

No statistical analysis of FOB and MA data will be performed.

C. Reason for Protocol Modifications:

1) After inspection of the data it was determined by the study director that statistical analysis would not be performed.

Approved By:

Brominated Flame Retardant Industry Panel
Chemical Manufacturer's Association:

Wendy K. Sherman — April 19, 2001
Wendy Sherman, Sponsor Representative — Date

Prepared By:

WIL Research Laboratories, Inc.

Christopher P. Chengelis, Ph.D., D.A.B.T., Study Director — 6 April 01
Date

Study Number: WIL-186012

PROTOCOL AMENDMENT III

Sponsor: Brominated Flame Retardant Industry Panel
Chemical Manufacturer's Association

A. Title of Study:

A 90-Day Oral (Gavage) Toxicity Study of HBCD in Rats

B. Protocol Modifications:

VIII. Parameters to be Evaluated:

1) **J. Anatomic Pathology:**

3. Microscopic Evaluation:

The following addition to the protocol is now made. The prostate from the male animals in the Groups 2 and 3, and from all males assigned to the recovery period, will be examined microscopically.

C. Reason for Protocol Modifications:

1) Further evaluation of a potential test article related finding.

Approved By:

Brominated Flame Retardant Industry Panel
Chemical Manufacturer's Association:

Wendy K. Sherman — February 15, 2001
Wendy Sherman, Sponsor Representative — Date

Prepared By:

WIL Research Laboratories, Inc.

Christopher P. Chengelis, Ph.D., D.A.B.T., Study Director — 7 Feb 01
Date

Study Number: WIL-186012

PROTOCOL AMENDMENT II

Sponsor: Brominated Flame Retardant Industry Panel
Chemical Manufacturer's Association

A. Title of Study:

A 90-Day Oral (Gavage) Toxicity Study of HBCD in Rats

B. Protocol Modifications:

VIII. **Parameters to be Evaluated:**

1) I. **Clinical Pathology (Toxicology Groups Only):**

1. **Hematology:**

Reticulocyte count is deleted from the list of parameters to be examined.

2) **Anatomic Pathology (Toxicology Group Only):**

3. **Microscopic Examination:**

Add the following:

The liver, lungs and thyroid glands from both sexes will be evaluated from the low and mid dose groups and from recovery animals.

3) In addition to the work specified in the protocol (and this amendment) the following additional examination of the livers from 5 rats/sex (randomly chosen) from the control and high dosage groups.

Frozen sections of fixed tissue will be prepared and stained with oil red O by PAI (Fredericksburg, MD) and returned to WIL Research. These will be examined by the study pathologist for evidence of lipid accumulation.

Standard section of fixed tissue will be prepared and stained with periodic acid Schiff's reagent (with and without diesterase) by WIL Research. These will be examined by the study pathologist for evidence of glycogen accumulation or depletion.

WIL RESEARCH LABORATORIES, INC. 1407 GEORGE ROAD ASHLAND, OH 44805-9281 (419) 289-8700 FAX (419) 289-3650

Improving human health and protecting the environment through scientific research services

C. Reason for Protocol Modifications:

1) As there were no other test article related hematologic effects determination of reticulocyte is not necessary and unwarranted.

2) To evaluate potential target organs in the low and mid dose groups and from the recovery groups.

3) Additional staining requested by the sponsor for the purposes of exploring a potential test article related effect.

Approved By:

Brominated Flame Retardant Industry Panel
Chemical Manufacturer's Association:

Wendy K. Sherman — 11/6/00
Wendy Sherman — Date
Sponsor Representative

Prepared By:

WIL Research Laboratories, Inc.

Christopher P. Chengelis, Ph.D., D.A.B.T. — 15 Dec 00
Study Director — Date

Study Number: WIL-186012

PROTOCOL AMENDMENT I

Sponsor: Brominated Flame Retardant Industry Panel
Chemical Manufacturer's Association

A. Title of Study:

A 90-Day Oral (Gavage) Toxicity Study of HBCD in Rats

B. Protocol Modification:

1) **II. Personnel Involved in the Study:**

B. WIL Study Director

Change to the following:

Christopher P. Chengelis, Ph.D., D.A.B.T.
Director, Toxicology

C. WIL Deputy Director

Change to the following:

Thomas P. O'Neill, B.S.
Associate Toxicologist

C. Reason for Protocol Modification:

1) Change in study personnel in agreement with the Sponsor.

Approved By:

Brominated Flame Retardant Industry Panel
Chemical Manufacturer's Association

Wendy K. Sherman — 5/2/00

Wendy Sherman
Sponsor Representative — Date

Prepared By:

WIL Research Laboratories, Inc.

20 April 00

Christopher P. Chengelis, Ph.D., D.A.B.T.
Study Director — Date

Jeannie B. Kirkpatrick — 4/20/00

Jeannie B. Kirkpatrick, M.S.
Previous Study Director — Date

PROTOCOL

A 90-DAY ORAL (GAVAGE) TOXICITY STUDY OF HBCD IN RATS

Submitted To:

Brominated Flame Retardant
Industry Panel
Chemical Manufacturer's Association
1300 Wilson Blvd.
Arlington, VA 22209

WIL Research Laboratories, Inc.
1407 George Road
Ashland, OH 44805-9281

I. Objective:

The objective of this study is to evaluate the possible toxic effects of the test material when administered orally by gavage to rats for 90 days. This will include evaluation of potential neurotoxicity by functional observational battery (FOB) and motor activity (MA) assessment, evaluation of thyroid hormones, evaluation of reproductive capability and evaluation of adipose tissue for bioaccumulation of test material. Reversibility, persistence, or delayed occurrence, of toxic effects will be evaluated by a 28-day post-treatment recovery period.

This protocol has been designed and the study will be conducted in accordance with The Environmental Protection Agency (EPA) OPPTS Guideline 870.3100 and the Organization for Economic Cooperation and Development (OECD) Guidelines for Testing of Chemicals, Health Effects Test Guidelines, Section 408, adopted September 21, 1998.

The study will be conducted in compliance with the U.S. EPA, 40 CFR Part 792, and the OECD, [C(97)186/Final], Good Laboratory Practice Standards.

II. Personnel Involved in the Study:

A. Sponsor Representative:

Ms. Wendy Sherman
Panel Manager
Phone: (703) 741-5639
Fax: (703) 741-6091

B. WIL Study Director:

Jeannie B. Kirkpatrick, M.S.
Staff Toxicologist

C. WIL Deputy Director:

Christopher P. Chengelis, Ph.D., D.A.B.T.
Director, Toxicology

D. WIL Departmental Responsibilities:

James L. Schardein, M.S., Fellow A.T.S.
Sr. Vice President, Director of Research

Jozef J.W.M. Mertens, Ph.D., D.A.B.T.
Assistant Director, Toxicology

Eric L. Padgett, Ph.D.
Staff Toxicologist

Gary R. Kiplinger, B.S.
Manager II, General Toxicology

Karen S. Regan, D.V.M., D.A.C.V.P., D.A.B.T.
Director, Pathology and Veterinary Medicine

Sally A. Keets, A.S.
Manager II, Vivarium

Ron E. Wilson, B.S.
Director, Informational Systems

Daniel W. Sved, Ph.D.
Director, Metabolism and Analytical Chemistry

Deborah A. Shoup, B.S.
Manager I, Developmental,
Reproductive and Neurotoxicology

Theresa M. Rafeld
Group Supervisor, Pharmacy

Susan Haley, B.S.
Unit Supervisor – Clinical Pathology

Lynn E. Myers, A.S.
Group Supervisor – Histology

Loren W. Severs, M.S.
Manager, Analytical Chemistry

Charlene A. Weygandt, B.S.
Acting Manager, Technical Report Writing

Deborah L. Little, B.S., RQAP-GLP
Manager II, Quality Assurance

David A. Wilkie, D.V.M., M.S., D.A.C.V.O.
Consulting Ophthalmologist
The Ohio State University

III. Study Schedule:

Proposed Animal Receipt Date:	April 11, 2000
Proposed Experimental Start Date:	April 26, 2000
Proposed Necropsy Date:	
Primary:	July 26-28, 2000
Recovery:	August 23, 2000
Proposed Experimental Termination Date:	To be determined.
Proposed Audited Draft Report Date:	December 22, 2000

IV. Test Material Information:

A. Identification:	Hexabromocyclododecane (HBCD)
B. Supplier:	Wildlife International Limited
C. Lot Number:	Test Substance No. 4615
D. Purity:	Test material is a composite of the commercial HBCD product manufactured by 3 producers. The composition of the test substance is described in the chemical characterization.
E. Stability:	Stability data will be generated concomitantly with the study and provided by Sponsor.
F. Physical Description:	To be documented by WIL Research Laboratories, Inc.
G. Storage Conditions:	Original container (air tight seal) at room temperature, 68° ±4° F, in a dry, well ventilated area.

H. Reserve Samples: Retention samples will be collected and stored in accordance with Standard Operating Procedures.

I. Personnel Safety Data: Latex or nitrile gloves, eye protection, long sleeves (lab coat) and cartridge (organic) respirator with dust filters are to be worn when handling neat material.

V. Test System:

A. Species: Rat

B. Strain: Sprague-Dawley Crl:CD® IGS® BR

C. Source: Charles River Laboratories.
Portage, MI

D. Number of Animals: One hundred twenty of each sex will be ordered. One hundred males and one hundred females will be placed on study. Females will be nulliparous and non-pregnant.

E. Approximate Age and Weight: Animals will be 4 to 6 weeks of age when received, and 7 to 8 weeks of age at initiation of dosing. Age of the animals will not exceed 8 weeks at initiation of dosing. The males will weigh 200-300g ±20g and the females 150-225g ± 20g at initiation of dosing.

F. Identification System: Each animal will be uniquely identified by a Monel® metal eartag displaying the animal number. Individual cage cards will be affixed to each cage and will display the animal number, group number and study number.

G. Justification for Selection: This species and strain of animal is recognized to be appropriate for subchronic toxicity studies. The Sprague-Dawley rat will be used because it is a widely used strain

for which significant control data are available.

VI. Specific Maintenance Schedule:

A. Animal Housing:

Weanling animals (less than 35 days of age) will be housed in an environmentally-controlled room, three per cage by sex in clean, suspended, wire-mesh cages for two to four days following receipt. Thereafter, all animals will be housed individually. The cages will be elevated above cage-board or other suitable material which will be changed at least three times each week.

The facilities at WIL Research Laboratories, Inc. are fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International).

B. Environmental Conditions:

Controls will be set to maintain temperature at 72 ± 5°F (22 ±3°C) and relative humidity at approximately 30-70%. Fluorescent lighting will provide illumination for 12 hours per day. The light/dark period may be interrupted, however, for protocol-specified activities. Temperature and relative humidity will be monitored continuously and recorded once daily. Ventilation rate will be set at 10 to 15 room changes period hour, 100% fresh air.

C. Drinking Water

Reverse osmosis-treated tap water will be available *ad libitum*. Filters servicing the automatic watering system will be changed regularly according to Standard Operating Procedures. The municipal water supplying the laboratory will be analyzed for contaminants according to Standard Operating Procedures to ascertain that none are present at concentrations that would be expected to affect the outcome of the study.

D. Diet:

PMI Nutrition International, Inc. Certified Rodent LabDiet® 5002 will be offered *ad libitum* during the study. Each lot utilized will be identified and recorded. Analyses of the certified feed for the presence of heavy metals and pesticides will be provided by the manufacturer to ensure that none are present in concentrations that would be expected to affect the outcome of the study. Feeders will be changed and sanitized once per week.

VII. Experimental Design:

A. Animal Receipt and Acclimation

Each animal will be inspected by a qualified technician upon receipt (WIL SOP T1-095 and T1-111, as revised). Animals judged to be in good health will be placed immediately in acclimation for at least seven days. All animals will be weighed and assigned a permanent animal number. During the acclimation period, each animal will be observed twice daily for changes in general appearance or behavior. The animals will be allowed a pretreatment week (as part of the acclimation period) during which body weights and food consumption will be recorded and general health will be monitored, but they will not receive the test material. All animals will receive a detailed physical examination (WIL SOP T1-005, as revised) at least one week prior to initiation of dosing and at the time of animal selection for randomization.

B. Randomization:

At the conclusion of the acclimation period, animals judged to be suitable for testing will be assigned to groups at random using a computer program. At the time of randomization, the animal body weights will be entered into the WIL Toxicology Data Management System (WTDMS™). A printout containing the animal numbers and individual group assignments will be generated based on body weight stratification into a block design. Animals will then be arranged into the groups according to the printout. Body weights at randomization will be within ± 20% of the mean for each sex. If after randomization statistical significant differences between groups exist, new randomizations will be generated until group mean body weights are not statistically different between groups by sex. Following the group randomization procedure, rats assigned to FOB and MA assessment will be randomly assigned to two replicates as described in WIL SOP T1-126, as revised.

C. Route and Rationale of Test Material Administration:

The route of administration will be oral by gavage since this route is an acceptable and standard method for administering test material per OECD Guideline 408 and OPPTS 870.3100.

D. Organization of Test Groups, Dosage Levels and Treatment Regimen:

1. Organization of Test Groups:

The following diagram presents the study group arrangement.

Toxicology Groups

Group Number	Treatment	Dosage Level (mg/kg/day)	Dosage Volume (ml/kg)	Number of Animals[a]	
				Males	Females
1	Vehicle	0	5	15	15
2	HBCD	100	5	15	15
3	HBCD	300	5	15	15
4	HBCD	1000	5	15	15

Satellite Groups[b]

Group Number	Treatment	Dosage Level (mg/kg/day)	Dosage Volume (ml/kg)	Number of Animals	
				Males	Females
5	Vehicle	0	5	20	20
6	HBCD	1000	5	20	20

[a] - The first five animals/sex in each group will be assigned to the neurotoxicity evaluations (FOB and MA) and will also be assigned to the 28-day recovery period.

[b] - Animals to be used for the collection of tissues to be used for special analyses.

2. Vehicle:

The vehicle for the test material will be Mazola® corn oil (Best Foods, Englewood Cliffs, NJ). Source and lot information will be documented in the raw data.

3. Treatment Regimen:

The test material and vehicle will be administered once daily at approximately the same time each day seven days per week for a minimum of 90 days (until the day prior to necropsy). A dosage volume of 5 ml/kg will be used. The first day of dosing is Day 0; the first week of dosing is Week 0. Day 90 will be the first day of primary necropsy and the first day of the recovery period.

4. **Adjustment of Doses:**

Individual doses will be adjusted weekly for the duration of the study, based on the most recent body weights. Adjusted doses will become effective the day after collection of the weekly body weights.

E. Preparation of Test Material:

The test material will be prepared for dosing as weight-to-volume mixtures in the vehicle using routine methods weekly or at an appropriate frequency based upon the stability evaluations. A complete description of the method of test material preparation will be documented in the study records and described in the final report. The materials dispensed for daily dosing will be stored at room temperature and will be maintained on a magnetic stir plate throughout dosing in order to ensure homogeneity of suspension.

F. Analysis of Test Material Preparations:

1. **Stability of Test Material in Bulk Storage:**

Storage stability of the neat test material will be determined concomitantly with the study. At initiation of dosing and termination of dosing (approximately days 0 and 91), a (1 gram, approximately) sample of the bulk test material will be forwarded to

Paul Ranken, Ph.D.
Albemarle Corporation
Albemarle Technical Center
800 GSRI Avenue
Baton Rouge, LA 70898
Tel: (225) 768-5877

for verification of identity. Samples for the determinations will be provided and shipped frozen on dry ice by WIL Research Laboratories.

Albemarle Corporation will be responsible for preparing a report of the results of the analyses that will be included in the toxicology report as an appendix. The Quality Assurance Unit of Albemarle Corporation will be responsible for reviewing the data, inspecting the laboratory, reviewing the prepared report and reporting the results to the study director.

2. **Homogeneity:**

Prior to initiation of dosing, homogeneity and stability of the test material in the vehicle will be established by WIL Research using a validated HPLC method for the lowest and highest concentrations to be used. Test material preparations of sufficient volume for dosing the low and high dose groups for one week will be prepared. Samples will be taken from the top, middle and bottom of each of these preparations and analyzed for homogeneity. A sample from the middle of each formulation will be stored under laboratory conditions for 10 days. These samples will be analyzed for stability. In addition, the remainder of each preparation will be subdivided into seven aliquots and stored at room temperature. Following storage for 10 days and resuspension using the same procedures to be used for animal dosing, samples taken from the top and bottom of the last daily aliquot from each preparation will be analyzed to confirm homogeneity in a dosing aliquot.

3. **Determination of Test Material Concentrations:**

Dosage preparations (including control) will be verified for test material concentration by WIL Research Laboratories using a validated HPLC method during weeks 0, 1, 2, 3, 7 and 12.

G. Test Material Disposition:

Upon completion of the in-life phase of the study, remaining (unused) test material will be returned to the Sponsor.

VIII. <u>Parameters to be Evaluated</u>:

A. Viability Observations (All Groups):

All animals will be observed for mortality/moribundity twice daily, once in the morning and once in the afternoon. Moribund animals will be euthanized to ensure that tissues will not be lost due to autolysis.

B. Clinical Observations (Toxicology Groups Only):

1. **Daily Observations:**

A clinical examination will be performed once daily for all animals, one to two hours after dosing. Observations will include, but are not limited to, changes in the skin, fur, eyes and mucous membranes; respiratory, circulatory, autonomic and central nervous systems function; somatomotor activity and behavior patterns. Findings noted at the clinical examination

will be recorded for individual animals; the condition of animals without signs will be documented in a general comment.

During the recovery period, observations will be conducted once per day.

2. **Detailed Physical Examinations:**

All animals will receive a detailed physical examination weekly, beginning one week prior to test material administration and ending just prior to the scheduled necropsy. The animals will be removed from their home cages and placed in a standard arena for observation. Observations will be detailed and carefully recorded. Where appropriate, explicitly defined scoring systems will be used if, in the opinion of the study director, doing so increases the utility of the data. Signs noted shall include, but are not limited to, changes in skin, fur, eyes, mucous membranes, occurrence of secretions and excretions and autonomic activity (e.g., lacrimation, piloerection, pupil size, unusual respiratory pattern). Changes in gait, posture and response to handling, as well as the presence of clonic or tonic movements, stereotypes (e.g., excessive grooming, repetitive circling) or bizarre behavior (e.g., self-mutilation, walking backwards) will be recorded. Signs such as skin lesions and hair loss will also be recorded at this time. The absence or presence of findings will be recorded for individual animals.

C. **Individual Body Weights (All Groups):**

Individual body weights will be recorded weekly, beginning one week prior to test material administration and just prior to the scheduled necropsy.

D. **Individual Food Consumption (Toxicology Groups Only):**

Individual food consumption will be recorded weekly, beginning one week prior to test material administration.

E. **Ophthalmic Examinations (Toxicology Groups Only):**

A board-certified veterinary ophthalmologist, using an indirect ophthalmoscope (or other equivalent suitable equipment), will examine all animals. An appropriate mydriatic agent will be administered prior to the examination. The examinations will be performed before initiation of dosing, near the end of the dosing period and near the end of the recovery period.

F. Vaginal Cytology (Toxicology Groups Only):

Vaginal smears will be collected daily from all females on study from Day 69 through the last primary necropsy day for females. Smears will be examined microscopically to determine the stage of estrus based on the cell types observed. The duration of the estrous cycle will be determined. This will be repeated during the last two weeks of the recovery period if a test article-related effect on estrus is observed.

G. Functional Observational Battery (Toxicology Groups Only):

Functional Observational Battery (FOB) evaluations will be performed on 5 animals/sex/group pre-study, during the last week of the test material administration period (prior to the daily dosage administration) and during the last week of the recovery period. The same animals will be used for the appropriate time points. Testing will be performed by the same trained technicians, wherever possible, who will not know the animal's group assignment. Animals will be observed for the following as described below (see WIL Research Laboratories, Inc., SOP No. T1-112, (as revised), for a description of scoring criteria):

1. Home Cage Observations:

Posture
Convulsions/tremors
Feces consistency
Biting
Palpebral (eyelid) closure

2. Handling Observations:

Ease of removal from cage
Lacrimation/Chromodacryorrhea
Piloerection
Palebral closure
Red/Crusty deposits
Eye prominence
Ease of handling animal in hand
Salivation
Fur appearance
Respiratory rate/character
Mucous membranes/eye/skin
Color
Muscle tone

3. **Open Field Observations (evaluated over a 2 minute observation period):**

Mobility	Gait
Rearing	Arousal
Convulsions/tremors	Urination/defecation
Grooming	Gait score
Bizarre Stereotypic behavior	Backing
Time to first step (seconds)	

4. **Sensory Observations:**

Approach response	Touch response
Startle response	Tail pinch response
Pupil response	Eyeblink response
Forelimb extension	Hindlimb extension
Air righting reflex	Olfactory orientation

5. **Neuromuscular Observations:**

Hindlimb extensor strength	Grip strength-hind and forelimb
Hindlimb foot splay	Rotarod performance

6. **Physiological Observations:**

Catalepsy	Body weight
Body temperature	

H. Locomotor Activity (Toxicology Groups Only):

Observations will be made on 5 animals/sex/group pre-study and during the last week of the test material administration period (prior to daily dosage administration) and during the last week of the recovery period. Testing of treatment groups will be performed by appropriately trained technicians. Locomotor Activity will be measured using the SDI Photobeam Activity System (San Diego Instruments, San Diego, CA) as described in WIL Research Laboratories, Inc., SOP No. T1-185, as revised. The test session will be of 60 minutes duration and will consist of twelve 5-minute intervals. Locomotor activity measures evaluated are total and ambulatory activity counts obtained for the 60 minute test session.

All FOB and Locomotor Activities sessions will be performed in a sound proofed room equipped with a white noise generation system set to operate at 70

db (see WIL Research SOP No. T1-124, as revised) to minimize environmental variations in the test conditions.

I. Clinical Pathology (Toxicology Groups Only):

The following clinical pathology parameters will be evaluated at approximately one month (5/sex/group), at the end of the dosing period (10/sex/group in conjunction with primary necropsy) and at the end of the recovery period (5/sex/group in conjunction with the recovery necropsy). The animals will be fasted overnight before taking blood samples. Blood will be collected from the lateral tail vein of unanesthetized animals at the one month evaluation and prior to necropsy (except where noted below).

1. Hematology:

Activated partial thromboplastin time[a]	MCHC
Differential leucocyte count	MCV
Erythrocyte count	Platelet count[a]
Hematocrit	Prothrombin time[a]
Hemoglobin	Reticulocyte count
MCH	Total leukocyte count

[a] = Terminal evaluation only, blood collected from the vena cava after euthanasia.

2. Serum Chemistry:

A/G ratio	Globulin
Alanine aminotransferase	Glucose
Albumin	Phosphorus
Alkaline phosphatase	Potassium
Aspartate aminotransferase	Sodium
Calcium	Total bilirubin
Chloride	Total cholesterol
Creatinine	Total protein
Gamma glutamyltransferase	Urea nitrogen

3. Serum Hormone:

TSH
T_3
T_4

4. **Urinalysis:**

Each animal will be removed from its home cage, verifying each animal's identification with cage card and the urine specimen vessel, and placed into metabolism caging equipped with a water bottle. A fine wire-mesh screen will be placed between the caging and the collection trough (funnel) to prevent contamination of the urine specimen from fecal material. The urine specimen vessel, containing a preservative, will be placed under the funnel end of the collection trough. After the animals remain in the metabolism caging overnight prior to blood sampling, the specimen vessel will be covered and transferred to the Clinical Pathology Laboratory. If analysis cannot be performed immediately, the specimens will be refrigerated.

Bilirubin	Occult blood
Color and appearance	pH
Glucose	Protein
Ketones	Specific gravity
Leukocytes	Urobilinogen
Microscopy of sediment	Volume
Nitrites	

J. **Anatomic Pathology (Toxicology Groups Only):**

1. **Macroscopic Examination:**

A complete necropsy will be conducted on all animals. Animals will be euthanized by carbon dioxide asphyxiation followed by exsanguination. Necropsy will include examination of the external surface, all orifices and the cranial, thoracic, abdominal and pelvic cavities including viscera. At the time of necropsy, the following tissues and organs will be collected and placed in 10% neutral buffered formalin (except as noted):

Adrenals (2)
Aorta
Bone with marrow
  Sternebrae
Bone marrow smear[a]
Brain
  Forebrain
  Midbrain
  Hindbrain
Epididymides (2)[b,d]
Eyes with optic nerves (2)[c]
Gastrointestinal tract
  Esophagus
  Stomach
  Duodenum
  Jejunum
  Ileum
  Cecum
  Colon
  Rectum
Heart
Kidneys (2)
Liver (sections of two lobes)
Lungs (including bronchi, fixed by inflation with fixative)
Lymph node
  Mesenteric
  Submandibular
Mammary gland (females only)
Ovaries with oviducts (2)
Pancreas
Peripheral nerve (sciatic)
Pituitary
Prostate
Salivary glands [mandibular (2)]
Seminal vesicles (2)
Skeletal muscle (vastus medialis)
Skin
Spinal cord
  Cervical
  Midthoracic
  Lumbar
Spleen
Testes (2)[b,d]
Thymus
Thyroids [with parathyroids if present (2)]
Trachea
Urinary bladder
Uterus with cervix
Vagina
Vas deferens (2)
All gross lesions (when possible)

[a] = Not taken from animals found dead. Not placed in formalin; to be examined only if scientifically warranted.
[b] = See section VIII.K (Spermatogenesis Evaluations).
[c] = Fixed in Davidson's solution.
[d] = Testis and epididymis (right only) will be fixed in Bouin's solution. Transverse sections of 2-4 microns will be made for the testis and longitudinal sections for the epididymis. PAS and hematoxylin staining will be used for the right testis and epididymis. The following regions of the epididymis will be embedded: caput, corpus, and cauda.

2. Organ Weights:

The following organs from all animals euthanized at the scheduled necropsies will be weighed.

Adrenals	Ovaries (with oviducts)
Brain	Prostate
Epididymides** (total and cauda)	Spleen
Heart	Testes**
Kidneys	Thymus
Liver	Thyroids with parathyroids*
	Uterus and cervix

Paired organs will be weighed together. Designated (**) paired organs will be weighed separately. Designated (*) organs will be weighed after fixation. Organ to final body weight and organ to brain weight ratios will be calculated from animals at the scheduled necropsies.

3. **Microscopic Examination:**

All tissues listed in protocol section VIII.J.1. will be processed to paraffin blocks. Microscopic examination of hematoxylin-eosin stained paraffin sections will be performed on all gross lesions in all animals and all tissues listed in protocol section VIII.J.1. from all animals scheduled at the primary necropsy in the control (Group 1) and high dose (Group 4) groups, and from all rats that die or are euthanized *in extremis*. Microscopic examination will be extended to the mid and low dose and recovery groups (Sponsor request, additional cost) if a potential target organ is noted based on histopathological examination of tissues from the high dose group. Special stains may be used at the discretion of the pathologist to further characterize lesions and changes. Any special stains used will be documented in the individual animal data and interpretation of results will be included in the final report.

K. Spermatogenesis Evaluations (Toxicology Groups Only):

The following quantitative assessment of the process of spermatogenesis will be performed on all males at study termination.

1. **Motility/Viability Assessment:**

Immediately after euthanasia, the reproductive tract of the male will be exposed via a ventral mid-line incision. The right epididymis will be excised and weighed separately. An incision will be made in the distal region of the right cauda epididymis, and the cauda will be placed in a beaker containing Dulbecco's phosphate buffered saline (maintained at approximately 37°C) with 10 mg/ml Bovine Serum Albumin (BSA). A small sample of the diluted sperm will be loaded into a 100-µm chamber for determination of motility. Because sperm motility can be affected by temperature shock, all slides and diluents will be pre-warmed in an incubator, and motility

determinations will be performed under constant temperature (approximately 37°C) using the Hamilton-Thorne HTM-IVOS Version 10 computer-assisted sperm analysis (CASA) system. Analysis of at least 200 motile and nonmotile spermatozoa per animal in all exposure groups will be performed by the analyzer. The motility score will be reported.

The right testis and epididymis will then be preserved for subsequent microscopic examination in accordance with Section VIII.J.1.d.

2. **Morphology Assessment:**

Sperm morphology will be evaluated by a modification of the wet-mount evaluation technique described by Linder *et al.*(4). Abnormal forms of sperm, from a differential count of 200 spermatozoa per animal in all groups, will be recorded.

3. **Enumeration of Epididymal and Testicular Sperm Numbers and Sperm Production Rate (SPR):**

The left testis and epididymis will be weighed, homogenized and evaluated for sperm numbers and the sperm production rate will be calculated utilizing the method described by Blazak *et al.*(1) and the Hamilton-Thorne CASA system. The homogenized sample will be mixed with a DNA-specific fluorescent dye to allow identification of the sperm under fluorescent illumination. The right testis and epididymis will be preserved in Bouin's fixative for subsequent microscopic examination as described in Section VIII.J.1.d.

L. Determination of Test Article Concentration (Satellite Groups):

1. **Omental Fat:**

On Study Days 2, 6, 9, 13, 20, 27, 55, 89, 104 and 118, 2 rats/sex for each of the satellite groups will be euthanized by CO_2 asphyxiation. Immediately upon euthanasia, 2 to 3 ml of blood will be collected from the vena cava and placed in clot tubes for serum preparation. After the blood samples are collected, 1 to 2 grams of fat (mesenteric and/or omental) will be collected. Perirenal fat will be collected if necessary to obtain a sample of sufficient size. Samples will be frozen in liquid nitrogen and stored at approximately -70°C until being shipped for determination of test article concentration. After the last samples have been collected, they will be shipped overnight on dry ice to David Palmer, Wildlife International. Wildlife International will prepare a report of the results of the analyses for inclusion in the final report.

Address for shipment:

Wildlife International, Ltd.
8615 Brooks Drive
Easton, MD 21601
Tel: (410) 822-8600

The Quality Assurance Unit of Wildlife International will be responsible for reviewing the data, inspecting the laboratory, reviewing the prepared report and reporting the results to the study director.

2. **Serum Analysis:**

Serum samples will be frozen at approximately -20°C for potential analysis of the test article or bromide concentration. The decision to perform analyses will be documented in an amendment. If not analyzed, samples will be discarded upon release of the final report.

Satellite animals found dead or euthanized *in extremis* (CO_2 asphyxia) will be subjected to a gross necropsy only to attempt to determine the possible cause of death.

IX. Statistical Methods:

A. Standard Evaluation:

All analyses will be two-tailed for a significance level of 5% and 1%. All means will be presented with standard deviations. All statistical tests will be performed by a Digital Equipment Corporation Computer with appropriate programming. Body weights, body weight changes, food consumption, estrous cycle, clinical pathology values (excluding differential white cell counts other than lymphocytes and segmented neutrophils), and absolute and relative organ weights (from animals euthanized at the scheduled necropsies) will be subjected to a one-way analysis of variance (ANOVA) (2). A comparison of the control group to each test article-treated group by Dunnett's test(3) will follow if the ANOVA shows statistical significance. Statistical comparisons will not be made when the group size is 2 or less.

Statistical analysis of FOB and MA data will be determined after inspection of the data and documented in a protocol amendment.

B. Spermatogenic Endpoint Evaluation:

The percentage of motile spermatozoa and percentage of sperm with normal morphology will be analyzed by the Kruskal-Wallis nonparametric ANOVA test (2) followed by the Mann-Whitney U-Test (2). Epididymal and testicular sperm numbers and sperm production rates will be analyzed by a parametric ANOVA test (2) and Dunnett's test (3) as described above.

X. Quality Assurance:

The study will be audited by the WIL Quality Assurance Unit while in progress to assure compliance with Good Laboratory Practice regulations, adherence to the protocol and to WIL Standard Operating Procedures. The raw data and draft report will be audited by the WIL Quality Assurance Unit to assure that the final report accurately describes the conduct and the findings of the study. Albemarle Corporation will be responsible for the GLP compliance of the bulk test material stability analysis. Wildlife International will be responsible for the GLP compliance of the data generated there.

This study is an EPA-regulated study and will be included on the WIL master list of regulated studies.

XI. Records to be Maintained:

All original raw data records, as defined by WIL SOPs and the applicable GLPs, will be stored as described in protocol Section XII. in the Archives at WIL Research Laboratories, Inc.

XII. Work Product:

Sponsor will have title to all documentation records, raw data, slides, specimens, or other work product generated during the performance of the study. All work product including raw paper data, magnetically encoded records and specimens will be retained at no charge for a period of 5 years following issuance of the final report in the Archives at WIL Research Laboratories, Inc. Thereafter, WIL Research Laboratories will charge a monthly archiving fee for retention of all work product. All work product will be stored in compliance with regulatory requirements.

XIII. Reports:

The final report will contain a summary, test material data, methods and procedures, appropriate individual animal and summary data tables, a copy of the protocol and amendments (if any) and an interpretation and discussion of the study results. The report will contain all information necessary to conform with current EPA OPPTS

and OECD specifications. The report will be comprehensive and shall attempt to define toxicity and the no-observed-effect level(s) under the conditions of this investigation.

WIL Research Laboratories will provide one (1) copy of an Audited Draft Report, submitted in a timely manner upon completion of the study prior to issuance of the final report. One (1) revision will be permitted as part of the cost of the study, from which Sponsor's reasonable revisions and suggestions will be incorporated into the Final Report as appropriate. Additional changes or revisions may be made, at extra cost. It is expected that the Sponsor will review the draft report and provide comments to WIL within a two (2) month time frame following submission. WIL will submit the Final Report within one (1) month following receipt of comments. Five (5) copies of the Final Report (4 bound, 1 unbound) will be provided; requests for additional copies of the Final Report may result in additional charges.

XIV. Protocol Modification:

Modification of the protocol may be accomplished during the course of this investigation. However, no changes will be made in the study design without the verbal or written permission of the Sponsor. In the event that the Sponsor verbally requests or approves changes in the protocol, such changes will be made by appropriate documentation in the form of protocol amendments. All alterations of the protocol and reasons for the modification(s) will be signed by the Study Director.

XV. Animal Welfare Act Compliance:

This study will comply with all applicable sections of the Final Rules of the Animal Welfare Act regulations (9 CFR). The Sponsor should make particular note of the following:

- The Sponsor signature on this protocol documents for the Study Director the Sponsor's assurance that the study described does not unnecessarily duplicate previous experiments

- Whenever possible, procedures used in this study have been designed to avoid or minimize discomfort, distress or pain to animals. All methods are described in this study protocol or in written laboratory Standard Operating Procedures.

- Animals that experience severe or chronic pain or distress that cannot be relieved will be painlessly euthanized, as deemed appropriate by the veterinary staff and Study Director. The Sponsor will be advised by the Study Director of all circumstances which could lead to this action, in as timely a manner as possible.

- Methods of euthanasia used during this study are in conformance with the above-referenced regulation.

XVI. References:

1. Blazak, W.F., Ernst, T.L. and Stewart, B.E. (1985) Potential indicators of reproductive toxicity: Testicular sperm production and epididymal sperm number, transit time and mortality in Fischer 344 rats. *Fundam. and Appl. Toxicol.* 5: 1097-1103.

2. BMDP-79 *Biomedical Computer Program* (Dixon W.J., And Brown, M.B., eds), University of California Press, Berkeley, CA, pp. 188, 612, 780.

3. Dunnett, C.W. (1964) New Tables for Multiple Comparisons with a Control. *Biometrics,* 20:482-491, CA, pp. 188, 612.

4. Linder, R.E., Strader, L.F., Slott, V.L. and Suarex, J.D. (1992) Endpoints of spermatotoxicity in the rat after short duration exposures to fourteen reproductive toxicants. *Reprod. Toxicol.* 6:491-505.

XVII. Protocol Approval:

Chemical Manufacturer's Association
Brominated Flame Retardant Industry Panel

Wendy K. Sherman — 3/21/00
Wendy Sherman — Date
Sponsor Representative

WIL Research Laboratories, Inc.

Jeannie B. Kirkpatrick — 3/2/00
Jeannie B. Kirkpatrick, M.S. — Date
Study Director

2 March 00
Christopher P. Chengelis, Ph.D., D.A.B.T. — Date
Director, Toxicology