FINAL REPORT

PROTOCOL 418-013

ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS

SPONSOR'S STUDY NUMBER: T-6295.12

FINAL REPORT DATE: 24 JUNE 1999

PROTOCOL 418-013

ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS

SPONSOR'S STUDY NUMBER: T-6295.12

TABLE OF CONTENTS

TITLE: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS

ARGUS RESEARCH LABORATORIES, INC.
PROTOCOL NUMBER: 418-013
SPONSOR'S STUDY NUMBER: T-6295.12

I. SUMMARY AND CONCLUSION

A. Methods[a]

Eighty virgin female Crl:CD®BR VAF/Plus® (Sprague-Dawley) rats were assigned to five dosage groups (Groups I through V), 16 rats per dosage group. The rats were administered the test article, PFOS (FC-95), or the vehicle, 0.5% Tween® 80 in Reverse Osmosis Membrane Processed Deionized Water (R.0. Deionized Water), orally (via gavage), once daily beginning 42 days prior to cohabitation through either day 14 or 20 of presumed gestation (DG 14 or DG 20). Dosages were 0 (Vehicle), 0.1, 0.4, 1.6 and 3.2 mg/kg/day. The dosage volume was 5 mL/kg.

The rats were observed for viability at least twice each day of the study and for clinical signs of effects of the test article before and approximately one hour after dosage and on the day sacrificed. Body weights were recorded daily during the dosage period and at sacrifice. Feed consumption values were recorded weekly to cohabitation and daily during presumed gestation.

Urine and fecal samples were collected one day prior to initiation of cohabitation to the following morning and DGs 6 to 7, 14 to 15 and 20 to 21. Samples were frozen and shipped to the Sponsor for analysis. Blood samples were collected on the day cohabitation was initiated and on DGs 7, 15 and 21. Blood was centrifuged and the serum was frozen and shipped to the Sponsor for analysis.

Rats were sacrificed on DG 15 or 21, as described below, and a gross necropsy of the thoracic, abdominal and pelvic viscera was performed. A liver section and the milk-secreting glands from the axillary, thoracic, abdominal and inguinal

---

a. Detailed descriptions of all procedures used in the conduct of this study are provided in the appropriate sections of this report and in APPENDIX C (PROTOCOL AND AMENDMENT).

regions of each dam were collected, frozen and shipped to the Sponsor for analysis.

Eight randomly selected female rats, with a confirmed date of mating, per dosage group were Caesarean-sectioned on DG 15. The gravid uterus was excised and weighed. Rats were examined for number and distribution of corpora lutea, implantation sites, viable and nonviable embryos. A sample of the amniotic fluid of each viable embryo was collected and pooled by litter. Each viable embryo was removed from the uterus with the attached placenta and pooled by litter. These samples were frozen shipped to the Sponsor for analysis.

All remaining female rats in each dosage group were Caesarean-sectioned on DG 21 or estimated DG 21. The gravid uterus was excised and weighed. Individual placental weights were recorded. Rats were examined for number and distribution of corpora lutea, implantation sites, live and dead fetuses and early and late resorptions. Each fetus was removed from the uterus, weighed and examined for sex and gross external alterations. Samples of the amniotic fluid were collected when possible, and pooled by litter. Placentae were collected and pooled by litter. Blood samples were collected from each fetus, pooled by litter and centrifuged. All samples were frozen and shipped to the Sponsor for analysis.

Lung and liver samples were collected from three fetuses per litter from two to five litters per dosage group. Sections from the half of the lungs and one lobe of the liver were shipped to Pathology Associates International, Durham, North Carolina, for possible future evaluation. The other half of the lungs and the other lateral lobe of the liver were frozen and shipped to the Sponsor for analysis.

The livers of the remaining fetuses, plus any remaining liver from the three selected fetuses, were collected, pooled by litter and frozen. The remaining carcass (and head) of each fetus was frozen and shipped to the Sponsor for analysis.

B. Results

No deaths or premature deliveries were attributed to PFOS treatment. Three rats (one each in the 0.1, 0.4 and 1.6 mg/kg/day dosage groups) were sacrificed because the eye was injured during orbital sinus bleeding. One rat in the vehicle control group did not have a confirmed mating date and delivered on day 66 of the study. Two rats in the 3.2 mg/kg/day dosage group delivered on DG 21. All other rats survived to scheduled sacrifice.

All adverse clinical observations during the precohabitation and gestation periods were considered unrelated to the test article and no gross lesions were revealed by necropsy.

Body weight gains for the entire precohabitation period (DSs 1 to 42) were 88.8%, 80.8%, 66.3% and 17.4% of the control group value in the 0.1, 0.4, 1.6 and 3.2 mg/kg/day dosage groups, respectively. Body weights were 98.0%, 96.3%, 93.6% and 85.3% of the control group value in these four respective dosage groups on DS 42.

As the result of random selection for assignment to Caesarean-sectioning on either DG 15 or DG 21, groups assigned to Caesarean-sectioning on DG 15 weighed less on DG 0 than groups assigned to Caesarean-sectioning on DG 21. Reflecting the random selection and differences in average body weights of the two subsets, as well as the relatively small group sizes, body weight gains differed in the two subsets. In both subsets, body weight gains were reduced on DGs 0 to 7 in groups administered 0.4 mg/kg/day and higher dosages of PFOS, after which body weight changes did not demonstrate a clear dosage-dependent pattern.

Absolute (g/day) and relative (g/kg/day) feed consumption values were reduced in the 0.4, 1.6 and 3.2 mg/kg/day dosage groups in each week of the precohabitation period. Reflecting these effects of the test article, absolute and relative feed consumption values were reduced for the entire precohabitation period (DSs 1 to 42) in the 0.4, 1.6 and 3.2 mg/kg/day dosage groups.

Groups administered 0.4 mg/kg/day and higher dosages of the test article had reduced absolute and relative feed consumption values during the first week of the gestation period. Absolute feed consumption values continued to be reduced for the remainder of the dosage period in the 0.4 and 1.6 mg/kg/day dosage groups assigned to DG 15 Caesarean-sectioning and in the 3.2 mg/kg/day dosage group for rats assigned to either DG 15 or DG 21 Caesarean-sectioning.

No Caesarean-sectioning or litter parameters were affected by dosages of the test article as high as 3.2 mg/kg/day administered to rats Caesarean-sectioned on DG 15.

The litter averages for implantations, litter sizes and live fetuses were reduced in the 3.2 mg/kg/day dosage group Caesarean-sectioned on DG 21. Values were below the ranges observed historically at the Testing Facility. Fetal body weights were also reduced in the 3.2 mg/kg/day dosage group. No other Caesarean-sectioning or litter parameters were affected by dosages of the test article as

high as 3.2 mg/kg/day administered to rats Caesarean-sectioned on DG 21. No fetal gross external alterations were observed.

C. Conclusion

The purpose of this study, as stated in the protocol, was to evaluate the pharmacokinetics of PFOS in Fo generation dams and F1 generation fetuses following PFOS treatment to female rats during premating and gestation. This reports includes study data from the in-life portion which was conducted at Argus Research Laboratories, Inc. The PK samples that were collected during the in-life portion of the study were sent to the Sponsor for analysis and will be reported separately. It is the responsibility of the Sponsor, 3M Corporate Toxicology, to combine the in-life results with the analytical results into a final pharmacokinetic report. The results for this study mimic those reported in the Combined Oral (Gavage) Fertility, Developmental and Perinatal/Postnatal Reproduction Toxicity Study of PFOS in Rats (Argus Research Laboratories, Inc., Protocol 418-008), reported 10 June 1999.

Mildred S. Christian, Ph.D., Fellow, ATS — Date
Executive Director of Research

Alan M. Hoberman, Ph.D., DABT — Date
Director of Research

Raymond G. York, Ph.D., DABT — Date
Associate Director of Research and
Study Director

II. DESCRIPTION OF TEST PROCEDURES

A. Conduct of Study:

A.1. Sponsor:

3M Corporate Toxicology, 3M Center, Building 220-2E-02, St. Paul, Minnesota 55144-1000

A.2. Testing Facility:

Argus Research Laboratories, Inc., 905 Sheehy Drive, Building A, Horsham, Pennsylvania 19044-1297

A.3. Study Number:

418-013

A.4. Sponsor's Study Number:

T-6295.12

A.5. Purpose of the Study:

The purpose of this study was to evaluate the pharmacokinetics of PFOS in Fo generation dams and F1 generation fetuses following PFOS treatment of Crl:CD®BR VAF/Plus® female rats during premating and gestation.

A.6. Study Design:

The requirements of the U.S. Food and Drug Administration (FDA)[1] were used as the basis of study design.

A.7. Regulatory Compliance:

The study was conducted in compliance with Good Laboratory Practice (GLP) regulations of the U.S. Food and Drug Administration (FDA)[2], the Japanese Ministry of Health and Welfare (MHW)[3] and the European Economic Community (EEC)[4]. There were no deviations from the GLP regulations that affected the quality or integrity of the study. Quality Assurance Unit findings derived from the inspections during the conduct of this study are documented and have been provided to the Study Director and the Testing Facility Management.

A.8. Ownership of the Study:

The Sponsor owns the study. All raw data, analyses, reports and preserved tissues are the property of the Sponsor.

A.9. Study Monitor:

Marvin T. Case, D.V.M., Ph.D.

A.10. Alternate Study Monitor:

Andrew M. Seacat, Ph.D.

A.11. Study Director:

Raymond G. York, Ph.D., DABT (Associate Director of Research)

A.12. Technical Performance:

John F. Barnett, B.S. (Director of Laboratory Operations)
Margaret M. Martin (Research Associate)
Corrie L. Pabst (Quality Control Associate)

A.13. Report Preparation:

Raymond G. York, Ph.D., DABT
Jo Ann Frazee, M.S. (Study Coordinator)
Susan K. Bradshaw, B.S. (Data Management Specialist)
Karen G. Parker, A.A. (Report Administrator)

A.14. Report Review:

Mildred S. Christian, Ph.D., Fellow, ATS (Executive Director of Research)
Allan M. Hoberman, Ph.D, DABT (Director of Research)

A.15. Date Protocol Signed:

9 November 1998

A.16. Dates of Technical Performance:

Rat Arrival Date	10 NOV 98
Dosage Period (42 days prior to cohabitation until DG[a] 14 or 20)	16 NOV 98 - 21 JAN 99
Cohabitation Period	27 DEC 98 PM - 01 JAN 99 AM
Caesarean-Sectioning Period (DG 15)	12 JAN 99 - 13 JAN 99
Caesarean-Sectioning Period (DG 21)	18 JAN 99 - 22 JAN 99

A.17. Records Maintained:

The original report, raw data and reserve samples of the bulk test article and vehicle components are retained in the archives of Argus Research Laboratories, Inc. Any preserved tissues are retained in the archives of the Testing Facility for one year after the mailing of the draft final report, after which time the Sponsor will decide their final disposition. All unused prepared formulations were discarded at the Testing Facility. Unused bulk test article will be returned to the Study Monitor upon completion of all work with the test article.

B. Test Article Information:

B.1. Description:

PFOS (FC-95) – an off-white powder

B.2. Lot/Batch Number:

217 (Expiration date: May 2000)

B.3. Date Received and Storage Conditions:

The test article was received on 21 October 1998, and stored at room temperature.

B.4. Special Handling Instructions:

Standard safety precautions (use of protective clothing, gloves, dust-mist respirator, safety goggles or safety glasses and a face-shield) were taken when handling the bulk test article and prepared suspensions.

---

a. DG is used as an abbreviation for day of (presumed) gestation.

B.5. Analysis of Purity:

Information regarding the identity, composition, strength and purity of the test article is on file with the Sponsor.

C. Vehicle Information:

C.1. Description:

0.5% Tween® 80 in Reverse Osmosis Membrane Processed Deionized Water (R.O. Deionized Water).

C.2. Lot Numbers:

Tween® 80 - M29477 and M03H05

C.3. Date Received and Storage Conditions:

The Tween® 80 was received from J.T. Baker, Phillipsburg, New Jersey, on 17 September 1998 (Lot Number M29477) and 3 December 1998 (Lot Number M03H05), and stored at room temperature. The R.O. deionized water is available from a continuous source at the Testing Facility and is maintained at room temperature.

C.4. Special Handling Instructions:

Standard safety precautions (use of protective clothing, gloves, dust-mist respirator, safety goggles or safety glasses and a face-shield) were taken when handling the vehicle components and prepared vehicle.

C.5. Analysis of Purity:

Neither the Sponsor nor the Study Director was aware of any potential contaminants likely to be present in the vehicle that would interfere with the results of this study.

D. Test Article Preparation and Storage Conditions:

Suspensions of PFOS were prepared daily at concentrations of 0, 0.02, 0.08, 0.32 and 0.64 mg/mL. Prepared formulations were stored at room temperature.

D.1. Sample Information:

Sample Type	Size	Date Retained	Storage/Shipping Conditions	Shipped To	Date Shipped
Concentration (all levels)	2 mL[a]	15 NOV 98 20 JAN 99	Frozen	Sponsor	16 NOV 98 20 JAN 99
Bulk Test Article Reserve	1 g	12 NOV 98	Room temperature	Testing Facility Archives	25 NOV 98
Vehicle Components Reserve					
Tween® 80	5 mL	12 NOV 98[b] 10 DEC 98[c]	Room temperature	Testing Facility Archives	25 NOV 98 27 JAN 99
R.O. deionized water	5 mL	12 NOV 98	Room temperature	Testing Facility Archives	25 NOV 98

a. Duplicate samples were taken from the first and last preparation on the day prepared. One sample of each set was shipped for analysis. The remaining samples were retained at the Testing Facility as backups. Backup samples are stored frozen (-70°C or below) and will be discarded at the request of the Sponsor.
b. Lot Number M29477.
c. Lot Number M03H05.

D.2. Analytical Results:

Data verifying the stability of the test article in the vehicle for 48 hours under the conditions of administration and the stability of the bulk test article are on file with the Sponsor. Homogeneity of prepared formulations is on file with the Sponsor.

Results of the concentration analysis were not available at the time of the writing of this report.

E. Test System:

E.1. Species:

Rat

E.2. Strain:

Crl:CD®BR VAF/Plus® (Sprague-Dawley)

E.3. Supplier (Source):

Charles River Laboratories, Inc., Raleigh, North Carolina

E.4. Sex:

Female (Note: Male rats were used only for the purposes of breeding and are not considered part of the Test System.)

E.5. Rationale for Test System:

The Crl:CD®BR VAF/Plus® (Sprague-Dawley) rat was selected as the Test System because: 1) this strain of rat was used in the reproductive and developmental toxicity studies; 2) historical data and experience exist at the Testing Facility[5-7]; and 3) the test article is pharmacologically active in the species and strain.

E.6. Test System Data:

Number of Rats	122
Approximate Date of Birth	07 SEP 98
Approximate Age at Arrival	65 days
Weight (g) on the Day After Arrival	193 - 223
Weight (g) at Study Assignment	208 - 224

E.7. Breeder Male Rat Data:

Number of Rats	112
Approximate Date of Birth	13 JAN 98
Approximate Age at Arrival	78 days
Weight (g) on the Day After Arrival	300 - 356
Weight (g) at Cohabitation	558 - 871

E.8. Method of Randomization:

Upon arrival, rats were assigned to individual housing on the basis of computer-generated random units. After acclimation, virgin female rats were selected for study on the basis of physical appearance and body weight recorded during acclimation. Female rats were assigned to five dosage groups (Groups I through V), 16 rats per dosage group, using a computer-generated (weight-ordered) randomization procedure. Within each dosage group, consecutive order was used to assign female rats to cohabitation with breeder male rats, one male rat per female rat. A table of random units was used to select eight female rats with confirmed mating dates per dosage group for Caesarean-section examinations on DG 15. The remaining female rats in each dosage group were Caesarean-sectioned on DG 21[a].

---

a. See APPENDIX D (DEVIATIONS FROM THE PROTOCOL AND THE STANDARD OPERATING PROCEDURES OF THE TESTING FACILITY), item 1.

E.9. System of Identification:

Male rats were given unique permanent identification numbers upon assignment to the Testing Facility's breeder male rat population. Female rats were assigned temporary numbers at receipt and given unique permanent identification numbers when assigned to the study. Each rat was individually identified with a Monel® self-piercing ear tag (Gey Band and Tag Co., Inc., No. MSPT 20101) inscribed with the rat's designated unique permanent number.

F. Husbandry:

F.1. Research Facility Registration:

USDA Registration No. 23-R-099 under the Animal Welfare Act, 7 U.S.C. 2131 *et seq.*

F.2. Study Rooms:

The study rooms were maintained under conditions of positive airflow relative to a hallway and independently supplied with a minimum of ten changes per hour of 100% fresh air that had been passed through 99.97% HEPA filters. Room temperature and humidity were monitored constantly throughout the study. Room temperature was targeted at 64°F to 79°F (18°C to 26°C); relative humidity was targeted at 30% to 70%. See APPENDIX E (TEMPERATURE AND RELATIVE HUMIDITY REPORTS.)

F.3. Housing:

All cage sizes and housing conditions were in compliance with the *Guide for the Care and Use of Laboratory Animals*[8]. Female rats were individually housed in stainless steel, wire-bottomed cages except during the cohabitation period and during collection intervals for urine and fecal samples. During cohabitation, each pair of rats was housed in the male rat's cage. During collection intervals for urine and fecal samples the female rats were individually housed in metabolism cages. No nesting materials were supplied because the female rats were sacrificed before parturition was expected.

F.4. Lighting:

An automatically-controlled fluorescent light cycle was maintained at 12-hours light:12-hours dark, with each dark period beginning at 1900 hours EST.

F.5. Sanitization:

Cage pan liners were changed approximately three times each week. Cages were changed approximately every other week.

F.6. Feed:

Rats were given *ad libitum* access to Certified Rodent Diet® #5002 (PMI Nutrition International, St. Louis, Missouri) in individual feeders.

F.7. Feed Analysis:

Analyses were routinely performed by the feed supplier. No contaminants at levels exceeding the maximum concentration limits for certified feed or deviations from expected nutritional requirements were detected by these analyses. Copies of the results of the feed analyses are available in the raw data.

Neither the Study Director nor the Sponsor was aware of any agent present in the feed that was known to interfere with the results of this study.

F.8. Water:

Local water that had been processed by passage through a reverse osmosis membrane (R.O. water) was available to the rats *ad libitum* from individual water bottles and/or from an automatic watering access system. Chlorine was added to the processed water as a bacteriostat.

F.9. Water Analysis:

The processed water is analyzed twice annually for possible chemical contamination (Lancaster Laboratories, Lancaster, Pennsylvania) and monthly for possible bacterial contamination (Analytical Laboratories, Inc., Chalfont, Pennsylvania). Copies of the results of the water analyses are available in the raw data.

Neither the Study Director nor the Sponsor was aware of any agent present in the water that was known to interfere with the results of this study.

G. Methods:

G.1. Dosage Administration:

Dosage Group	Dosage (mg/kg/day)[a]	Concentration (mg/mL)	Dosage Volume (mL/kg)	Number of Female Rats	Assigned Rat Numbers
I	0 (Vehicle)	0	5	16	19501 - 19516
II	0.1	0.02	5	16	19517 - 19532
III	0.4	0.08	5	16	19533 - 19548
IV	1.6	0.32	5	16	19549 - 19564
V	3.2	0.64	5	16	19565 - 19580

a. The test article was considered 100% pure for the purpose of dosage calculations.

G.2. Rationale for Dosage Selection:

Dosages were selected on the basis of a previous study conducted with the test article (Argus Research Laboratories, Inc., Protocol 418-008).

G.3. Route of Administration:

Oral (gavage)

G.4. Rationale for Route of Administration:

The oral (gavage) route was selected for use because: 1) this was the route of administration in the developmental and reproductive toxicology studies; and 2) it is one of the possible routes of human exposure.

G.5. Frequency of Administration:

Appropriate dosages of the test article or vehicle were administered orally (via gavage) once daily to female rats beginning 42 days prior to cohabitation through either DG 14 or DG 20. The dosage volume was 5 mL/kg, adjusted daily on the basis of the individual body weights recorded before intubation. The rats were intubated once daily at approximately the same time each day.

G.6. Length of Study:

Approximately 11 weeks

G.7. Method of Study Performance:

The female rats were observed for viability at least twice each day of the study and for general appearance at least once during acclimation. The rats were also examined for clinical observations of effects of the test article, abortions, premature deliveries and deaths before and approximately one hour after dosage and once prior to sacrifice.

Body weights were recorded at least once during acclimation, daily during the dosage period and at sacrifice. Feed consumption values were recorded at least once during the acclimation period, weekly to cohabitation and daily during presumed gestation.

After 42 days of test article administration, 80 healthy virgin female rats were placed into cohabitation with 80 breeder male rats (one male rat per female rat in the male rat's cage)[a]. Mating was evaluated daily during the cohabitation period and confirmed by the observation of spermatozoa in a smear of the vaginal contents and/or a copulatory plug *in situ.* Female rats considered to be at DG 0 were returned to individual housing.

Urine and fecal samples were collected from female rats at the following intervals: one day prior to initiation of cohabitation to the following morning and from each of the mated female rats on DGs 6 to 7, 14 to 15 and 20 to 21. Following each 24-hour collection interval, samples were collected into centrifuge tubes, placed on dry ice and maintained frozen (-70°C or below) until shipment (on dry ice) to the Sponsor for analysis.

Blood samples were collected from each of the female rats following removal from metabolism caging (prior to test article or vehicle administration) on the day cohabitation was initiated (prior to cohabitation) and from each of the mated female rats on DGs 7, 15 and 21. On all days of collection except DGs 15 and 21 (dams at their terminal collection interval), blood samples (approximately 1 mL each) were collected from the orbital sinus. On DG 21, blood samples (approximately 4 mL each) were collected via the inferior vena cava. When blood collection on DG 15 was a final bleed for the respective dam (i.e., the dam was Caesarean-sectioned that day), the sample was approximately 4 mL and was collected via the inferior vena cava. Blood was transferred into serum separator tubes and spun in a refrigerated centrifuge. The serum was transferred into polypropylene tubes labeled with the study number, rat identification, date of collection, study day and collection timepoint. All samples were immediately frozen on dry ice and stored (-70°C or below) until shipment (on dry ice) to the Sponsor for analysis.

---

a. See APPENDIX D, item 1.

G.8. Gross Necropsy[a]:

Rats were sacrificed by carbon dioxide asphyxiation on DG 15 or 21, as described below. A gross necropsy of the thoracic, abdominal and pelvic viscera was performed. A liver section (right lateral lobe) and the milk-secreting glands from the axillary, thoracic, abdominal and inguinal regions (left side only) of each dam (except rats without confirmed dates of mating) were collected, frozen and stored (-70°C or below) until shipment (on dry ice) to the Sponsor for analysis. To confirm the pregnancy status, uteri from rats that appeared nonpregnant were stained with 10% ammonium sulfide[9]. Tissues with gross lesions were preserved in neutral buffered 10% formalin for possible future evaluation; all other maternal tissues were discarded. Representative photographs of maternal lesions are available in the raw data.

G.8.a. DG 15 Caesarean-Sectioning

Eight randomly selected female rats, with a confirmed date of mating, per dosage group were Caesarean-sectioned on DG 15. The gravid uterus was excised and weighed. Rats were examined for number and distribution of corpora lutea, implantation sites, viable and nonviable embryos. A viable embryo was defined as oval or crescent shaped, pink, firm and enclosed in an amniotic sac filled with clear fluid. A nonviable embryo is amorphous, small, pale pink to tan or deep red to black, soft and enclosed in an amniotic sac filled with clear, cloudy or opaque fluid.

A sample of the amniotic fluid of each viable embryo was collected and pooled per litter, frozen and stored (-70°C or below) until shipment, on dry ice, to the Sponsor for analysis. Each viable embryo was removed from the uterus with the attached placenta, pooled per litter frozen and stored (-70°C or below) until shipment, on dry ice, to the Sponsor for analysis.

G.8.b. DG 21 Caesarean-Sectioning

All remaining female rats in each dosage group were Caesarean-sectioned on DG 21 (rats with confirmed dates of mating) or estimated DG 21 (rats without confirmed dates of mating). The gravid uterus was excised and weighed. Individual placental weights were recorded. Rats were examined for number and distribution of corpora lutea, implantation sites, live and dead fetuses and early and late resorptions. An early resorption was defined as one in which organogenesis was not grossly evident. A late resorption was defined as one in

---

a. A table of random units was used to select one control group rat from which all tissues examined at necropsy were retained, in order to provide control tissues for any possible histopathological evaluations of gross lesions.

which the occurrence of organogenesis was grossly evident. A live fetus was defined as a term fetus that responded to stimuli. Nonresponding term fetuses are considered to be dead (there were no dead fetuses). Dead fetuses and late resorptions are differentiated by the degree of autolysis present; marked to extreme autolysis indicated that the fetus was a late resorption.

Each fetus was removed from the uterus, placed in an individual container and identified with a tag noting the study number, litter number, and uterine distribution. Each fetus was subsequently weighed and examined for sex and gross external alterations. Live fetuses were sacrificed via decapitation.

Samples of the amniotic fluid (when possible) and the placenta of each fetus were collected, individually pooled per litter, frozen and stored (-70°C or below) until shipment to the Sponsor for analysis. Blood samples were collected from each fetus via decapitation, pooled per litter and transferred into serum separator tubes. The samples were spun in a refrigerated centrifuge. The serum was transferred into polypropylene tubes labeled with the study number, litter identification, date of collection, study day and collection timepoint. All samples were immediately frozen on dry ice and stored (-70°C or below) until shipment (on dry ice) to the Sponsor for analysis.

Lung and liver samples were collected from three fetuses per litter from two to five litters per dosage group. One half of the lungs and one lateral lobe of the liver were individually retained in neutral buffered 10% formalin in scintillation vials. Prior to fixation, several (minimum of two) sections (approximately 1 mm thick) of this half of the lungs and this lobe of the liver were removed using a scalpel and retained in McDowell-Trump's Fixative (stored under refrigeration in scintillation vials). The lung and liver sections in McDowell-Trump's Fixative and the lung and liver samples in neutral buffered 10% formalin were shipped (on cold packs), for possible future evaluation by electron microscopy or light microscopy, respectively, to Pathology Associates International, Durham, North Carolina. The other half of the lungs and the other lateral lobe of the liver were flash frozen in liquid nitrogen and stored in heat-sealable pouches on dry ice. These flash frozen lung and liver samples were maintained frozen (-70°C or below) until shipment (on dry ice) to the Sponsor for analysis.

The livers of the remaining fetuses, plus any remaining liver from the three selected fetuses, were collected, pooled by litter and frozen. The remaining carcass (and head) of each fetus was frozen. These samples were maintained frozen (-70°C or below) until shipment (on dry ice) to the Sponsor for analysis.

G.8.c. Moribund Sacrifice or Premature Delivery

Rats that were sacrificed because of moribund condition or premature delivery were examined for the cause on the day the observation was made. The rats

were examined for gross lesions. A liver section (right lateral lobe) and the milk-secreting glands from the axillary, thoracic, abdominal and inguinal regions of each dam (left side only) were collected, frozen and stored (-70°C or below) until shipment (on dry ice) to the Sponsor for analysis. Pregnancy status and uterine contents were recorded. Delivered pups were examined to the extent possible, using the same methods described for term fetuses. Uteri of apparently nonpregnant rats were stained with 10% ammonium sulfide to confirm the absence of implantation sites[9].

G.9. **Statistical Analyses:**

Averages and percentages were calculated. Litter values were used where appropriate.

III. RESULTS

A. Mortality, Premature Delivery, Clinical and Necropsy Observations (Summary - Table 1; Individual Data - Tables 12 and 13)

A.1. Mortality and Premature Delivery

No deaths or premature deliveries were attributed to PFOS treatment. Three rats (one each in the 0.1, 0.4 and 1.6 mg/kg/day dosage groups) were sacrificed because the eye was injured during orbital sinus bleeding. One rat in the vehicle control group did not have a confirmed mating date and delivered on day 66 of the study. Two rats in the 3.2 mg/kg/day dosage group delivered on DG 21. All other rats survived to scheduled sacrifice.

A.2. Clinical Observations

All adverse clinical observations during the precohabitation and gestation periods were considered unrelated to the test article because: 1) the incidences were not dosage-dependent; and/or 2) the observation occurred in only one or two rats. These observations included missing or swollen forepaw digit, scabs on forepaw, swollen forepaw, localized alopecia on the limbs, head, back and/or underside, chromorhinorrhea, chromodacryorrhea, swollen ears, dental problems (missing, broken and/or misaligned incisors), swollen snout, corneal hemorrhage, corneal opacity, axillary mass, exophthalmos, enophthalmos, lenticular opacity, lacrimation, ungroomed coat, traumatized cornea, cloudy, white film on eye, missing right eye, large eye, dark red eye, and lids unable to close.

A.3. Necropsy Observations

No gross lesions were revealed by necropsy.

B. Body Weights, Uterine Weights and Body Weight Changes (Figures 1 through 3; Summaries - Tables 2 through 5; Individual Data – Tables 14 and 15)

B.1. Precohabitation

Body weight gains for the entire precohabitation period (DSs 1 to 42) were 88.8%, 80.8%, 66.3% and 17.4% of the control group value in the 0.1, 0.4, 1.6 and 3.2 mg/kg/day dosage groups, respectively. Body weights were 98.0%, 96.3%, 93.6% and 85.3 % of the control group value in these four respective dosage groups on DS 42.

B.2. Gestation

As the result of random selection for assignment to Caesarean-sectioning on either DG 15 or DG 21, groups assigned to Caesarean-sectioning on DG 15 weighed less on DG 0 than groups assigned to Caesarean-sectioning on DG 21. Reflecting the random selection and differences in average body weights of the two subsets, as well as the relatively small group sizes, body weight gains differed in the two subsets. In both subsets, body weight gains were reduced on DGs 0 to 7 in groups administered 0.4 mg/kg/day and higher dosages of PFOS, after which body weight changes did not demonstrate a clear dosage-dependent pattern.

Gestation body weights and body weight gains were unaffected by the 0.1 mg/kg/day dosage of the test article. Gravid uterine weights were unaffected by dosages of the test article as high as 3.2 mg/kg/day.

C. Absolute (g/day) and Relative (g/kg/day) Feed Consumption Values (Summaries - Tables 6 through 9; Individual Data – Tables 16 and 17)

C.1. Precohabitation

Absolute (g/day) and relative (g/kg/day) feed consumption values were reduced in the 0.4, 1.6 and 3.2 mg/kg/day dosage groups in each week of the precohabitation period. Reflecting these effects of the test article, absolute feed consumption values were 94.8%, 92.2% and 83.8% of the control group value, and relative feed consumption values were 95.1%, 94.3% and 90.7% of the control group value for the entire precohabitation period (DSs 1 to 42) in the 0.4, 1.6 and 3.2 mg/kg/day dosage groups.

Absolute and relative feed consumption values during the precohabitation period were unaffected by the 0.1 mg/kg/day dosage of the test article.

C.2. Gestation

Groups administered 0.4 mg/kg/day and higher dosages of the test article had reduced absolute and relative feed consumption values during the first week of the gestation period (no values were available for evaluation for the 1.6 mg/kg/day dosage group assigned to Caesarean-sectioning on DG 15). Absolute feed consumption values continued to be reduced for the remainder of the dosage period in the 0.4 and 1.6 mg/kg/day dosage groups assigned to DG 15 Caesarean-sectioning and in the 3.2 mg/kg/day dosage group for rats assigned to either DG 15 or DG 21 Caesarean-sectioning. Relative feed consumption values tended to be increased over the control group values for the 1.6 and 3.2 mg/kg/day dosage groups after DG 10.

Absolute and relative feed consumption values during gestation were unaffected by the 0.1 mg/kg/day dosage of the test article.

D. Caesarean-Sectioning, Litter and Fetal Gross External Observations (Summaries –Tables 10 and 11; Individual Data - Tables 18 through 21)

D.1. Day 15 of Gestation

Pregnancy occurred in 6 (75.0%), 7 (87.5%), 8 (100.0%), 6 (85.7%) and 8 (100.0%) of the rats in each dosage group.

No Caesarean-sectioning or litter parameters were affected by dosages of the test article as high as 3.2 mg/kg/day administered to rats Caesarean-sectioned on DG 15. The litter averages for corpora lutea, implantations, viable and nonviable embryos and percent nonviable embryos per litter were comparable among the five dosage groups. No dam had a litter consisting of only nonviable embryos.

D.2. Day 21 of Gestation

Pregnancy occurred in 7 (100.0%), 7 (100.0%), 5 (83.3%), 2 (50.0%) and 6 (100.0%) rats with a confirmed mating date in each dosage group. One rat in each of the 0.1 and 0.4 mg/kg/day dosage groups was moribund sacrificed on DG 0 and the pregnancy status could not be determined and two rats in the 3.2 mg/kg/day dosage group delivered before Caesarean-sectioning on DG 21, as previously described. As a result, Caesarean-sectioning observations were based on 7, 7, 5, 2 and 4 pregnant rats with one or more live fetuses in Groups I through V, respectively.

The litter averages for implantations, litter sizes and live fetuses were reduced in the 3.2 mg/kg/day dosage group. Values were below the ranges observed historically at the Testing Facility[a]. Fetal body weights were also reduced in the 3.2 mg/kg/day dosage group. No other Caesarean-sectioning or litter parameters were affected by dosages of the test article as high as 3.2 mg/kg/day administered to rats Caesarean-sectioned on DG 21. The litter averages for corpora lutea, early and late resorptions, placental weights, percent live male fetuses and percent resorbed conceptuses were comparable among the five dosage groups. No dam had a litter consisting of only resorbed conceptuses, and there were no dead fetuses. No fetal alterations were identified at gross external examination.

---

a. See APPENDIX F (HISTORICAL CONTROL DATA).

REFERENCES

1. U.S. Food and Drug Administration (1994). International Conference on Harmonisation; Guideline on detection of toxicity to reproduction for medicinal products. *Federal Register*, September 22, 1994, Vol. 59, No. 183.

2. U.S. Food and Drug Administration. Good Laboratory Practice Regulations; Final Rule. 21 CFR Part 58.

3. Japanese Ministry of Health and Welfare (1997). *Good Laboratory Practice Standard for Safety Studies on Drugs*, MHW Ordinance Number 21, March 26, 1997.

4. European Economic Community (1989). *Council decision on 28 July 1989 on the acceptance by the European Economic Community of an OECD decision/recommendation on compliance with principles of good laboratory practice*. Official Journal of the European Communities: Legislation. 32 (No. L 315; 28 October): 1-17.

5. Christian, M.S. and Voytek, P.E. (1982). *In Vivo Reproductive and Mutagenicity Tests*. Environmental Protection Agency, Washington, D.C. National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

6. Christian, M.S. (1984). Reproductive toxicity and teratology evaluations of naltrexone (Proceedings of Naltrexone Symposium, New York Academy of Sciences, November 7, 1983), J. Clin. Psychiat. 45(9):7-10.

7. Lang, P.L. (1988). *Embryo and Fetal Developmental Toxicity (Teratology) Control Data in the Charles River Crl:CD®BR Rat*. Charles River Laboratories, Inc., Wilmington, MA 01887-0630. (Data base provided by Argus Research Laboratories, Inc.)

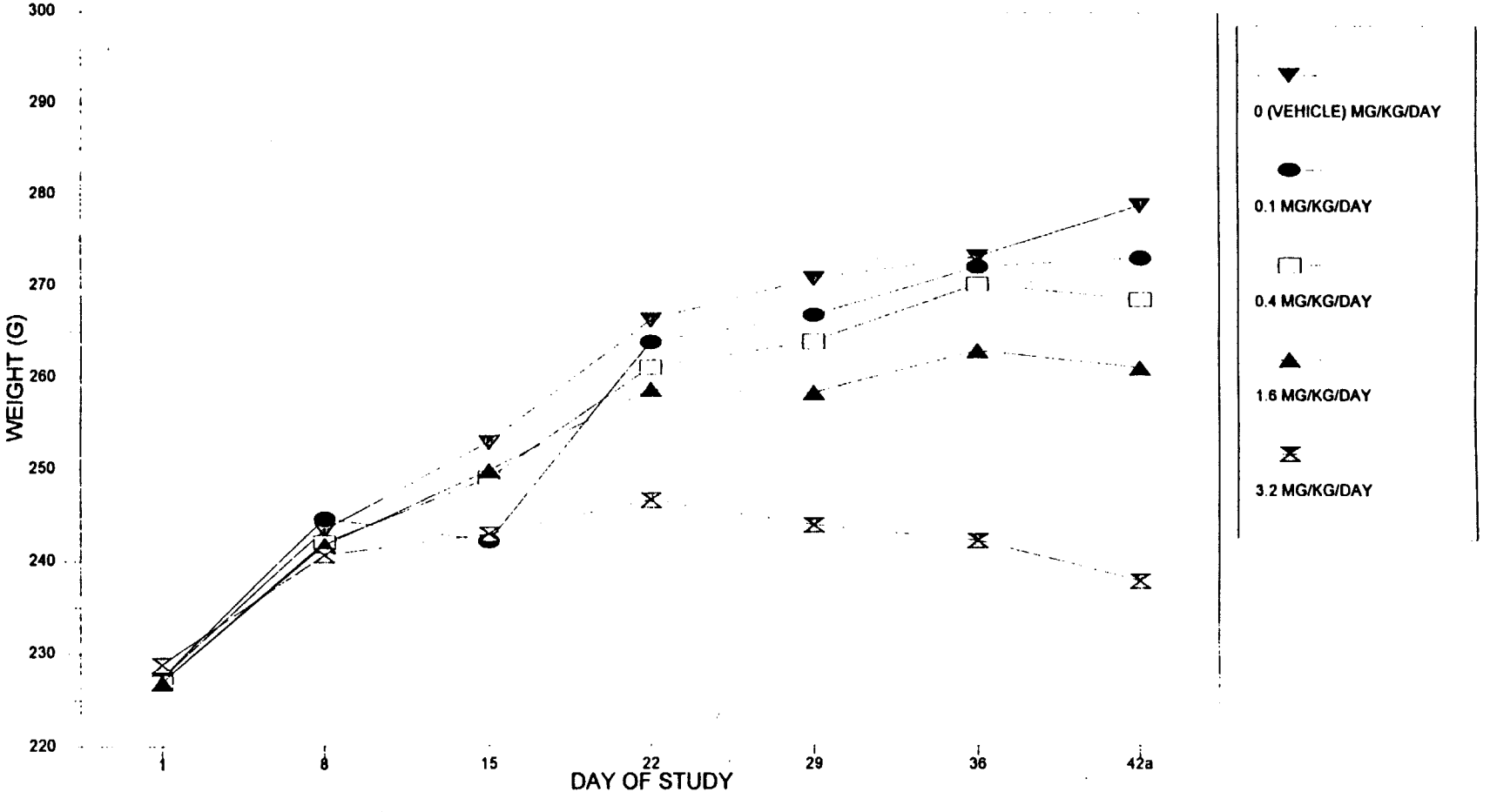
8. Institute of Laboratory Animal Resources (1996). *Guide for the Care and Use of Laboratory Animals*. National Academy Press, Washington, D.C.

9. Salewski, E. (1964). Färbemethode zum makroskopischen Nachweis von Implantationsstellen am Uterus der Ratte. Arch. Pathol. Exp. Pharmakol. 247:367.

APPENDIX A

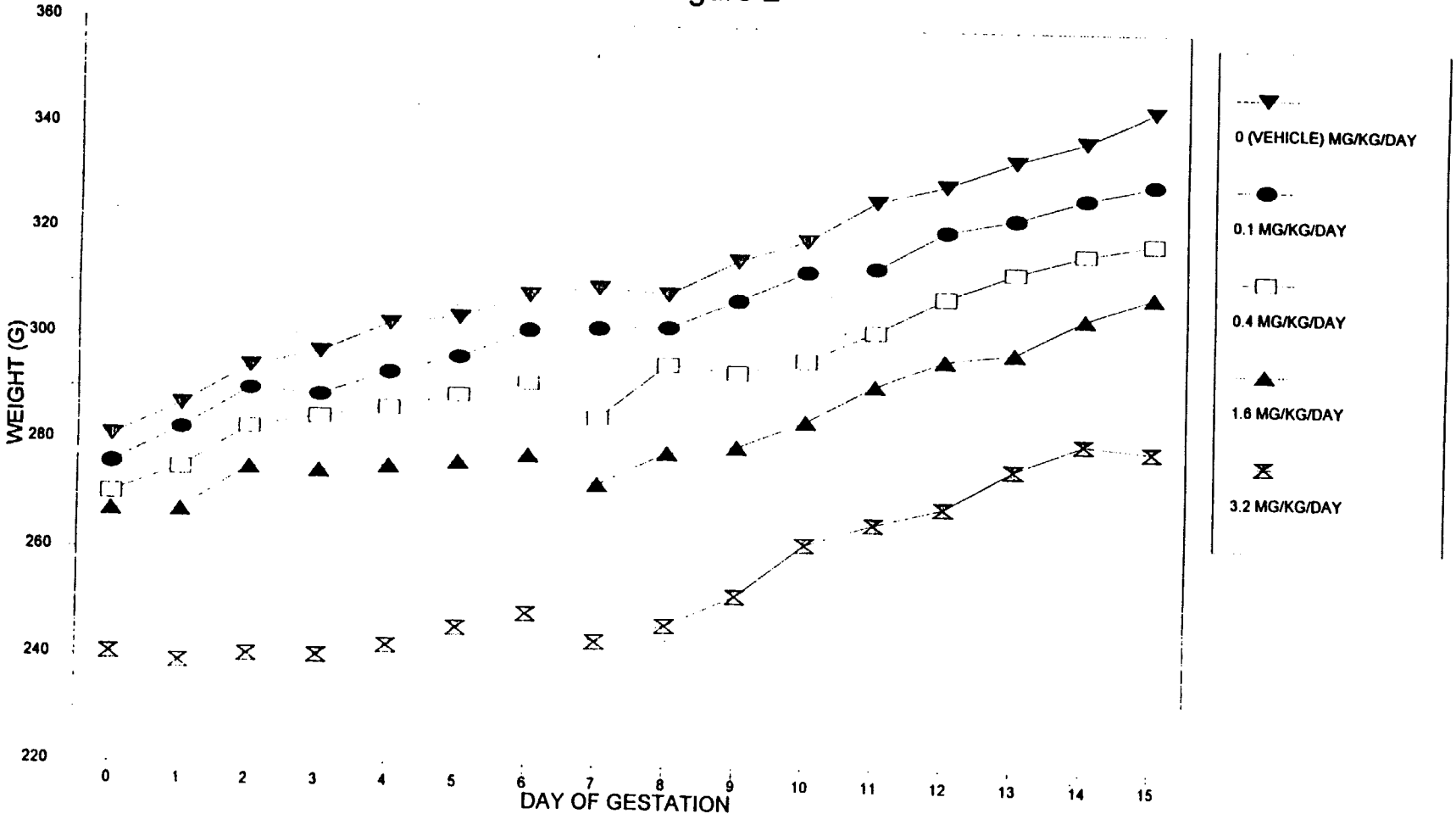
REPORT FIGURES

BODY WEIGHTS
PRECOHABITATION
Figure 1



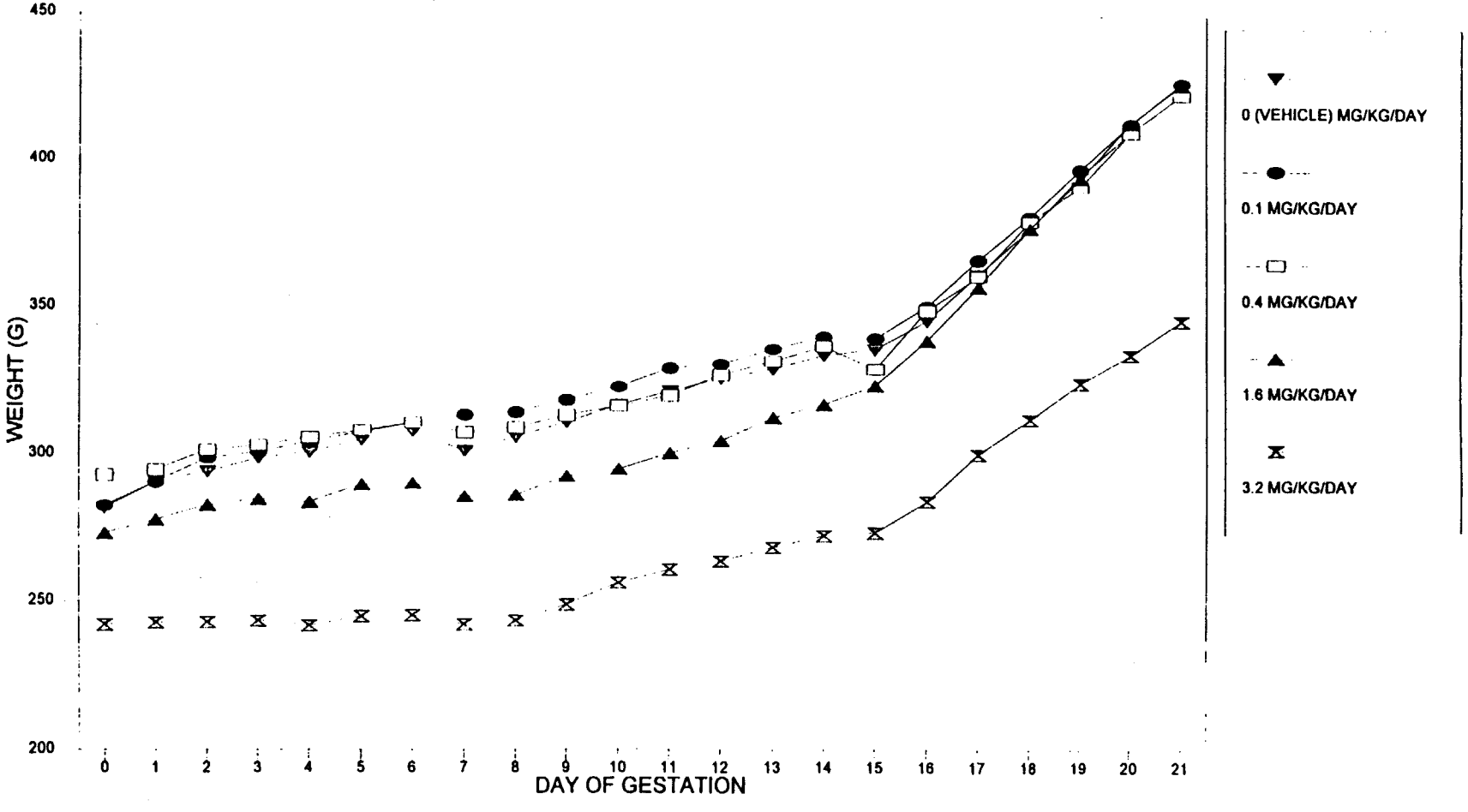
a. Last value recorded before cohabitation

MATERNAL BODY WEIGHTS
RATS CAESAREAN-SECTIONED ON DAY 15 OF GESTATION
Figure 2



MATERNAL BODY WEIGHTS
RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

Figure 3



APPENDIX B

REPORT TABLES

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 1 (PAGE 1): CLINICAL AND NECROPSY OBSERVATIONS - SUMMARY
(See footnotes on the last page of this table.)

DOSAGE GROUP	I	II	III	IV	V
DOSAGE (MG/KG/DAY)	0 (VEHICLE)	0.1	0.4	1.6	3.2
MORTALITY					
DELIVERED AND SACRIFICED	1	1	1	1	2
MORIBUND SACRIFICED	1a	0	0	0	2b,c
	0	1d	1e	1f	0
PRECOHABITATION (DAY 1 OF STUDY TO THE DAY OF COHABITATION):					
MAXIMUM POSSIBLE INCIDENCE	672/ 16	672/ 16	672/ 16	672/ 16	672/ 16
FOREPAW: THIRD DIGIT MISSING	0/ 0	0/ 0	0/ 0	0/ 0	34/ 1
LOCALIZED ALOPECIA: TOTAL	40/ 1	43/ 2	0/ 0	26/ 2	9/ 1
LIMBS	40/ 1	43/ 2	0/ 0	14/ 1	9/ 1
UNDERSIDE	0/ 0	0/ 0	0/ 0	12/ 1	0/ 0
FOREPAW: THIRD DIGIT SWOLLEN	0/ 0	0/ 0	0/ 0	0/ 0	3/ 1
FOREPAWS: SCAB(S)	0/ 0	0/ 0	0/ 0	14/ 1	3/ 1
CHROMORHINORRHEA	0/ 0	0/ 0	1/ 1	5/ 4	1/ 1
CHROMODACRYORRHEA	0/ 0	5/ 1	0/ 0	0/ 0	1/ 1
EARS: SWOLLEN	0/ 0	0/ 0	0/ 0	3/ 1	0/ 0
FOREPAWS: SWOLLEN	0/ 0	0/ 0	0/ 0	2/ 1	0/ 0
INCISORS: TOTAL	0/ 0	21/ 1	0/ 0	0/ 0	0/ 0
MISSING/BROKEN	0/ 0	12/ 1	0/ 0	0/ 0	0/ 0
MISALIGNED	0/ 0	9/ 1	0/ 0	0/ 0	0/ 0
SNOUT: SWOLLEN	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0

MAXIMUM POSSIBLE INCIDENCE = (DAYS x RATS)/NUMBER OF RATS EXAMINED PER GROUP.
N/N = TOTAL NUMBER OF OBSERVATIONS/NUMBER OF RATS WITH OBSERVATION.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 1 (PAGE 2): CLINICAL AND NECROPSY OBSERVATIONS - SUMMARY
(See footnotes on the last page of this table.)

DOSAGE GROUP DOSAGE (MG/KG/DAY)	I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
PRESUMED GESTATION: g					
MAXIMUM POSSIBLE INCIDENCE	282/ 15	283/ 16	261/ 15	216/ 12	260/ 14
LOCALIZED ALOPECIA: TOTAL	3/ 1	37/ 3	3/ 1	45/ 3	46/ 4
LIMBS	3/ 1	23/ 2d	0/ 0	37/ 2	43/ 3c
UNDERSIDE	0/ 0	0/ 0	3/ 1	16/ 1	3/ 1
HEAD	0/ 0	14/ 1	0/ 0	0/ 0	0/ 0
BACK	0/ 0	0/ 0	0/ 0	7/ 1	0/ 0
FOREPAW: THIRD DIGIT MISSING	0/ 0	0/ 0	0/ 0	0/ 0	22/ 1
CORNEAL HEMORRHAGE	0/ 0	0/ 0	0/ 0	6/ 1	16/ 1
CORNEAL OPACITY	0/ 0	27/ 3d	20/ 2e	0/ 0	16/ 1
RIGHT AXILLA: MASS	0/ 0	0/ 0	0/ 0	0/ 0	11/ 1
EXOPHTHALMOS	0/ 0	4/ 2d	4/ 2e	1/ 1	2/ 1
CHROMODACRYORRHEA	11/ 1	1/ 1d	1/ 1e	0/ 0	1/ 1
FOREPAWS: SCAB(S)	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
ENOPHTHALMOS	0/ 0	0/ 0	8/ 1	0/ 0	0/ 0
LENTICULAR OPACITY	16/ 1a	0/ 0	3/ 1	0/ 0	0/ 0
LACRIMATION	0/ 0	0/ 0	2/ 1	0/ 0	0/ 0
RIGHT EYE: LARGE	0/ 0	1/ 1d	1/ 1e	0/ 0	0/ 0
RIGHT EYE: DARK RED	0/ 0	1/ 1d	1/ 1e	0/ 0	0/ 0

MAXIMUM POSSIBLE INCIDENCE = (DAYS x RATS)/NUMBER OF RATS EXAMINED PER GROUP.
N/N = TOTAL NUMBER OF OBSERVATIONS/NUMBER OF RATS WITH OBSERVATION.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 1 (PAGE 3): CLINICAL AND NECROPSY OBSERVATIONS - SUMMARY

DOSAGE GROUP DOSAGE (MG/KG/DAY)	I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
PRESUMED GESTATION: g					
MAXIMUM POSSIBLE INCIDENCE	282/ 15	283/ 16	261/ 15	216/ 12	260/ 14
RIGHT EYE: LIDS UNABLE TO CLOSE	0/ 0	1/ 1d	1/ 1e	0/ 0	0/ 0
CHROMORHINORRHEA	7/ 2	0/ 0	1/ 1	0/ 0	0/ 0
SNOUT: SWOLLEN	0/ 0	3/ 2d	1/ 1e	0/ 0	0/ 0
UNGROOMED COAT	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0
TRAUMATIZED CORNEA	0/ 0	33/ 3	0/ 0	0/ 0	0/ 0
RIGHT EYE: CLOUDY, WHITE FILM	0/ 0	11/ 1	0/ 0	0/ 0	0/ 0
RIGHT EYE: MISSING	0/ 0	11/ 1	0/ 0	0/ 0	0/ 0
INCISORS: MISSING/BROKEN	0/ 0	7/ 1	0/ 0	0/ 0	0/ 0

PERSISTENT ADVERSE CLINICAL OBSERVATIONS WERE CONFIRMED AT NECROPSY, NO ADDITIONAL GROSS LESIONS WERE IDENTIFIED

MAXIMUM POSSIBLE INCIDENCE = (DAYS x RATS)/NUMBER OF RATS EXAMINED PER GROUP.
N/N = TOTAL NUMBER OF OBSERVATIONS/NUMBER OF RATS WITH OBSERVATION.

a. Dam 19503 did not have a confirmed mating date and delivered on day 66 of study.
b. Dam 19571 delivered on day 21 of gestation.
c. Dam 19579 delivered on day 21 of gestation.
d. Rat 19520 was moribund sacrificed on day 0 of presumed gestation; pregnancy status could not be determined.
e. Rat 19541 was moribund sacrificed on day 0 of presumed gestation; pregnancy status could not be determined.
f. Rat 19557 was moribund sacrificed on day 43 of study.
g. Restricted to rats with a confirmed mating date.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 2 (PAGE 1): BODY WEIGHTS - PRECOHABITATION - SUMMARY

DOSAGE GROUP DOSAGE (MG/KG/DAY)		I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
RATS TESTED	N	16	16	16	16	16
BODY WEIGHT (G)						
DAY 1	MEAN±S.D	227.3 ± 7.2	227.4 ± 4.3	226.9 ± 6.2	226.9 ± 6.9	228.8 ± 7.0
DAY 8	MEAN±S.D	243.4 ± 10.2	244.6 ± 6.8	242.0 ± 9.4	241.7 ± 10.1	240.6 ± 10.3
DAY 15	MEAN±S.D	252.9 ± 11.6	252.1 ± 8.6	249.0 ± 11.7	249.8 ± 11.2	242.9 ± 10.7
DAY 22	MEAN±S.D	266.3 ± 12.8	263.9 ± 10.5	261.1 ± 15.1	258.7 ± 12.3	246.6 ± 12.4
DAY 29	MEAN±S.D	270.9 ± 16.0	266.9 ± 11.5	264.0 ± 17.1	258.4 ± 14.4	243.9 ± 13.7
DAY 36	MEAN±S.D	273.3 ± 18.6	272.2 ± 12.7	270.3 ± 17.9	263.0 ± 15.0	242.2 ± 15.1
DAY 42a	MEAN±S.D	278.9 ± 18.2	273.2 ± 15.4	268.6 ± 23.4	261.1 ± 15.9	237.8 ± 14.2

DAY = DAY OF STUDY
a. Last value recorded before cohabitation.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 3 (PAGE 1): BODY WEIGHT CHANGES - PRECOHABITATION - SUMMARY

DOSAGE GROUP		I	II	III	IV	V
DOSAGE (MG/KG/DAY)		0 (VEHICLE)	0.1	0.4	1.6	3.2
RATS TESTED	N	16	16	16	16	16
BODY WEIGHT CHANGE (G)						
DAYS 1 - 8	MEAN±S.D.	+16.1 ± 5.6	+17.2 ± 5.1	+15.1 ± 5.1	+14.8 ± 5.7	+11.9 ± 6.2
DAYS 8 - 15	MEAN±S.D.	+9.5 ± 5.6	+7.5 ± 4.7	+7.0 ± 4.4	+8.1 ± 4.7	+2.3 ± 4.6
DAYS 15 - 22	MEAN±S.D.	+13.4 ± 5.8	+11.8 ± 4.8	+12.1 ± 5.2	+8.9 ± 4.2	+3.6 ± 4.9
DAYS 22 - 29	MEAN±S.D.	+4.6 ± 6.6	+3.0 ± 5.7	+2.9 ± 6.1	-0.2 ± 4.8	-2.6 ± 6.0
DAYS 29 - 36	MEAN±S.D.	+2.4 ± 7.1	+5.3 ± 5.4	+6.3 ± 6.4	+4.6 ± 4.4	-1.7 ± 6.4
DAYS 36 - 42a	MEAN±S.D.	+5.6 ± 5.2	+0.9 ± 6.1	-1.7 ± 23.6	-1.9 ± 6.0	-4.5 ± 5.7
DAYS 1 - 42a	MEAN±S.D.	+51.6 ± 16.9	+45.8 ± 14.6	+41.7 ± 22.6	+34.2 ± 13.2	+9.0 ± 11.3

DAYS = DAYS OF STUDY
a. Last value recorded before cohabitation.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 4 (PAGE 1): MATERNAL BODY WEIGHTS AND GRAVID UTERINE WEIGHTS - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 15 OF GESTATION

DOSAGE GROUP			I	II	III	IV	V
DOSAGE (MG/KG/DAY)			0 (VEHICLE)	0.1	0.4	1.6	3.2
RATS TESTED		N	8	8	8	8	8
INCLUDED IN ANALYSES		N	8	8	8	7a	8
PREGNANT		N	6	7	8	6	8
MATERNAL BODY WEIGHT (G)							
DAY	0	MEAN±S.D.	281.0 ± 28.9	276.0 ± 10.5	270.4 ± 14.4	267.2 ± 16.4	240.5 ± 10.5
DAY	1	MEAN±S.D.	287.0 ± 26.0	282.4 ± 13.0	275.1 ± 20.8	267.2 ± 15.1	238.9 ± 13.6
DAY	2	MEAN±S.D.	294.3 ± 25.1	290.0 ± 11.2	282.8 ± 19.3	275.3 ± 17.0	240.2 ± 13.4
DAY	3	MEAN±S.D.	297.2 ± 27.5	289.1 ± 11.2	285.0 ± 16.9	274.8 ± 17.4	240.0 ± 14.8
DAY	4	MEAN±S.D.	302.8 ± 28.4	293.6 ± 10.5	286.8 ± 17.4	275.8 ± 15.8	242.1 ± 10.8
DAY	5	MEAN±S.D.	304.2 ± 26.2	296.6 ± 12.4	289.4 ± 16.3	276.8 ± 19.0	245.6 ± 12.2
DAY	6	MEAN±S.D.	308.7 ± 27.1	302.0 ± 14.2	291.9 ± 17.3	278.3 ± 16.3	248.4 ± 11.7
DAY	7	MEAN±S.D.	310.2 ± 28.2	302.6 ± 12.2	285.5 ± 20.6	273.0 ± 14.5	243.4 ± 13.0
DAY	8	MEAN±S.D.	309.2 ± 25.0	302.8 ± 12.0	295.8 ± 21.3	279.0 ± 17.7	246.5 ± 9.7
DAY	9	MEAN±S.D.	315.7 ± 23.1	308.0 ± 13.7	294.4 ± 17.9	280.3 ± 16.1	252.2 ± 10.2
DAY	10	MEAN±S.D.	319.7 ± 25.0	313.7 ± 17.9	296.9 ± 19.0	285.3 ± 15.6	262.0 ± 10.5
DAY	11	MEAN±S.D.	327.3 ± 24.5	314.6 ± 13.9	302.4 ± 18.6	292.2 ± 16.8	265.9 ± 9.9
DAY	12	MEAN±S.D.	330.5 ± 23.9	321.7 ± 15.0	309.1 ± 18.7	297.2 ± 18.9	269.1 ± 9.5

DAY = DAY OF GESTATION

a. Excludes values for rat 19561; necropsy and Caesarean-section observations were not recorded.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 4 (PAGE 2): MATERNAL BODY WEIGHTS AND GRAVID UTERINE WEIGHTS - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 15 OF GESTATION

DOSAGE GROUP DOSAGE (MG/KG/DAY)		I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	8	8	8	7a	8
PREGNANT	N	6	7	8	6	8
MATERNAL BODY WEIGHT (G)						
DAY 13	MEAN±S.D.	335.3 ± 24.6	324.3 ± 15.6	314.0 ± 19.8	298.8 ± 17.8	276.6 ± 13.3
DAY 14	MEAN±S.D.	339.2 ± 25.8	328.4 ± 15.5	317.8 ± 19.2	305.5 ± 20.8	281.6 ± 12.6
DAY 15	MEAN±S.D.	345.2 ± 27.8	331.1 ± 18.6	319.9 ± 22.4	309.8 ± 17.7	280.4 ± 13.3
GRAVID UTERINE WEIGHTS (G)	MEAN±S.D.	19.8 ± 4.3	17.5 ± 5.2	16.3 ± 5.6	17.6 ± 1.3	17.1 ± 4.0
DAY 15C b	MEAN±S.D.	325.3 ± 25.7	313.7 ± 15.7	303.6 ± 19.5	292.2 ± 16.9	263.3 ± 11.3

DAY = DAY OF GESTATION

a. Excludes values for rat 19561; necropsy and Caesarean-section observations were not recorded.

b. 15C = Corrected maternal body weight (day 15 of gestation body weight minus the gravid uterine weight).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 4 (PAGE 3): MATERNAL BODY WEIGHTS AND GRAVID UTERINE WEIGHTS - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

DOSAGE GROUP		I	II	III	IV	V
DOSAGE (MG/KG/DAY)		0 (VEHICLE)	0.1	0.4	1.6	3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	7a	7b	6a,b	4a,c	6a
PREGNANT	N	7	7	5	2	6
MATERNAL BODY WEIGHT (G)						
DAY 0	MEAN±S.D.	281.6 ± 14.5	282.3 ± 19.1	292.8 ± 22.7	273.0 ± 1.4	242.0 ± 14.7
DAY 1	MEAN±S.D.	290.3 ± 15.6	290.4 ± 17.9	294.4 ± 24.7	277.5 ± 0.7	242.8 ± 17.3
DAY 2	MEAN±S.D.	293.8 ± 14.8	298.3 ± 16.5	301.2 ± 24.8	282.5 ± 0.7	242.7 ± 18.2
DAY 3	MEAN±S.D.	298.4 ± 12.6	300.4 ± 19.3	302.6 ± 23.3	284.5 ± 2.1	243.2 ± 20.3
DAY 4	MEAN±S.D.	300.4 ± 13.4	304.0 ± 14.2	305.4 ± 24.5	283.5 ± 0.7	241.8 ± 21.3
DAY 5	MEAN±S.D.	304.8 ± 9.6	307.4 ± 16.8	307.8 ± 26.1	289.5 ± 2.1	244.8 ± 22.8
DAY 6	MEAN±S.D.	307.6 ± 10.7	310.6 ± 17.4	310.6 ± 26.6	290.0 ± 2.8	245.2 ± 24.2
DAY 7	MEAN±S.D.	301.0 ± 12.8	313.3 ± 18.3	307.4 ± 25.9	285.5 ± 0.7	242.0 ± 19.8
DAY 8	MEAN±S.D.	305.8 ± 12.8	314.4 ± 16.6	309.0 ± 26.1	286.0 ± 1.4	243.5 ± 21.0
DAY 9	MEAN±S.D.	311.0 ± 10.4	318.7 ± 15.4	313.4 ± 27.3	292.5 ± 2.1	249.0 ± 20.5
DAY 10	MEAN±S.D.	317.0 ± 8.8	323.1 ± 16.9	316.6 ± 26.3	295.0 ± 7.1	256.3 ± 18.1
DAY 11	MEAN±S.D.	321.7 ± 10.1	329.6 ± 15.2	320.2 ± 23.7	300.5 ± 7.8	260.7 ± 21.2
DAY 12	MEAN±S.D.	326.1 ± 11.6	330.8 ± 16.8	327.2 ± 28.2	304.5 ± 12.0	263.5 ± 21.0

DAY = DAY OF GESTATION

a. Excludes values for rats that did not have a confirmed mating date.

b. Excludes values for rats 19520 and 19541, which were moribund sacrificed on day 0 of presumed gestation; pregnancy status could not be determined.

c. Excludes values for rat 19557, which was moribund sacrificed on day 43 of study (day 2 of cohabitation).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 4 (PAGE 4): MATERNAL BODY WEIGHTS AND GRAVID UTERINE WEIGHTS - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

DOSAGE GROUP DOSAGE (MG/KG/DAY)		I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	7a	7b	6a,b	4a,c	6a
PREGNANT	N	7	7	5	2	6
MATERNAL BODY WEIGHT (G)						
DAY 13	MEAN±S.D.	329.1 ± 10.1	336.0 ± 14.9	331.8 ± 28.0	312.5 ± 4.9	268.2 ± 21.2
DAY 14	MEAN±S.D.	334.0 ± 12.1	340.3 ± 17.4	337.0 ± 28.7	317.0 ± 12.7	272.2 ± 22.2
DAY 15	MEAN±S.D.	336.0 ± 16.0	339.7 ± 17.5	329.2 ± 24.3	323.5 ± 6.4	273.2 ± 20.3
DAY 16	MEAN±S.D.	345.7 ± 13.8	350.7 ± 20.9	349.4 ± 29.5	339.0 ± 15.6	283.8 ± 20.8
DAY 17	MEAN±S.D.	361.8 ± 16.2	366.8 ± 22.8	361.0 ± 28.1	357.5 ± 12.0	300.0 ± 27.4
DAY 18	MEAN±S.D.	377.4 ± 15.5	381.4 ± 23.2	379.8 ± 31.0	377.5 ± 20.5	312.0 ± 26.7
DAY 19	MEAN±S.D.	395.6 ± 18.5	397.6 ± 24.9	391.8 ± 29.7	394.5 ± 24.7	324.5 ± 29.6
DAY 20	MEAN±S.D.	410.1 ± 20.1	413.0 ± 25.2	410.2 ± 34.7	413.5 ± 34.6	334.3 ± 32.5
DAY 21	MEAN±S.D.	423.0 ± 27.4	427.0 ± 29.0	423.0 ± 30.7	426.5 ± 23.3	346.0 ± 33.8
GRAVID UTERINE WEIGHTS (G)	MEAN±S.D.	96.3 ± 12.0	92.0 ± 27.0	91.3 ± 34.0	112.7 ± 37.0	59.5 ± 26.8
DAY 21C d	MEAN±S.D.	326.7 ± 22.6	335.0 ± 22.4	331.7 ± 26.2	313.8 ± 13.6	283.2 ± 23.8

DAY = DAY OF GESTATION

a. Excludes values for rats that did not have a confirmed mating date.

b. Excludes values for rats 19520 and 19541, which were moribund sacrificed on day 0 of presumed gestation; pregnancy status could not be determined.

c. Excludes values for rat 19557, which was moribund sacrificed on day 43 of study (day 2 of cohabitation).

d. 21C = Corrected maternal body weight (day 21 of gestation body weight minus the gravid uterine weight).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 5 (PAGE 1): MATERIAL BODY WEIGHT CHANGES - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 15 OF GESTATION

DOSAGE GROUP DOSAGE (MG/KG/DAY)		I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	8	8	8	7a	8
PREGNANT	N	6	7	8	6	8
MATERNAL BODY WEIGHT CHANGE (G)						
DAYS 0 - 7	MEAN±S.D.	+29.2 ± 7.7	+26.6 ± 5.0	+15.1 ± 7.6	+5.8 ± 9.0	+2.9 ± 11.3
DAYS 7 - 8	MEAN±S.D.	-1.0 ± 6.4	+0.3 ± 3.9	+10.2 ± 7.8	+6.0 ± 6.1	+3.1 ± 8.0
DAYS 8 - 9	MEAN±S.D.	+6.5 ± 3.9	+5.1 ± 2.5	-1.4 ± 10.6	+1.3 ± 5.5	+5.8 ± 2.0
DAYS 9 - 10	MEAN±S.D.	+4.0 ± 3.5	+5.7 ± 11.6	+2.5 ± 3.2	+5.0 ± 2.4	+9.8 ± 5.5
DAYS 7 - 10	MEAN±S.D.	+9.5 ± 5.8	+11.1 ± 8.9	+11.4 ± 5.0	+12.3 ± 8.8	+18.6 ± 8.5
DAYS 10 - 13	MEAN±S.D.	+15.7 ± 2.1	+10.6 ± 11.0	+17.1 ± 7.6	+13.5 ± 4.3	+14.6 ± 5.3
DAYS 13 - 15	MEAN±S.D.	+9.8 ± 3.9	+6.8 ± 12.2	+5.9 ± 9.6	+11.0 ± 4.6	+3.8 ± 4.6
DAYS 0 - 15	MEAN±S.D.	+64.2 ± 9.9	+55.1 ± 10.2	+49.5 ± 12.8	+42.7 ± 4.2	+39.9 ± 8.5
DAYS 0 - 15C b	MEAN±S.D.	+44.3 ± 11.7	+37.7 ± 8.0	+33.2 ± 11.6	+25.1 ± 3.2	+22.8 ± 7.2

DAYS = DAYS OF GESTATION
a. Excludes values for rat 19561; necropsy and Caesarean-section observation were not recorded.
b. 15C = Corrected maternal body weight (day 15 of gestation body weight minus the gravid uterine weight).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 5 (PAGE 2): MATERNAL BODY WEIGHT CHANGES - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

DOSAGE GROUP DOSAGE (MG/KG/DAY)		I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	7a	7b	6a,b	4a,c	6a
PREGNANT	N	7	7	5	2	6
MATERNAL BODY WEIGHT CHANGE (G)						
DAYS 0 - 7	MEAN±S.D.	+19.4 ± 9.6	+31.0 ± 11.7	+14.6 ± 7.6	+12.5 ± 0.7	+0.0 ± 6.8
DAYS 7 - 8	MEAN±S.D.	+4.8 ± 10.2	+1.1 ± 7.6	+1.6 ± 4.8	+0.5 ± 2.1	+1.5 ± 3.7
DAYS 8 - 9	MEAN±S.D.	+5.1 ± 3.1	+4.3 ± 3.4	+4.4 ± 8.0	+6.5 ± 0.7	+5.5 ± 4.9
DAYS 9 - 10	MEAN±S.D.	+6.0 ± 2.9	+4.4 ± 4.9	+3.2 ± 5.2	+2.5 ± 4.9	+7.3 ± 4.4
DAYS 7 - 10	MEAN±S.D.	+16.0 ± 11.0	+9.8 ± 6.9	+9.2 ± 7.2	+9.5 ± 7.8	+14.3 ± 6.7
DAYS 10 - 13	MEAN±S.D.	+12.1 ± 4.0	+12.8 ± 3.7	+15.2 ± 5.5	+17.5 ± 2.1	+11.8 ± 8.1
DAYS 13 - 15	MEAN±S.D.	+6.8 ± 7.4	+3.7 ± 9.6	-2.6 ± 15.4	+11.0 ± 1.4	+5.0 ± 7.3
DAYS 15 - 18	MEAN±S.D.	+41.4 ± 4.5	+41.7 ± 14.8	+50.6 ± 11.6	+54.0 ± 14.1	+38.8 ± 11.8
DAYS 18 - 21	MEAN±S.D.	+45.6 ± 15.7	+45.6 ± 12.2	+43.2 ± 12.3	+49.0 ± 2.8	+34.0 ± 8.5
DAYS 0 - 21	MEAN±S.D.	+141.4 ± 25.0	+144.7 ± 20.3	+130.2 ± 23.8	+153.5 ± 24.7	+104.0 ± 26.3
DAYS 0 - 21C d	MEAN±S.D.	+45.2 ± 18.5	+52.7 ± 16.4	+38.9 ± 14.0	+40.8 ± 12.2	+36.2 ± 16.7

DAYS = DAYS OF GESTATION

a. Excludes values for rats that did not have a confirmed mating date.
b. Excludes values for rats 19520 and 19541, which were moribund sacrificed on day 0 of presumed gestation; pregnancy status could not be determined.
c. Excludes values for rat 19557, which was moribund sacrificed on day 43 of study (day 2 of cohabitation).
d. 21C = Corrected maternal body weight (day 21 of gestation body weight minus the gravid uterine weight).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 6 (PAGE 1): ABSOLUTE FEED CONSUMPTION VALUES (G/DAY) - PRECOHABITATION - SUMMARY

DOSAGE GROUP		I	II	III	IV	V
DOSAGE (MG/KG/DAY)		0 (VEHICLE)	0.1	0.4	1.6	3.2
RATS TESTED	N	16	16	16	16	16
FEED CONSUMPTION (G)						
DAYS 1 - 8	MEAN±S.D.	19.7 ± 1.8 [15]a	19.4 ± 1.5	18.8 ± 1.8	18.9 ± 1.5 [15]a	19.1 ± 1.5
DAYS 8 - 15	MEAN±S.D.	18.8 ± 1.8 [11]a	18.8 ± 1.6 [15]a	17.4 ± 1.6 [15]a	18.2 ± 1.9 [15]a	16.6 ± 1.6 [15]a
DAYS 15 - 22	MEAN±S.D.	20.0 ± 1.7 [14]a	19.5 ± 1.6	18.5 ± 2.1 [15]a	17.9 ± 1.7 [13]a	16.4 ± 1.5 [14]a
DAYS 22 - 29	MEAN±S.D.	18.6 ± 1.8 [12]a	18.9 ± 1.9 [15]a	18.1 ± 2.3 [14]a	17.2 ± 1.7 [13]a	15.3 ± 1.7
DAYS 29 - 36	MEAN±S.D.	18.7 ± 2.0	18.0 ± 1.8	18.0 ± 1.5	17.1 ± 1.8	15.1 ± 1.5 [15]a
DAYS 36 - 42b	MEAN±S.D.	19.5 ± 2.2 [13]a	18.0 ± 1.8	17.9 ± 1.7 [13]a	16.7 ± 1.8 [13]a	14.8 ± 1.3 [13]a
DAYS 1 - 42b	MEAN±S.D.	19.2 ± 1.3 [13]a	18.8 ± 1.4	18.2 ± 1.8 [13]a	17.7 ± 1.4 [13]a	16.1 ± 1.1 [13]a

DAYS = DAYS OF STUDY
[ ] = NUMBER OF VALUES AVERAGED
a. Excludes values that were incorrectly recorded, as well as those associated with spillage.
b. Last value recorded before cohabitation.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 7 (PAGE 1): RELATIVE FEED CONSUMPTION VALUES (G/KG/DAY) - PRECOHABITATION - SUMMARY

DOSAGE GROUP		I	II	III	IV	V
DOSAGE (MG/KG/DAY)		0 (VEHICLE)	0.1	0.4	1.6	3.2
RATS TESTED	N	16	16	16	16	16
FEED CONSUMPTION (g)						
DAYS 1 - 8	MEAN±S.D.	83.8 ± 6.1 [15]a	82.1 ± 6.1	80.0 ± 5.7	80.6 ± 5.9 [15]a	81.4 ± 4.9
DAYS 8 - 15	MEAN±S.D.	75.8 ± 5.4 [11]a	75.6 ± 6.0 [15]a	70.8 ± 4.2 [15]a	74.3 ± 7.6 [15]a	68.7 ± 5.0 [15]a
DAYS 15 - 22	MEAN±S.D.	77.0 ± 5.1 [14]a	75.5 ± 5.8	72.8 ± 4.8 [15]a	70.4 ± 5.6 [13]a	66.6 ± 5.2 [14]a
DAYS 22 - 29	MEAN±S.D.	69.4 ± 5.2 [12]a	71.4 ± 6.4 [15]a	68.8 ± 4.8 [14]a	66.1 ± 5.8 [13]a	62.4 ± 5.1
DAYS 29 - 36	MEAN±S.D.	68.8 ± 6.2	67.0 ± 5.8	67.6 ± 4.7	65.6 ± 6.5	61.4 ± 4.9 [15]a
DAYS 36 - 42b	MEAN±S.D.	71.5 ± 9.4 [13]a	65.6 ± 5.4	65.9 ± 4.8 [13]a	64.0 ± 7.9 [13]a	61.9 ± 5.0 [13]a
DAYS 1 - 42b	MEAN±S.D.	74.2 ± 4.9 [13]a	72.4 ± 4.7	70.6 ± 4.3 [13]a	70.0 ± 6.0 [13]a	67.3 ± 2.6 [13]a

DAYS = DAYS OF STUDY
[ ] = NUMBER OF VALUES AVERAGED
a. Excludes values that were incorrectly recorded, as well as those associated with spillage.
b. Last value recorded before cohabitation.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 8 (PAGE 1): MATERNAL ABSOLUTE FEED CONSUMPTION VALUES (G/DAY) - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 15 OF GESTATION

DOSAGE GROUP DOSAGE (MG/KG/DAY)		I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	8	8	8	7a	8
PREGNANT	N	6	7	8	6	8
MATERNAL FEED CONSUMPTION (G/DAY)						
DAYS 0 - 7	MEAN±S.D.	24.0 ± 2.2	22.5 ± 2.0	20.4 ± 2.8 [2]b	b	16.5 ± 1.7 [3]b
DAYS 7 - 8	MEAN±S.D.	22.7 ± 1.2	21.4 ± 2.7	21.0 ± 2.5	19.5 ± 2.8	16.8 ± 4.3
DAYS 8 - 9	MEAN±S.D.	24.2 ± 1.9	24.7 ± 3.4	22.1 ± 2.4	22.3 ± 1.6	20.1 ± 1.4
DAYS 9 - 10	MEAN±S.D.	25.0 ± 2.9	23.0 ± 3.5	22.6 ± 3.5	21.7 ± 1.4	20.5 ± 2.3
DAYS 7 - 10	MEAN±S.D.	24.0 ± 1.7	23.0 ± 3.0	21.9 ± 2.3	21.2 ± 1.7	19.1 ± 1.8
DAYS 10 - 13	MEAN±S.D.	24.8 ± 2.6	24.3 ± 2.2	23.2 ± 1.9	23.0 ± 2.0	22.6 ± 1.7
DAYS 13 - 15	MEAN±S.D.	21.9 ± 2.1	20.7 ± 1.4 [6]b	18.9 ± 3.0 [7]b	18.8 ± 1.1	18.7 ± 2.6 [5]b
DAYS 0 - 15	MEAN±S.D.	23.9 ± 2.0	23.0 ± 1.8 [6]b	21.0 ± 2.2 [7]b	20.1 ± 1.2	18.0 ± 1.8 [5]b

DAYS = DAYS OF GESTATION
[ ] = NUMBER OF VALUES AVERAGED
a. Excludes values for rat 19561; necropsy and Caesarean-section observations were not recorded.
b. Excludes values that were not recorded, as well as those associated with spillage.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 8 (PAGE 2): MATERNAL ABSOLUTE FEED CONSUMPTION VALUES (G/DAY) - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

DOSAGE GROUP DOSAGE (MG/KG/DAY)		I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	7a	7b	6a,b	4a,c	6a
PREGNANT	N	7	7	5	2	6
MATERNAL FEED CONSUMPTION (G/DAY)						
DAYS 0 - 7	MEAN±S.D.	23.6 ± 1.4	23.7 ± 2.3	21.0 ± 3.3 [3]d	20.3 ± 1.0	17.0 ± 1.8 [4]d
DAYS 7 - 8	MEAN±S.D.	21.8 ± 2.6	23.0 ± 3.1	22.2 ± 2.4	20.5 ± 0.7	15.2 ± 3.4 [5]d
DAYS 8 - 9	MEAN±S.D.	23.6 ± 2.4	25.6 ± 1.8	22.8 ± 4.5	20.0 ± 4.2	18.2 ± 2.7
DAYS 9 - 10	MEAN±S.D.	24.3 ± 1.5	24.8 ± 3.4	22.4 ± 4.5	22.5 ± 0.7	20.0 ± 2.1
DAYS 7 - 10	MEAN±S.D.	23.2 ± 1.4	24.4 ± 2.3	22.5 ± 3.6	21.0 ± 1.4	18.0 ± 2.1
DAYS 10 - 13	MEAN±S.D.	24.4 ± 1.8	25.3 ± 2.0	24.5 ± 2.8	23.3 ± 1.4	20.9 ± 1.9
DAYS 13 - 15	MEAN±S.D.	22.1 ± 2.5	20.9 ± 1.6 [6]d	19.1 ± 2.9	21.8 ± 1.8	17.6 ± 2.0
DAYS 15 - 18	MEAN±S.D.	25.3 ± 2.1	24.3 ± 5.6	24.9 ± 4.7	26.8 ± 0.2	23.6 ± 2.4
DAYS 18 - 21	MEAN±S.D.	23.9 ± 3.2	25.1 ± 2.6	24.9 ± 2.4	25.5 ± 0.7	21.9 ± 4.2
DAYS 0 - 21	MEAN±S.D.	23.8 ± 1.1	24.1 ± 1.6	23.0 ± 2.6	22.6 ± 0.1	19.0 ± 1.9

DAYS = DAYS OF GESTATION
[ ] = NUMBER OF VALUES AVERAGED

a. Excludes values for rats that did not have a confirmed mating date.
b. Excludes values for rats 19520 and 19541, which were moribund sacrificed on day 0 of presumed gestation; pregnancy status could not be determined.
c. Excludes values for rat 19557, which was moribund sacrificed on day 43 of study (day 2 of cohabitation).
d. Excludes values that were not recorded, as well as those associated with spillage.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 9 (PAGE 1): MATERNAL RELATIVE FEED CONSUMPTION VALUES (G/KG/DAY) - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 15 OF GESTATION

DOSAGE GROUP		I	II	III	IV	V
DOSAGE (MG/KG/DAY)		0 (VEHICLE)	0.1	0.4	1.6	3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	8	8	8	7a	8
PREGNANT	N	6	7	8	6	8
MATERNAL FEED CONSUMPTION (G/KG/DAY)						
DAYS 0 - 7	MEAN±S.D.	80.6 ± 8.2	77.2 ± 6.8	71.6 ± 5.2 [2]b	b	67.0 ± 6.6 [3]b
DAYS 7 - 8	MEAN±S.D.	73.6 ± 7.3	70.9 ± 9.1	72.2 ± 6.8	70.5 ± 7.6	69.0 ± 20.7
DAYS 8 - 9	MEAN±S.D.	77.6 ± 7.0	80.8 ± 9.8	75.0 ± 5.9	79.9 ± 4.5	80.8 ± 6.1
DAYS 9 - 10	MEAN±S.D.	78.8 ± 8.1	74.0 ± 11.1	76.3 ± 8.6	76.7 ± 4.3	79.7 ± 8.0
DAYS 7 - 10	MEAN±S.D.	76.6 ± 6.2	75.2 ± 9.4	74.7 ± 4.2	75.8 ± 4.0	76.4 ± 9.0
DAYS 10 - 13	MEAN±S.D.	75.8 ± 6.5	76.3 ± 6.3	75.7 ± 3.3	78.6 ± 7.5	84.3 ± 5.6
DAYS 13 - 15	MEAN±S.D.	64.6 ± 5.2	63.3 ± 4.2 [6]b	60.2 ± 8.6 [7]b	61.7 ± 5.2	67.2 ± 6.4 [5]b
DAYS 0 - 15	MEAN±S.D.	76.5 ± 6.2	75.8 ± 5.1 [6]b	71.8 ± 3.8 [7]b	70.9 ± 4.7	71.3 ± 4.6 [5]b

DAYS = DAYS OF GESTATION
[ ] = NUMBER OF VALUES AVERAGED
a. Excludes values for rat 19561; necropsy and Caesarean-section observations were not recorded.
b. Excludes values that were not recorded, as well as those associated with spillage.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 9 (PAGE 2): MATERNAL RELATIVE FEED CONSUMPTION VALUES (G/KG/DAY) - GESTATION - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

DOSAGE GROUP DOSAGE (MG/KG/DAY)		I 0 (VEHICLE)	II 0.1	III 0.4	IV 1.6	V 3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	7a	7b	6a,b	4a,c	6a
PREGNANT	N	7	7	5	2	6
MATERNAL FEED CONSUMPTION (G/KG/DAY)						
DAYS 0 - 7	MEAN±S.D.	79.6 ± 7.2	79.0 ± 7.5	71.6 ± 5.0 [3]d	71.6 ± 3.3	70.2 ± 5.7 [4]d
DAYS 7 - 8	MEAN±S.D.	72.0 ± 7.7	73.1 ± 7.6	72.2 ± 7.9	71.8 ± 2.6	61.6 ± 14.6 [5]d
DAYS 8 - 9	MEAN±S.D.	76.7 ± 10.0	80.8 ± 5.7	73.2 ± 12.7	69.1 ± 14.3	73.8 ± 9.7
DAYS 9 - 10	MEAN±S.D.	77.4 ± 6.1	77.3 ± 8.2	70.6 ± 9.6	76.6 ± 1.2	79.8 ± 12.4
DAYS 7 - 10	MEAN±S.D.	75.3 ± 5.4	77.0 ± 5.2	71.9 ± 8.7	72.4 ± 4.3	73.2 ± 11.1
DAYS 10 - 13	MEAN±S.D.	75.3 ± 5.3	76.6 ± 4.6	75.4 ± 4.2	76.8 ± 2.6	80.1 ± 8.9
DAYS 13 - 15	MEAN±S.D.	66.4 ± 6.7	62.3 ± 4.1 [6]d	57.4 ± 7.6	68.4 ± 3.8	65.0 ± 7.5
DAYS 15 - 18	MEAN±S.D.	71.4 ± 5.2	67.1 ± 14.1	70.1 ± 12.2	76.9 ± 3.5	80.6 ± 4.5
DAYS 18 - 21	MEAN±S.D.	59.4 ± 6.2	62.3 ± 7.0	62.1 ± 6.7	63.5 ± 5.8	66.4 ± 11.2
DAYS 0 - 21	MEAN±S.D.	72.1 ± 4.0	72.0 ± 3.2	69.1 ± 5.4	71.2 ± 1.6	70.4 ± 4.1

DAYS = DAYS OF GESTATION
[ ] = NUMBER OF VALUES AVERAGED

a. Excludes values for rats that did not have a confirmed mating date.
b. Excludes values for rats 19520 and 19541, which were moribund sacrificed on day 0 of presumed gestation; pregnancy status could not be determined.
c. Excludes values for rat 19557, which was moribund sacrificed on day 43 of study (day 2 of cohabitation).
d. Excludes values that were not recorded, as well as those associated with spillage.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 10 (PAGE 1): CAESAREAN-SECTIONING OBSERVATIONS - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 15 OF GESTATION						
DOSAGE GROUP		I	II	III	IV	V
DOSAGE (MG/KG/DAY)		0 (VEHICLE)	0.1	0.4	1.6	3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	8	8	8	7a	8
PREGNANT	N(%)	6(75.0)	7(87.5)	8(100.0)	6(85.7)	8(100.0)
RATS PREGNANT AND CAESAREAN-SECTIONED ON DAY 15 OF GESTATION	N	6	7	8	6	8
CORPORA LUTEA	MEAN±S.D.	17.3 ± 3.4	18.0 ± 1.7	17.1 ± 3.0	19.8 ± 3.2	17.4 ± 2.6
IMPLANTATIONS	MEAN±S.D.	15.8 ± 1.9	13.4 ± 3.8	13.0 ± 3.7	14.2 ± 1.3	13.6 ± 3.5
VIABLE EMBRYOS	N	89	86	94	77	101
	MEAN±S.D.	14.8 ± 2.8	12.3 ± 3.7	11.8 ± 4.7	12.8 ± 1.2	12.6 ± 2.9
NONVIABLE EMBRYOS	N	6	8	10	8	8
	MEAN±S.D.	1.0 ± 1.3	1.1 ± 1.3	1.2 ± 1.4	1.3 ± 1.0	1.0 ± 1.4
DAMS WITH ANY NONVIABLE EMBRYOS	N(%)	3(50.0)	5(71.4)	4(50.0)	5(83.3)	4(50.0)
DAMS WITH ALL NONVIABLE EMBRYOS	N(%)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
DAMS WITH VIABLE EMBRYOS	N(%)	6(100.0)	7(100.0)	8(100.0)	6(100.0)	8(100.0)
% NONVIABLE EMBRYOS/LITTER	MEAN±S.D.	6.8 ± 8.4	8.6 ± 9.3	13.4 ± 17.7	9.2 ± 6.5	6.2 ± 8.3

a. Excludes values for rat 19561; necropsy and Caesarean-section observations were not recorded.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 10 (PAGE 2): CAESAREAN-SECTIONING OBSERVATIONS - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

DOSAGE GROUP		I	II	III	IV	V
DOSAGE (MG/KG/DAY)		0 (VEHICLE)	0.1	0.4	1.6	3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	7a	7b	6a,b	4a,c	6a
PREGNANT	N(%)	7(100.0)	7(100.0)	5(83.3)	2(50.0)	6(100.0)
DELIVERED	N(%)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	2(33.3)
RATS PREGNANT AND CAESAREAN-SECTIONED ON DAY 21 OF GESTATION	N	7	7	5	2	4
CORPORA LUTEA	MEAN±S.D.	18.6 ± 4.2	16.1 ± 2.3	21.8 ± 4.8	20.5 ± 2.1	16.2 ± 2.5
IMPLANTATIONS	MEAN±S.D.	15.1 ± 2.1	14.0 ± 2.9	14.4 ± 4.2	17.0 ± 7.1	10.5 ± 4.4
LITTER SIZES	MEAN±S.D.	13.7 ± 1.7	12.4 ± 4.0	13.2 ± 5.2	16.0 ± 5.6	8.8 ± 4.4
LIVE FETUSES	N	96	87	66	32	35
	MEAN±S.D.	13.7 ± 1.7	12.4 ± 4.0	13.2 ± 5.2	16.0 ± 5.6	8.8 ± 4.4
DEAD FETUSES	N	0	0	0	0	0
RESORPTIONS	MEAN±S.D.	1.4 ± 1.7	1.6 ± 1.5	1.2 ± 1.8	1.0 ± 1.4	1.8 ± 1.5
EARLY RESORPTIONS	N	10	9	6	2	7
	MEAN±S.D.	1.4 ± 1.7	1.3 ± 1.1	1.2 ± 1.8	1.0 ± 1.4	1.8 ± 1.5
LATE RESORPTIONS	N	0	2	0	0	0
	MEAN±S.D.	0.0 ± 0.0	0.3 ± 0.8	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0

a. Excludes values for rats that did not have a confirmed mating date.
b. Excludes values for rats 19520 and 19541, which were moribund sacrificed on day 0 of presumed gestation; pregnancy status could not be determined.
c. Excludes values for rat 19557, which was moribund sacrificed on day 43 of study (day 2 of cohabitation).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 10 (PAGE 3): CAESAREAN-SECTIONING OBSERVATIONS - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

DOSAGE GROUP		I	II	III	IV	V
DOSAGE (MG/KG/DAY)		0 (VEHICLE)	0.1	0.4	1.6	3.2
RATS TESTED	N	8	8	8	8	8
INCLUDED IN ANALYSES	N	7a	7b	6a,b	4a,c	6a
PREGNANT	N(%)	7(100.0)	7(100.0)	5(83.3)	2(50.0)	6(100.0)
DELIVERED	N(%)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	2(33.3)
RATS PREGNANT AND CAESAREAN-SECTIONED ON DAY 21 OF GESTATION	N	7	7	5	2	4
DAMS WITH ANY RESORPTIONS	N(%)	5(71.4)	5(71.4)	2(40.0)	1(50.0)	3(75.0)
DAMS WITH ALL CONCEPTUSES RESORBED	N(%)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
DAMS WITH VIABLE FETUSES	N(%)	7(100.0)	7(100.0)	5(100.0)	2(100.0)	4(100.0)
PLACENTAE APPEARED NORMAL	N(%)	7(100.0)	7(100.0)	5(100.0)	2(100.0)	4(100.0)

a. Excludes values for rats that did not have a confirmed mating date.
b. Excludes values for rats 19520 and 19541, which were moribund sacrificed on day 0 of presumed gestation; pregnancy status could not be determined.
c. Excludes values for rat 19557, which was moribund sacrificed on day 43 of study (day 2 of cohabitation).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 11 (PAGE 1): LITTER OBSERVATIONS (CAESAREAN-DELIVERED EMBRYOS OR FETUSES) - SUMMARY

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

DOSAGE GROUP		I	II	III	IV	V
DOSAGE (MG/KG/DAY)		0 (VEHICLE)	0.1	0.4	1.6	3.2
LITTERS WITH ONE OR MORE LIVE FETUSES	N	7	7	5	2	4
IMPLANTATIONS	MEAN±S.D.	15.1 ± 2.1	14.0 ± 2.9	14.4 ± 4.2	17.0 ± 7.1	10.5 ± 4.4
LIVE FETUSES	N	96	87	66	32	35
	MEAN±S.D.	13.7 ± 1.7	12.4 ± 4.0	13.2 ± 5.2	16.0 ± 5.6	8.8 ± 4.4
LIVE MALE FETUSES	N	44	46	36	15	19
% LIVE MALE FETUSES/LITTER	MEAN±S.D.	46.0 ± 11.7	52.2 ± 14.2	59.3 ± 19.4	45.8 ± 5.9	55.3 ± 31.8
LIVE FETAL BODY WEIGHTS (GRAMS)/LITTER	MEAN±S.D.	5.12 ± 0.29	5.31 ± 0.42	5.06 ± 0.09	5.02 ± 0.16	4.72 ± 0.23
MALE FETUSES	MEAN±S.D.	5.24 ± 0.29	5.50 ± 0.54	5.19 ± 0.12	5.12 ± 0.20	4.82 ± 0.28
FEMALE FETUSES	MEAN±S.D.	5.02 ± 0.33	5.06 ± 0.33	4.84 ± 0.14	4.95 ± 0.16	4.69 ± 0.27 [3]a
PLACENTAL WEIGHTS (GRAMS)/LITTER	MEAN±S.D.	0.50 ± 0.06	0.54 ± 0.08	0.48 ± 0.06	0.50 ± 0.06	0.55 ± 0.11
MALE FETUSES	MEAN±S.D.	0.50 ± 0.06	0.55 ± 0.09	0.49 ± 0.07	0.52 ± 0.09	0.56 ± 0.11
FEMALE FETUSES	MEAN±S.D.	0.49 ± 0.05	0.52 ± 0.07	0.44 ± 0.08	0.47 ± 0.04	0.53 ± 0.13 [3]a
% RESORBED CONCEPTUSES/LITTER	MEAN±S.D.	8.8 ± 9.9	13.4 ± 14.6	11.0 ± 19.2	4.6 ± 6.4	18.3 ± 13.7

NO FETAL ALTERATIONS WERE IDENTIFIED AT GROSS EXTERNAL EXAMINATION

[ ] = NUMBER OF VALUES AVERAGED

a. Litter 19568 had no female fetuses.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 12 (PAGE 1): CLINICAL OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP I		0 (VEHICLE) MG/KG/DAY
RAT #		DESCRIPTION
19501		NO ADVERSE FINDINGS
19502		NO ADVERSE FINDINGS
19503	DS(43- 66)	LENTICULAR OPACITY
	DS(66)	DELIVERED AND SACRIFICED
19504		NO ADVERSE FINDINGS
19505		NO ADVERSE FINDINGS
19506		NO ADVERSE FINDINGS
19507		NO ADVERSE FINDINGS
19508		NO ADVERSE FINDINGS
19509	DG(17- 21)	CHROMORHINORRHEA a
19510		NO ADVERSE FINDINGS
19511	DS(3- 42)	LOCALIZED ALOPECIA: LIMBS
	DG(0- 2)	LOCALIZED ALOPECIA: LIMBS
	DG(3)	ALOPECIA NO LONGER APPARENT
	DG(0- 15)	LENTICULAR OPACITY
	DG(14- 15)	CHROMORHINORRHEA a
19512	DG(11- 21)	CHROMODACRYORRHEA a
19513		NO ADVERSE FINDINGS
19514		NO ADVERSE FINDINGS
19515		NO ADVERSE FINDINGS
19516		NO ADVERSE FINDINGS

DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION

a. Observation confirmed at necropsy.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 12 (PAGE 2): CLINICAL OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP II		0.1 MG/KG/DAY
RAT #		DESCRIPTION
19517	DG(7- 15)	TRAUMATIZED CORNEA a
19518		NO ADVERSE FINDINGS
19519	DS(13- 42)	LOCALIZED ALOPECIA: LIMBS
	DG(0- 21)	LOCALIZED ALOPECIA: LIMBS a
19520	DS(10- 14)	CHROMODACRYORRHEA
	DS(10- 21)	INCISORS: MISSING/BROKEN
	DS(22)	INCISORS: GROWN IN
	DS(22- 30)	INCISORS: MISALIGNED
	DS(31)	INCISORS: REALIGNED
	DS(30- 42)	LOCALIZED ALOPECIA: LIMBS
	DS(42)	SNOUT: SWOLLEN
	DG(0)	CHROMODACRYORRHEA a
	DG(0)	EXOPHTHALMOS a
	DG(0)	SNOUT: SWOLLEN a
	DG(0)	LOCALIZED ALOPECIA: LIMBS a
	DG(0)	CORNEAL OPACITY
	DG(0)	RIGHT EYE: LARGE
	DG(0)	RIGHT EYE: DARK RED
	DG(0)	RIGHT EYE: LIDS UNABLE TO CLOSE
	DG(0)	MORIBUND SACRIFICED
19521	DS(44- 45)	EXOPHTHALMOS
	DG(0)	EXOPHTHALMOS NO LONGER APPARENT
	DG(4- 5)	SNOUT: SWOLLEN
	DG(6)	SWELLING RESOLVED
	DG(11- 21)	CORNEAL OPACITY
19522		NO ADVERSE FINDINGS
19523		NO ADVERSE FINDINGS
19524	DS(43- 45)	RIGHT EYE: CLOUDY, WHITE FILM
	DS(43- 45)	SNOUT: SWOLLEN
	DG(0)	SWELLING RESOLVED
	DS(44- 45)	EXOPHTHALMOS
	DG(0)	EXOPHTHALMOS NO LONGER APPARENT
	DG(0- 10)	TRAUMATIZED CORNEA
	DG(0- 10)	RIGHT EYE: CLOUDY, WHITE FILM
	DG(0- 13)	LOCALIZED ALOPECIA: HEAD
	DG(14)	ALOPECIA NO LONGER APPARENT
	DG(11- 21)	RIGHT EYE: MISSING a

DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION
a. Observation confirmed at necropsy.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 12 (PAGE 3): CLINICAL OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP II		0.1 MG/KG/DAY
RAT #		DESCRIPTION
19525		NO ADVERSE FINDINGS
19526		NO ADVERSE FINDINGS
19527		NO ADVERSE FINDINGS
19528	DG(2- 8)	INCISORS: MISSING/BROKEN
	DG(9)	INCISORS: GROWN IN
19529		NO ADVERSE FINDINGS
19530		NO ADVERSE FINDINGS
19531	DG(0- 2)	EXOPHTHALMOS
	DG(3)	EXOPHTHALMOS NO LONGER APPARENT
	DG(1- 15)	CORNEAL OPACITY
	DG(3- 15)	TRAUMATIZED CORNEA a
19532		NO ADVERSE FINDINGS

DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION

a. Observation confirmed at necropsy.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 12 (PAGE 4): CLINICAL OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP III		0.4 MG/KG/DAY
RAT #		DESCRIPTION
19533	DG(0- 1)	LACRIMATION
	DG(0- 2)	LENTICULAR OPACITY
	DG(0- 2)	EXOPHTHALMOS
	DG(3)	EXOPHTHALMOS NO LONGER APPARENT
	DG(3- 21)	CORNEAL OPACITY
	DG(14- 21)	ENOPHTHALMOS a
19534		NO ADVERSE FINDINGS
19535	DS(25)	CHROMORHINORRHEA
19536		NO ADVERSE FINDINGS
19537		NO ADVERSE FINDINGS
19538		NO ADVERSE FINDINGS
19539		NO ADVERSE FINDINGS
19540		NO ADVERSE FINDINGS
19541	DG(0)	CHROMODACRYORRHEA a
	DG(0)	EXOPHTHALMOS a
	DG(0)	SNOUT: SWOLLEN a
	DG(0)	CORNEAL OPACITY
	DG(0)	RIGHT EYE: LARGE
	DG(0)	RIGHT EYE: DARK RED
	DG(0)	RIGHT EYE: LIDS UNABLE TO CLOSE
	DG(0)	MORIBUND SACRIFICED
19542	DG(10- 12)	LOCALIZED ALOPECIA: UNDERSIDE
	DG(13)	ALOPECIA NO LONGER APPARENT
19543		NO ADVERSE FINDINGS
19544		NO ADVERSE FINDINGS
19545		NO ADVERSE FINDINGS
19546	DG(1)	CHROMORHINORRHEA
	DG(1)	UNGROOMED COAT
19547		NO ADVERSE FINDINGS
19548		NO ADVERSE FINDINGS

DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION

a. Observation confirmed at necropsy.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 12 (PAGE 5): CLINICAL OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP IV		1.6 MG/KG/DAY
RAT #		DESCRIPTION
19549	DS(57- 59)	LOCALIZED ALOPECIA: LIMBS
	DS(60)	ALOPECIA NO LONGER APPARENT
	DS(62- 63)	LOCALIZED ALOPECIA: LIMBS
	DS(64)	ALOPECIA NO LONGER APPARENT
19550		NO ADVERSE FINDINGS
19551		NO ADVERSE FINDINGS
19552	DS(44- 50)	CORNEAL OPACITY
	DS(50- 68)	CORNEAL HEMORRHAGE a
	DS(62- 68)	LOCALIZED ALOPECIA: LIMBS a
19553		NO ADVERSE FINDINGS
19554	DS(1)	CHROMORHINORRHEA
19555		NO ADVERSE FINDINGS
19556	DS(29- 43)	LOCALIZED ALOPECIA: LIMBS
	DG(0- 21)	LOCALIZED ALOPECIA: LIMBS a
19557	DS(43)	CHROMODACRYORRHEA a
	DS(43)	EXOPHTHALMOS a
	DS(43)	SNOUT: SWOLLEN a
	DS(43)	CORNEAL OPACITY
	DS(43)	RIGHT EYE: LARGE
	DS(43)	RIGHT EYE: DARK RED
	DS(43)	RIGHT EYE: LIDS UNABLE TO CLOSE
	DS(43)	MORIBUND SACRIFICED
19558	DS(36- 38)	EARS: SWOLLEN
	DS(39)	SWELLING RESOLVED
19559	DG(15)	EXOPHTHALMOS
	DG(16)	EXOPHTHALMOS NO LONGER APPARENT
	DG(16- 21)	CORNEAL HEMORRHAGE a
19560	DS(2)	CHROMORHINORRHEA
	DG(15- 21)	LOCALIZED ALOPECIA: BACK a
19561		NO ADVERSE FINDINGS
19562	DS(23)	CHROMORHINORRHEA
19563		NO ADVERSE FINDINGS

DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION
a. Observation confirmed at necropsy.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 12 (PAGE 6): CLINICAL OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP IV		1.6 MG/KG/DAY
RAT #		DESCRIPTION
19564	DS(1)	CHROMORHINORRHEA
	DS(6)	CHROMORHINORRHEA
	DS(29- 42)	LEFT FOREPAW: SCAB (DID NOT EXCEED 0.5 CM X 0.3 CM)
	DS(34- 35)	RIGHT FOREPAW: SCAB (0.4 CM X 0.3 CM)
	DS(36- 42)	RIGHT FOREPAW: TWO SCABS (DID NOT EXCEED 0.5 CM X 0.3 CM)
	DS(31- 42)	LOCALIZED ALOPECIA: UNDERSIDE
	DS(36- 37)	FOREPAWS: SWOLLEN
	DS(38)	SWELLING RESOLVED
	DG(0)	LEFT FOREPAW: SCAB (DID NOT EXCEED 0.5 CM X 0.3 CM)
	DG(0)	RIGHT FOREPAW: TWO SCABS (DID NOT EXCEED 0.5 CM X 0.3 CM)
	DG(1)	SCABS HEALED
	DG(0- 15)	LOCALIZED ALOPECIA: UNDERSIDE a
	DG(1- 15)	LOCALIZED ALOPECIA: LIMBS a

DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION

a. Observation confirmed at necropsy.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 12 (PAGE 7): CLINICAL OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP V		3.2 MG/KG/DAY
RAT #		DESCRIPTION
19565	DG(0- 15)	CORNEAL HEMORRHAGE a
	DG(1- 2)	EXOPHTHALMOS
	DG(3)	EXOPHTHALMOS NO LONGER APPARENT
19566	DS(13)	CHROMODACRYORRHEA
	DG(0- 15)	CORNEAL OPACITY
	DG(13- 15)	LOCALIZED ALOPECIA: UNDERSIDE a
19567		NO ADVERSE FINDINGS
19568	DS(9- 11)	RIGHT FOREPAW: THIRD DIGIT SWOLLEN
	DS(12)	SWELLING RESOLVED
	DS(9- 42)	RIGHT FOREPAW: THIRD DIGIT MISSING
	DG(0- 21)	RIGHT FOREPAW: THIRD DIGIT MISSING a
19569		NO ADVERSE FINDINGS
19570	DS(34- 43)	LOCALIZED ALOPECIA: LIMBS
	DS(36- 38)	RIGHT FOREPAW: SCAB (0.2 CM IN DIAMETER)
	DS(39)	SCAB HEALED
	DG(0- 15)	LOCALIZED ALOPECIA: LIMBS a
19571	DG(21)	DELIVERED AND SACRIFICED
19572	DG(11- 21)	LEFT AXILLA: MASS (1.5 CM X 1.0 CM X 1.0 CM)a
19573		NO ADVERSE FINDINGS
19574	DS(1)	CHROMORHINORRHEA
19575	DG(1)	CHROMODACRYORRHEA
19576		NO ADVERSE FINDINGS
19577		NO ADVERSE FINDINGS
19578	DS(54- 68)	LOCALIZED ALOPECIA: BACK a
19579	DG(0- 21)	LOCALIZED ALOPECIA: LIMBS a
	DG(21)	DELIVERED AND SACRIFICED
19580	DG(11- 15)	LOCALIZED ALOPECIA: LIMBS a

DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION
a. Observation confirmed at necropsy.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 13 (PAGE 1): NECROPSY OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP DOSAGE (MG/KG/DAY)	RAT NUMBER	DAY OF NECROPSY	PREGNANCY STATUS	DOSAGES ADMINISTERED	OBSERVATIONS a
I					
0 (VEHICLE)	19501	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19502	DG 15	NP	58	ALL TISSUES APPEARED NORMAL.
	19503	DS 66	P	66	DELIVERED AND SACRIFICED ON DAY 66 OF STUDY. ALL TISSUES APPEARED NORMAL. UTERINE CONTENTS: 14 IMPLANTATION SITES (14 DELIVERED PUPS).b
	19504	DG 21	P	65	ALL TISSUES APPEARED NORMAL.
	19505	DG 21	P	64	ALL TISSUES APPEARED NORMAL.
	19506	DG 21	P	64	ALL TISSUES APPEARED NORMAL.
	19507	DG 21	P	67	ALL TISSUES APPEARED NORMAL.
	19508	DG 15	P	58	ALL TISSUES APPEARED NORMAL.
	19509	DG 21	P	64	ALL TISSUES APPEARED NORMAL.
	19510	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19511	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19512	DG 21	P	66	ALL TISSUES APPEARED NORMAL.
	19513	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19514	DG 15	NP	57	ALL TISSUES APPEARED NORMAL.
	19515	DG 15	P	58	ALL TISSUES APPEARED NORMAL.
	19516	DG 21	P	65	ALL TISSUES APPEARED NORMAL.

P = PREGNANT NP = NOT PREGNANT
DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION
a. Refer to the individual clinical observations table (Table 12) for external observations confirmed at necropsy.
b. Appeared normal for their developmental ages at the time maternal death occurred.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 13 (PAGE 2): NECROPSY OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP DOSAGE (MG/KG/DAY)	RAT NUMBER	DAY OF NECROPSY	PREGNANCY STATUS	DOSAGES ADMINISTERED	OBSERVATIONS a
II					
0.1	19517	DG 15	NP	58	ALL TISSUES APPEARED NORMAL.
	19518	DG 21	P	64	ALL TISSUES APPEARED NORMAL.
	19519	DG 21	P	63	ALL TISSUES APPEARED NORMAL.
	19520	DG 0	-	43	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED. ALL TISSUES APPEARED NORMAL.
	19521	DG 21	P	66	ALL TISSUES APPEARED NORMAL.
	19522	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19523	DG 21	P	67	ALL TISSUES APPEARED NORMAL.
	19524	DG 21	P	66	ALL TISSUES APPEARED NORMAL.
	19525	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19526	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19527	DG 15	P	58	ALL TISSUES APPEARED NORMAL.
	19528	DG 21	P	63	ALL TISSUES APPEARED NORMAL.
	19529	DG 21	P	63	ALL TISSUES APPEARED NORMAL.
	19530	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19531	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19532	DG 15	P	57	ALL TISSUES APPEARED NORMAL.

P = PREGNANT NP = NOT PREGNANT
DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION
a. Refer to the individual clinical observations table (Table 12) for external observations confirmed at necropsy.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 13 (PAGE 3): NECROPSY OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP DOSAGE (MG/KG/DAY)	RAT NUMBER	DAY OF NECROPSY	PREGNANCY STATUS	DOSAGES ADMINISTERED	OBSERVATIONS a
III					
0.4	19533	DG 21	P	63	ALL TISSUES APPEARED NORMAL.
	19534	DG 21	P	63	ALL TISSUES APPEARED NORMAL.
	19535	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19536	DG 21	P	65	ALL TISSUES APPEARED NORMAL.
	19537	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19538	DG 15	P	58	ALL TISSUES APPEARED NORMAL.
	19539	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19540	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19541	DG 0	-	43	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED. ALL TISSUES APPEARED NORMAL.
	19542	DG 15	P	58	ALL TISSUES APPEARED NORMAL.
	19543	DG 21	P	66	ALL TISSUES APPEARED NORMAL.
	19544	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19545	DS 68	NP	67	ALL TISSUES APPEARED NORMAL.
	19546	DG 21	P	63	ALL TISSUES APPEARED NORMAL.
	19547	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19548	DG 21	NP	63	ALL TISSUES APPEARED NORMAL.

P = PREGNANT NP = NOT PREGNANT
DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION
a. Refer to the individual clinical observations table (Table 12) for external observations confirmed at necropsy.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 13 (PAGE 4): NECROPSY OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP DOSAGE (MG/KG/DAY)	RAT NUMBER	DAY OF NECROPSY	PREGNANCY STATUS	DOSAGES ADMINISTERED	OBSERVATIONS a
IV 1.6	19549	DS 68	NP	67	ALL TISSUES APPEARED NORMAL.
	19550	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19551	DS 68	NP	67	ALL TISSUES APPEARED NORMAL.
	19552	DS 68	NP	67	ALL TISSUES APPEARED NORMAL.
	19553	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19554	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19555	DG 15	NP	57	ALL TISSUES APPEARED NORMAL.
	19556	DG 21	NP	64	ALL TISSUES APPEARED NORMAL.
	19557	DS 43	-	43	MORIBUND SACRIFICED ON DAY 43 OF STUDY (DAY 2 OF COHABITATION). ALL TISSUES APPEARED NORMAL.
	19558	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19559	DG 21	NP	64	ALL TISSUES APPEARED NORMAL.
	19560	DG 21	P	66	ALL TISSUES APPEARED NORMAL.
	19561b	DG 15	-	57	-
	19562	DG 21	P	65	ALL TISSUES APPEARED NORMAL.
	19563	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19564	DG 15	P	57	ALL TISSUES APPEARED NORMAL.

P = PREGNANT NP = NOT PREGNANT
DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION
a. Refer to the individual clinical observations table (Table 12) for external observations confirmed at necropsy.
b. Necropsy and Caesarean-section observations were not recorded for rat 19561.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 13 (PAGE 5): NECROPSY OBSERVATIONS - INDIVIDUAL DATA

DOSAGE GROUP DOSAGE (MG/KG/DAY)	RAT NUMBER	DAY OF NECROPSY	PREGNANCY STATUS	DOSAGES ADMINISTERED	OBSERVATIONS a
V 3.2	19565	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19566	DG 15	P	58	ALL TISSUES APPEARED NORMAL.
	19567	DG 15	P	58	ALL TISSUES APPEARED NORMAL.
	19568	DG 21	P	63	ALL TISSUES APPEARED NORMAL.
	19569	DG 21	P	66	ALL TISSUES APPEARED NORMAL.
	19570	DG 15	P	58	ALL TISSUES APPEARED NORMAL.
	19571	DG 21	P	66	DELIVERED ON DAY 21 OF GESTATION. ALL TISSUES APPEARED NORMAL. UTERINE CONTENTS: 15 IMPLANTATION SITES (SEVEN DELIVERED PUPS, SIX LIVE FETUSES AND TWO EARLY RESORPTIONS).b
	19572	DG 21	P	64	ALL TISSUES APPEARED NORMAL.
	19573	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19574	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19575	DG 15	P	57	ALL TISSUES APPEARED NORMAL.
	19576	DS 68	NP	67	ALL TISSUES APPEARED NORMAL.
	19577	DG 21	P	63	ALL TISSUES APPEARED NORMAL.
	19578	DS 68	NP	67	ALL TISSUES APPEARED NORMAL.
	19579	DG 21	P	65	DELIVERED ON DAY 21 OF GESTATION. ALL TISSUES APPEARED NORMAL. UTERINE CONTENTS: 11 IMPLANTATION SITES (THREE DELIVERED PUPS AND EIGHT LIVE FETUSES).b
	19580	DG 15	P	57	ALL TISSUES APPEARED NORMAL.

P = PREGNANT NP = NOT PREGNANT
DS = DAY OF STUDY DG = DAY OF PRESUMED GESTATION
a. Refer to the individual clinical observations table (Table 12) for external observations confirmed at necropsy.
b. Appeared normal for their developmental ages at the time maternal death occurred.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 1): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP I				0 (VEHICLE) MG/KG/DAY											
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
19501	215.	218.	222.	219.	220.	226.	232.	231.	228.	223.	227.	232.	234.	231.	230.	234.
19502	221.	231.	234.	240.	230.	240.	243.	243.	240.	244.	248.	247.	249.	246.	251.	254.
19503	227.	224.	224.	226.	234.	235.	233.	238.	237.	240.	236.	241.	247.	248.	245.	241.
19504	231.	233.	235.	239.	242.	240.	251.	252.	252.	254.	256.	259.	264.	263.	266.	271.
19505	225.	224.	225.	232.	238.	242.	243.	242.	242.	245.	246.	247.	250.	254.	256.	254.
19506	240.	236.	240.	243.	248.	253.	251.	254.	255.	255.	253.	260.	263.	261.	263.	261.
19507	219.	222.	224.	223.	221.	221.	226.	231.	234.	229.	234.	238.	242.	240.	240.	246.
19508	225.	227.	228.	226.	232.	238.	240.	238.	241.	247.	249.	244.	252.	256.	258.	252.
19509	221.	219.	218.	222.	226.	227.	227.	227.	230.	233.	236.	231.	238.	242.	245.	243.
19510	236.	234.	234.	238.	243.	238.	243.	250.	250.	252.	245.	253.	258.	258.	251.	258.
19511	229.	229.	230.	236.	242.	243.	241.	251.	256.	251.	248.	258.	262.	258.	256.	268.
19512	235.	232.	240.	243.	241.	240.	245.	251.	248.	249.	254.	259.	255.	256.	261.	263.
19513	235.	238.	240.	246.	252.	254.	252.	261.	264.	266.	264.	267.	274.	276.	274.	281.
19514	234.	228.	238.	240.	244.	240.	250.	252.	257.	247.	249.	256.	259.	260.	260.	257.
19515	223.	224.	227.	222.	223.	229.	233.	230.	229.	230.	235.	235.	235.	234.	235.	241.
19516	221.	226.	230.	234.	231.	237.	239.	243.	238.	249.	246.	248.	248.	250.	255.	254.

DAY	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
19501	237.	237.	236.	239.	244.	244.	238.	244.	246.	246.	245.	247.	250.	248.	244.	250.
19502	256.	257.	254.	260.	266.	264.	263.	262.	268.	273.	273.	268.	268.	270.	268.	266.
19503	246.	254.	253.	252.	253.	260.	259.	252.	257.	259.	261.	256.	260.	263.	263.	259.
19504	272.	271.	273.	272.	281.	280.	282.	277.	279.	285.	286.	284.	281.	287.	291.	287.
19505	253.	257.	261.	260.	260.	257.	257.	262.	264.	268.	272.	271.	275.	272.	273.	271.
19506	268.	267.	264.	268.	268.	266.	262.	265.	268.	267.	265.	269.	276.	272.	265.	271.
19507	250.	251.	251.	251.	259.	261.	262.	255.	257.	263.	263.	264.	260.	268.	264.	267.
19508	258.	265.	264.	260.	267.	272.	268.	267.	270.	273.	271.	268.	274.	274.	276.	271.
19509	246.	249.	249.	245.	253.	257.	256.	251.	256.	257.	257.	252.	258.	258.	260.	256.
19510	261.	261.	256.	262.	264.	265.	255.	262.	264.	258.	259.	262.	261.	259.	257.	264.
19511	269.	271.	266.	272.	277.	273.	267.	280.	280.	274.	274.	285.	286.	281.	277.	288.
19512	267.	264.	270.	274.	272.	273.	275.	282.	280.	275.	284.	284.	282.	279.	280.	283.
19513	284.	288.	284.	294.	300.	299.	292.	297.	304.	303.	305.	310.	311.	308.	302.	313.
19514	264.	269.	268.	269.	270.	275.	274.	278.	276.	273.	282.	287.	284.	277.	285.	290.
19515	244.	244.	245.	249.	252.	251.	247.	248.	253.	246.	242.	245.	248.	248.	244.	240.
19516	251.	258.	265.	260.	256.	264.	266.	265.	265.	268.	272.	270.	261.	268.	275.	274.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 2): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP I				0 (VEHICLE) MG/KG/DAY					
DAY	33	34	35	36	37	38	39	40	41	42a
19501	251.	252.	249.	250.	252.	252.	249.	251.	256.	255.
19502	268.	276.	270.	266.	271.	274.	271.	270.	273.	280.
19503	263.	266.	267.	263.	265.	268.	268.	269.	270.	277.
19504	288.	293.	295.	292.	292.	295.	296.	292.	293.	298.
19505	281.	279.	280.	278.	280.	285.	283.	282.	280.	285.
19506	273.	266.	264.	260.	256.	257.	257.	254.	261.	261.
19507	262.	266.	270.	262.	262.	268.	268.	267.	263.	266.
19508	278.	285.	283.	277.	283.	288.	283.	279.	288.	289.
19509	258.	262.	260.	259.	258.	260.	258.	260.	262.	266.
19510	268.	265.	257.	259.	254.	260.	260.	263.	261.	260.
19511	290.	287.	282.	291.	292.	284.	284.	292.	296.	292.
19512	285.	281.	284.	286.	286.	284.	287.	292.	288.	288.
19513	317.	314.	308.	317.	318.	317.	312.	322.	325.	324.
19514	288.	283.	286.	288.	287.	286.	290.	298.	293.	290.
19515	250.	248.	245.	246.	251.	255.	252.	251.	257.	257.
19516	271.	277.	278.	279.	274.	278.	282.	280.	274.	275.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 3): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP II															
	0.1 MG/KG/DAY															
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
19517	221.	219.	225.	228.	230.	227.	233.	237.	235.	232.	238.	244.	244.	240.	242.	249.
19518	234.	238.	237.	249.	250.	250.	252.	261.	264.	264.	265.	262.	271.	273.	272.	271.
19519	225.	230.	236.	237.	237.	243.	247.	244.	248.	252.	254.	252.	251.	258.	260.	258.
19520	230.	227.	232.	237.	240.	238.	243.	242.	239.	240.	240.	246.	241.	240.	246.	250.
19521	220.	222.	229.	235.	239.	235.	242.	245.	244.	242.	248.	254.	251.	250.	257.	259.
19522	234.	236.	237.	242.	247.	250.	245.	256.	255.	255.	250.	258.	263.	258.	257.	263.
19523	228.	227.	228.	232.	238.	238.	234.	239.	240.	243.	243.	245.	248.	251.	250.	254.
19524	233.	231.	235.	239.	239.	236.	242.	250.	249.	249.	254.	257.	256.	256.	262.	265.
19525	224.	218.	225.	229.	231.	229.	233.	235.	232.	234.	239.	240.	240.	242.	240.	246.
19526	227.	230.	229.	228.	234.	238.	240.	241.	239.	246.	249.	251.	247.	243.	250.	258.
19527	227.	233.	231.	233.	237.	239.	244.	248.	244.	252.	254.	260.	258.	255.	258.	262.
19528	229.	231.	237.	238.	240.	239.	245.	248.	242.	243.	248.	253.	252.	251.	250.	256.
19529	226.	229.	227.	234.	235.	234.	234.	239.	238.	243.	238.	241.	244.	243.	242.	243.
19530	228.	229.	230.	238.	239.	242.	234.	240.	244.	245.	243.	251.	255.	252.	250.	257.
19531	222.	220.	230.	233.	236.	235.	242.	244.	247.	242.	241.	243.	249.	248.	244.	253.
19532	230.	230.	230.	228.	234.	239.	244.	245.	239.	246.	248.	253.	250.	246.	254.	256.

DAY	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
19517	247.	245.	250.	249.	253.	247.	254.	256.	257.	256.	261.	260.	256.	249.	258.	261.
19518	275.	276.	279.	278.	280.	288.	286.	284.	289.	290.	289.	285.	293.	291.	289.	289.
19519	264.	267.	270.	265.	266.	271.	274.	274.	269.	273.	278.	276.	270.	277.	280.	278.
19520	248.	246.	254.	250.	254.	253.	258.	258.	257.	260.	260.	260.	263.	255.	259.	261.
19521	259.	258.	264.	269.	267.	264.	268.	272.	272.	266.	275.	275.	271.	268.	276.	280.
19522	268.	266.	257.	265.	269.	270.	267.	275.	282.	278.	272.	278.	281.	277.	274.	280.
19523	260.	259.	259.	262.	268.	266.	262.	263.	267.	269.	269.	267.	268.	271.	268.	264.
19524	264.	264.	266.	272.	270.	268.	275.	277.	276.	276.	280.	285.	276.	273.	278.	282.
19525	245.	249.	247.	247.	251.	255.	253.	251.	250.	247.	251.	253.	252.	257.	252.	258.
19526	256.	252.	250.	256.	262.	265.	260.	260.	263.	266.	268.	264.	260.	268.	271.	270.
19527	267.	264.	264.	269.	270.	275.	273.	270.	272.	277.	278.	277.	270.	275.	280.	278.
19528	255.	254.	260.	260.	256.	256.	256.	266.	261.	259.	266.	264.	256.	252.	261.	263.
19529	244.	243.	242.	245.	246.	248.	241.	246.	247.	246.	240.	251.	246.	247.	244.	248.
19530	259.	261.	254.	264.	269.	267.	264.	264.	270.	267.	265.	271.	271.	266.	263.	265.
19531	255.	255.	253.	258.	264.	261.	255.	262.	265.	265.	262.	270.	271.	270.	262.	270.
19532	257.	256.	255.	262.	268.	269.	265.	265.	270.	270.	274.	271.	267.	270.	276.	273.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 4): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP II				0.1 MG/KG/DAY					
DAY	33	34	35	36	37	38	39	40	41	42a
19517	262.	256.	259.	262.	260.	255.	262.	266.	265.	257.
19518	294.	298.	295.	296.	301.	303.	300.	298.	303.	310.
19519	273.	277.	280.	276.	273.	269.	276.	278.	278.	276.
19520	265.	265.	269.	272.	267.	264.	265.	268.	273.	263.
19521	279.	274.	281.	284.	280.	279.	288.	288.	285.	288.
19522	285.	286.	276.	280.	286.	285.	278.	282.	287.	282.
19523	271.	273.	274.	266.	266.	268.	273.	274.	275.	274.
19524	282.	276.	280.	279.	278.	276.	281.	284.	280.	279.
19525	253.	254.	254.	251.	257.	252.	254.	255.	252.	255.
19526	262.	262.	268.	270.	269.	268.	271.	270.	272.	272.
19527	278.	276.	282.	286.	286.	284.	279.	283.	285.	293.
19528	257.	253.	260.	261.	258.	256.	262.	266.	259.	257.
19529	251.	247.	242.	247.	249.	250.	244.	254.	253.	251.
19530	274.	270.	267.	271.	274.	272.	267.	270.	277.	269.
19531	273.	269.	266.	277.	283.	276.	273.	280.	282.	276.
19532	272.	277.	281.	278.	271.	271.	282.	278.	280.	269.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 5): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP III								0.4 MG/KG/DAY							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
19533	221.	224.	222.	220.	226.	236.	228.	229.	223.	227.	233.	231.	232.	230.	235.	236.
19534	234.	241.	244.	251.	256.	258.	253.	262.	266.	263.	259.	264.	266.	269.	267.	276.
19535	221.	220.	226.	223.	226.	230.	227.	229.	230.	230.	233.	230.	230.	232.	235.	234.
19536	225.	225.	230.	233.	235.	230.	230.	242.	242.	243.	240.	243.	246.	246.	245.	246.
19537	217.	219.	223.	221.	222.	224.	227.	233.	227.	229.	235.	233.	231.	231.	234.	237.
19538	230.	227.	229.	233.	237.	237.	241.	242.	243.	243.	244.	248.	246.	247.	248.	250.
19539	226.	227.	225.	230.	231.	230.	234.	238.	233.	230.	233.	236.	239.	238.	236.	240.
19540	230.	229.	230.	234.	236.	236.	233.	241.	243.	243.	241.	246.	250.	250.	249.	251.
19541	218.	218.	216.	220.	225.	226.	227.	229.	230.	230.	228.	234.	236.	236.	236.	231.
19542	237.	236.	231.	240.	245.	244.	240.	250.	252.	253.	248.	250.	257.	261.	258.	255.
19543	234.	233.	242.	244.	249.	245.	252.	254.	254.	253.	257.	257.	263.	258.	266.	268.
19544	231.	231.	232.	235.	241.	245.	246.	248.	245.	254.	253.	258.	257.	253.	259.	262.
19545	222.	220.	232.	231.	231.	229.	234.	238.	239.	240.	235.	239.	241.	245.	248.	246.
19546	234.	235.	231.	239.	240.	239.	242.	248.	248.	248.	250.	258.	263.	265.	263.	267.
19547	223.	228.	228.	230.	235.	232.	234.	243.	242.	240.	239.	247.	248.	246.	247.	251.
19548	228.	231.	233.	234.	239.	242.	246.	246.	243.	247.	249.	250.	253.	254.	258.	259.

DAY	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
19533	240.	237.	238.	244.	246.	245.	246.	243.	245.	248.	252.	250.	244.	247.	253.	257.
19534	282.	280.	281.	286.	291.	288.	281.	293.	296.	297.	295.	303.	298.	296.	291.	302.
19535	239.	238.	242.	243.	244.	248.	244.	247.	245.	247.	251.	251.	254.	255.	258.	256.
19536	246.	250.	253.	255.	252.	255.	259.	255.	255.	258.	261.	260.	256.	262.	265.	261.
19537	238.	234.	235.	237.	244.	243.	236.	239.	238.	238.	244.	243.	240.	240.	240.	245.
19538	252.	253.	252.	255.	254.	252.	253.	255.	255.	256.	256.	256.	254.	254.	256.	259.
19539	242.	242.	244.	246.	248.	248.	246.	248.	253.	250.	247.	250.	253.	249.	251.	253.
19540	256.	256.	253.	264.	263.	263.	260.	266.	274.	270.	269.	275.	280.	274.	273.	277.
19541	235.	240.	239.	238.	239.	244.	241.	242.	236.	242.	244.	246.	239.	243.	248.	247.
19542	261.	265.	264.	259.	266.	269.	268.	266.	266.	272.	272.	264.	272.	274.	272.	265.
19543	266.	265.	276.	281.	274.	277.	281.	285.	287.	284.	289.	290.	284.	278.	282.	290.
19544	265.	265.	262.	269.	273.	276.	274.	271.	284.	278.	280.	275.	270.	278.	281.	276.
19545	244.	247.	253.	253.	254.	255.	257.	259.	260.	261.	260.	263.	262.	265.	260.	260.
19546	269.	274.	278.	274.	283.	288.	286.	285.	288.	292.	295.	293.	286.	294.	297.	293.
19547	249.	252.	249.	251.	258.	259.	254.	257.	263.	262.	259.	263.	267.	265.	267.	269.
19548	261.	260.	261.	266.	268.	267.	264.	266.	269.	268.	268.	266.	265.	268.	264.	263.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 6): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP III				0.4 MG/KG/DAY					
DAY	33	34	35	36	37	38	39	40	41	42a
19533	254.	252.	256.	259.	260.	257.	256.	261.	264.	259.
19534	302.	300.	299.	308.	308.	305.	302.	308.	307.	311.
19535	254.	254.	258.	257.	262.	263.	261.	262.	259.	259.
19536	262.	264.	264.	262.	259.	266.	266.	264.	262.	268.
19537	246.	247.	247.	253.	252.	250.	248.	255.	253.	254.
19538	258.	258.	259.	259.	261.	260.	258.	256.	260.	260.
19539	256.	254.	252.	258.	258.	259.	257.	257.	257.	255.
19540	280.	281.	280.	282.	289.	281.	278.	284.	289.	286.
19541	242.	243.	244.	246.	243.	248.	244.	249.	247.	246.
19542	271.	278.	274.	267.	274.	276.	274.	269.	273.	276.
19543	285.	282.	289.	291.	294.	288.	293.	296.	291.	286.
19544	274.	276.	283.	289.	282.	284.	275.	290.	295.	211.
19545	268.	267.	264.	260.	264.	272.	272.	270.	270.	290.
19546	291.	299.	300.	298.	295.	299.	308.	305.	300.	274.
19547	269.	268.	273.	272.	274.	271.	271.	275.	275.	297.
19548	264.	268.	266.	264.	261.	260.	261.	264.	267.	266.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 7): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP IV				1.6 MG/KG/DAY											
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
19549	220.	220.	219.	226.	229.	227.	228.	231.	233.	233.	230.	235.	237.	238.	238.	241.
19550	239.	236.	247.	250.	251.	251.	253.	264.	260.	263.	256.	264.	270.	269.	263.	269.
19551	228.	230.	230.	234.	240.	242.	242.	252.	250.	249.	250.	251.	261.	263.	264.	263.
19552	230.	230.	235.	242.	236.	232.	237.	240.	239.	231.	239.	243.	242.	238.	242.	245.
19553	218.	216.	215.	221.	228.	226.	223.	224.	233.	230.	232.	230.	233.	236.	236.	232.
19554	232.	236.	234.	239.	247.	248.	246.	250.	254.	254.	251.	258.	260.	263.	259.	264.
19555	231.	234.	237.	234.	240.	249.	248.	248.	246.	250.	253.	258.	253.	256.	260.	264.
19556	230.	229.	232.	240.	238.	233.	240.	246.	243.	240.	247.	253.	251.	246.	254.	257.
19557	221.	225.	224.	223.	226.	230.	234.	236.	231.	238.	239.	243.	243.	241.	244.	247.
19558	234.	239.	239.	244.	247.	250.	246.	249.	252.	256.	256.	258.	259.	263.	267.	263.
19559	220.	227.	228.	230.	227.	235.	237.	234.	235.	239.	237.	233.	238.	242.	242.	238.
19560	225.	229.	232.	230.	232.	238.	243.	246.	240.	246.	247.	252.	248.	248.	255.	255.
19561	220.	220.	222.	228.	232.	224.	218.	230.	237.	235.	233.	234.	242.	239.	231.	239.
19562	235.	239.	242.	243.	239.	236.	241.	241.	240.	240.	245.	249.	247.	250.	250.	253.
19563	216.	220.	221.	225.	229.	230.	229.	234.	233.	235.	229.	233.	239.	240.	239.	240.
19564	231.	230.	229.	230.	240.	240.	242.	242.	241.	247.	245.	250.	251.	252.	252.	252.

DAY	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
19549	248.	246.	248.	250.	252.	252.	248.	253.	254.	253.	251.	254.	249.	251.	250.	256.
19550	271.	267.	265.	271.	273.	275.	268.	274.	275.	272.	266.	272.	275.	272.	265.	271.
19551	265.	270.	272.	273.	273.	275.	279.	284.	280.	278.	279.	281.	274.	279.	283.	284.
19552	245.	240.	244.	247.	246.	243.	244.	249.	249.	246.	248.	252.	247.	241.	243.	249.
19553	232.	238.	237.	236.	235.	240.	236.	238.	233.	234.	239.	238.	232.	234.	241.	239.
19554	266.	267.	263.	267.	271.	271.	266.	269.	271.	269.	267.	271.	271.	266.	265.	271.
19555	266.	263.	268.	272.	272.	270.	275.	276.	277.	273.	282.	284.	282.	275.	283.	285.
19556	258.	251.	260.	263.	266.	264.	264.	268.	261.	262.	272.	267.	261.	257.	260.	263.
19557	251.	247.	246.	251.	253.	254.	252.	254.	256.	255.	257.	256.	249.	252.	251.	251.
19558	266.	266.	268.	271.	269.	276.	273.	273.	276.	277.	280.	282.	280.	284.	283.	280.
19559	242.	244.	245.	242.	246.	250.	248.	244.	248.	247.	248.	242.	246.	248.	246.	243.
19560	257.	253.	255.	260.	260.	256.	259.	264.	262.	256.	260.	262.	257.	250.	256.	266.
19561	242.	239.	236.	241.	244.	245.	241.	247.	249.	244.	242.	245.	247.	242.	240.	243.
19562	258.	256.	259.	256.	264.	264.	267.	266.	262.	266.	266.	267.	262.	262.	268.	269.
19563	243.	247.	246.	243.	242.	245.	248.	246.	247.	246.	246.	249.	249.	253.	252.	253.
19564	255.	253.	254.	257.	260.	259.	258.	256.	261.	261.	259.	259.	254.	258.	257.	254.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 8): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP IV				1.6 MG/KG/DAY					
DAY	33	34	35	36	37	38	39	40	41	42a
19549	256.	255.	252.	258.	259.	263.	266.	264.	269.	272.
19550	272.	274.	266.	272.	272.	270.	266.	269.	271.	270.
19551	280.	284.	284.	284.	280.	278.	283.	283.	283.	282.
19552	250.	252.	254.	257.	257.	260.	262.	262.	261.	263.
19553	237.	228.	231.	235.	231.	226.	227.	232.	233.	230.
19554	273.	272.	267.	272.	272.	268.	268.	271.	273.	270.
19555	284.	280.	287.	287.	290.	282.	288.	288.	286.	280.
19556	257.	254.	261.	261.	258.	250.	258.	258.	256.	253.
19557	252.	252.	255.	255.	259.	256.	252.	254.	255.	251.
19558	282.	281.	284.	288.	288.	290.	291.	294.	291.	290.
19559	248.	250.	249.	247.	252.	254.	255.	252.	254.	252.
19560	261.	259.	265.	266.	265.	260.	266.	264.	259.	258.
19561	246.	246.	242.	246.	249.	252.	244.	249.	246.	239.
19562	266.	263.	266.	268.	269.	271.	268.	268.	273.	263.
19563	254.	251.	253.	258.	253.	257.	260.	258.	260.	255.
19564	249.	256.	256.	254.	253.	250.	257.	256.	256.	250.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 9): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP V															3.2 MG/KG/DAY
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
19565	217.	222.	214.	221.	225.	226.	224.	222.	224.	224.	232.	229.	224.	229.	228.	231.
19566	238.	234.	240.	246.	245.	240.	243.	249.	251.	242.	240.	245.	252.	247.	243.	250.
19567	234.	237.	239.	241.	245.	240.	231.	236.	237.	232.	230.	234.	235.	230.	229.	230.
19568	240.	246.	247.	249.	248.	247.	250.	247.	248.	250.	251.	256.	255.	253.	250.	253.
19569	220.	221.	224.	226.	229.	236.	233.	238.	236.	234.	236.	238.	236.	238.	238.	239.
19570	228.	234.	234.	234.	233.	237.	238.	243.	242.	238.	243.	246.	247.	247.	247.	247.
19571	235.	230.	228.	243.	241.	245.	249.	252.	252.	248.	253.	255.	252.	250.	256.	256.
19572	227.	227.	226.	226.	228.	230.	231.	234.	233.	235.	238.	241.	240.	242.	242.	242.
19573	221.	224.	221.	221.	226.	231.	233.	231.	230.	236.	234.	233.	232.	230.	238.	235.
19574	236.	237.	237.	244.	249.	249.	245.	254.	255.	255.	253.	254.	258.	260.	257.	256.
19575	230.	233.	230.	237.	238.	245.	242.	248.	247.	248.	245.	245.	249.	252.	252.	245.
19576	230.	233.	234.	236.	242.	237.	243.	249.	242.	238.	247.	248.	247.	247.	250.	254.
19577	222.	224.	225.	226.	226.	229.	229.	231.	235.	236.	238.	240.	239.	242.	240.	241.
19578	232.	232.	235.	242.	245.	244.	250.	254.	252.	252.	256.	258.	258.	257.	258.	261.
19579	220.	221.	223.	224.	221.	224.	227.	225.	222.	224.	217.	215.	215.	223.	223.	215.
19580	230.	230.	228.	238.	242.	240.	237.	237.	243.	242.	234.	241.	238.	237.	236.	238.

DAY	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
19565	230.	227.	236.	230.	232.	230.	227.	229.	232.	231.	227.	231.	236.	235.	232.	231.
19566	255.	253.	246.	252.	257.	253.	241.	249.	251.	251.	243.	252.	249.	249.	239.	245.
19567	234.	230.	227.	233.	235.	229.	226.	232.	230.	228.	223.	230.	231.	226.	220.	225.
19568	258.	262.	258.	264.	265.	266.	262.	261.	263.	267.	264.	263.	264.	264.	265.	264.
19569	237.	241.	241.	241.	243.	245.	241.	237.	246.	247.	242.	238.	240.	242.	239.	243.
19570	247.	248.	251.	250.	254.	255.	249.	252.	249.	250.	254.	251.	251.	249.	249.	254.
19571	256.	252.	257.	255.	258.	254.	257.	256.	258.	252.	256.	255.	250.	240.	244.	244.
19572	243.	243.	242.	242.	242.	243.	241.	242.	241.	244.	245.	248.	245.	245.	242.	241.
19573	235.	235.	234.	241.	242.	242.	238.	235.	238.	240.	241.	237.	237.	238.	239.	237.
19574	258.	254.	258.	258.	256.	258.	258.	259.	252.	247.	253.	254.	250.	242.	249.	249.
19575	247.	254.	255.	256.	256.	254.	255.	260.	261.	257.	255.	256.	256.	253.	248.	244.
19576	254.	250.	253.	250.	252.	253.	259.	260.	259.	253.	261.	257.	257.	253.	266.	260.
19577	241.	243.	242.	239.	241.	241.	238.	234.	232.	232.	228.	227.	222.	224.	226.	225.
19578	256.	257.	261.	262.	261.	259.	262.	262.	260.	259.	264.	264.	258.	249.	255.	257.
19579	212.	219.	215.	213.	221.	220.	220.	220.	218.	213.	215.	214.	213.	214.	211.	210.
19580	239.	238.	238.	245.	244.	243.	239.	247.	243.	245.	241.	247.	244.	242.	237.	242.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 14 (PAGE 10): BODY WEIGHTS - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP V				3.2 MG/KG/DAY					
DAY	33	34	35	36	37	38	39	40	41	42a
19565	233.	234.	233.	233.	232.	233.	227.	231.	232.	225.
19566	246.	248.	236.	242.	249.	243.	236.	236.	244.	244.
19567	224.	224.	221.	222.	223.	226.	224.	222.	225.	223.
19568	264.	263.	267.	266.	267.	267.	265.	269.	268.	268.
19569	246.	245.	240.	244.	241.	241.	238.	239.	238.	234.
19570	252.	250.	247.	250.	249.	250.	247.	245.	246.	249.
19571	244.	243.	252.	244.	244.	239.	243.	242.	241.	241.
19572	238.	235.	236.	239.	237.	234.	236.	243.	240.	245.
19573	238.	241.	243.	243.	238.	240.	237.	240.	236.	235.
19574	248.	245.	249.	251.	251.	248.	247.	250.	251.	240.
19575	249.	250.	245.	241.	246.	243.	245.	246.	243.	233.
19576	257.	257.	265.	268.	261.	261.	262.	264.	261.	255.
19577	227.	225.	227.	226.	227.	226.	224.	224.	224.	221.
19578	256.	252.	254.	257.	258.	251.	253.	254.	251.	249.
19579	211.	209.	208.	210.	214.	217.	214.	216.	212.	211.
19580	244.	242.	239.	240.	237.	235.	234.	238.	237.	231.

DAY = DAY OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 15 (PAGE 1): MATERNAL BODY WEIGHTS - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP I			0 (VEHICLE) MG/KG/DAY								
PREGNANCY STATUS	DAY 0	1	2	3	4	5	6	7	8	9	10	11	12
19501 P	257.	263.	269.	270.	274.	278.	280.	277.	285.	289.	295.	302.	306.
19502 NP	276.	288.	294.	297.	300.	304.	303.	307.	306.	308.	316.	316.	316.
19503 P	NO CONFIRMED MATING DATE; DELIVERED ON DAY 66 OF STUDY												
19504 P	295.	306.	308.	308.	311.	313.	317.	316.	318.	320.	323.	329.	343.
19505 P	281.	294.	301.	301.	302.	308.	309.	306.	309.	316.	323.	332.	328.
19506 P	266.	273.	279.	284.	287.	295.	297.	294.	301.	304.	313.	312.	318.
19507 P	272.	284.	286.	290.	291.	298.	296.	289.	287.	296.	305.	310.	310.
19508 P	291.	297.	306.	313.	314.	313.	315.	319.	318.	325.	333.	339.	344.
19509 P	269.	273.	273.	284.	287.	293.	299.	299.	293.	302.	306.	311.	317.
19510 P	259.	267.	278.	279.	290.	291.	301.	302.	302.	311.	311.	325.	322.
19511 P	291.	299.	305.	307.	311.	311.	316.	322.	310.	321.	324.	329.	334.
19512 P	306.	314.	312.	316.	323.	318.	324.	318.	322.	324.	326.	330.	333.
19513 P	330.	329.	334.	340.	350.	349.	355.	355.	353.	353.	360.	367.	369.
19514 NP	290.	298.	302.	301.	311.	313.	316.	321.	321.	325.	326.	330.	337.
19515 P	258.	267.	274.	274.	278.	283.	285.	286.	287.	295.	295.	302.	308.
19516 P	282.	288.	298.	306.	302.	309.	311.	285.	311.	315.	323.	328.	334.

	DAY 13	14	15	16	17	18	19	20	21	GRAVID UTERINE WEIGHTS
19501 P	311.	310.	315.							16.56
19502 NP	318.	314.	310.							-----
19503 P	NO CONFIRMED MATING DATE; DELIVERED ON DAY 66 OF STUDY									-----
19504 P	342.	347.	348.	357.	368.	385.	396.	418.	430.	79.93
19505 P	333.	337.	343.	356.	374.	390.	415.	433.	452.	118.23
19506 P	325.	326.	335.	340.	360.	376.	397.	412.	431.	99.38
19507 P	312.	316.	304.	323.	335.	350.	363.	371.	394.	93.66
19508 P	350.	349.	364.							21.37
19509 P	322.	324.	328.	333.	345.	363.	380.	399.	377.	86.56
19510 P	330.	338.	339.							15.76
19511 P	338.	345.	351.							27.22
19512 P	336.	341.	344.	354.	376.	388.	406.	416.	431.	96.29
19513 P	374.	380.	386.							21.00
19514 NP	335.	337.	342.							-----
19515 P	309.	313.	316.							17.04
19516 P	334.	347.	350.	357.	375.	390.	412.	422.	446.	99.80

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAY = DAY OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 15 (PAGE 2): MATERNAL BODY WEIGHTS - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #		DOSAGE GROUP II			0.1 MG/KG/DAY								
	PREGNANCY STATUS	DAY 0	1	2	3	4	5	6	7	8	9	10	11	12
19517	NP	277.	276.	268.	270.	272.	272.	271.	272.	272.	273.	272.	274.	281.
19518	P	308.	316.	319.	320.	322.	329.	333.	338.	334.	334.	339.	346.	347.
19519	P	276.	280.	288.	287.	296.	296.	302.	304.	307.	316.	320.	328.	332.
19520		247.	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED											
19521	P	292.	299.	308.	309.	303.	306.	315.	306.	313.	321.	320.	321.	328.
19522	P	292.	295.	305.	305.	308.	318.	320.	320.	319.	328.	328.	332.	338.
19523	P	288.	294.	304.	310.	309.	312.	315.	330.	317.	318.	332.	334.	336.
19524	P	296.	304.	311.	319.	318.	327.	327.	323.	331.	336.	342.	346.	348.
19525	P	259.	261.	271.	272.	274.	277.	278.	281.	281.	285.	283.	287.	291.
19526	P	278.	280.	288.	287.	291.	291.	294.	301.	303.	306.	308.	313.	317.
19527	P	281.	293.	294.	296.	300.	302.	310.	310.	303.	310.	340.	318.	326.
19528	P	258.	275.	285.	290.	300.	300.	300.	308.	315.	317.	317.	330.	327.
19529	P	258.	265.	273.	268.	280.	282.	282.	284.	284.	289.	292.	302.	298.
19530	P	271.	285.	293.	287.	296.	297.	312.	307.	309.	313.	317.	323.	329.
19531	P	270.	270.	281.	280.	290.	292.	294.	296.	296.	298.	308.	312.	323.
19532	P	281.	293.	298.	297.	296.	299.	306.	303.	309.	316.	312.	317.	328.

	DAY 13	14	15	16	17	18	19	20	21	GRAVID UTERINE WEIGHTS
19517 NP	279.	273.	281.							-----
19518 P	354.	357.	359.	370.	385.	392.	412.	424.	448.	71.83
19519 P	333.	338.	339.	361.	379.	397.	414.	429.	433.	115.99
19520	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED									-----
19521 P	336.	335.	339.	353.	370.	389.	402.	413.	429.	101.43
19522 P	339.	346.	355.							18.40
19523 P	339.	346.	325.	353.	368.	378.	390.	405.	411.	88.34
19524 P	351.	361.	367.	373.	393.	411.	430.	450.	470.	117.23
19525 P	292.	297.	303.							8.80
19526 P	318.	322.	324.							15.42
19527 P	328.	335.	342.							25.35
19528 P	330.	337.	329.	318.	329.	343.	355.	370.	378.	42.75
19529 P	309.	308.	320.	327.	344.	360.	380.	400.	420.	106.57
19530 P	333.	335.	314.							16.30
19531 P	328.	332.	333.							21.41
19532 P	332.	332.	347.							16.54

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAY = DAY OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 15 (PAGE 3): MATERNAL BODY WEIGHTS - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP III	0.4 MG/KG/DAY											
PREGNANCY STATUS	DAY 0	1	2	3	4	5	6	7	8	9	10	11	12
19533 P	267.	270.	273.	273.	275.	274.	278.	276.	281.	278.	282.	289.	288.
19534 P	323.	325.	333.	329.	333.	336.	342.	336.	342.	345.	341.	349.	356.
19535 P	253.	244.	260.	266.	267.	270.	274.	268.	278.	281.	281.	285.	293.
19536 P	274.	275.	282.	285.	286.	289.	289.	290.	293.	295.	296.	304.	310.
19537 P	257.	257.	266.	265.	268.	269.	272.	257.	264.	266.	267.	275.	279.
19538 P	260.	267.	268.	274.	272.	278.	279.	269.	279.	280.	285.	289.	297.
19539 P	262.	261.	271.	277.	280.	284.	286.	279.	292.	298.	296.	303.	306.
19540 P	285.	291.	301.	302.	310.	310.	315.	303.	308.	319.	320.	320.	330.
19541	234.	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED											
19542 P	284.	292.	294.	294.	297.	302.	306.	304.	303.	304.	310.	317.	324.
19543 P	304.	316.	318.	319.	323.	328.	327.	331.	331.	333.	338.	328.	349.
19544 P	290.	304.	314.	310.	308.	306.	313.	315.	327.	313.	320.	328.	330.
19545 NP	MATING NOT CONFIRMED												
19546 P	296.	286.	300.	307.	310.	312.	317.	304.	298.	316.	326.	331.	333.
19547 P	272.	285.	288.	292.	292.	296.	290.	289.	315.	294.	296.	302.	314.
19548 NP	270.	276.	279.	280.	284.	283.	283.	267.	284.	288.	288.	287.	292.

	DAY 13	14	15	16	17	18	19	20	21	GRAVID UTERINE WEIGHTS
19533 P	294.	298.	298.	306.	323.	338.	352.	371.	387.	85.28
19534 P	363.	367.	334.	378.	380.	400.	405.	438.	445.	94.87
19535 P	303.	305.	312.							9.30
19536 P	315.	320.	317.	338.	353.	371.	397.	418.	429.	123.08
19537 P	281.	284.	285.							6.02
19538 P	301.	302.	291.							18.47
19539 P	310.	321.	319.							19.11
19540 P	331.	340.	335.							20.45
19541	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED									-----
19542 P	343.	334.	339.							19.46
19543 P	353.	361.	364.	375.	396.	419.	430.	447.	458.	116.27
19544 P	329.	333.	345.							16.14
19545 NP	MATING NOT CONFIRMED									-----
19546 P	334.	339.	333.	350.	353.	371.	375.	377.	396.	36.94
19547 P	314.	323.	333.							21.57
19548 NP	296.	291.	286.	284.	284.	284.	285.	291.	294.	-----

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAY = DAY OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 15 (PAGE 4): MATERNAL BODY WEIGHTS - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP IV	1.6 MG/KG/DAY											
	PREGNANCY STATUS	DAY 0	1	2	3	4	5	6	7	8	9	10	11	12
19549	NP	MATING NOT CONFIRMED												
19550	P	276.	276.	279.	279.	278.	284.	290.	266.	281.	291.	294.	303.	312.
19551	NP	MATING NOT CONFIRMED												
19552	NP	MATING NOT CONFIRMED												
19553	P	245.	245.	252.	254.	256.	253.	255.	256.	259.	261.	269.	275.	277.
19554	P	282.	275.	282.	278.	280.	282.	286.	282.	286.	288.	296.	299.	303.
19555	NP	292.	293.	300.	299.	301.	300.	295.	296.	287.	293.	287.	294.	296.
19556	NP	267.	268.	261.	264.	266.	264.	258.	262.	263.	261.	259.	267.	266.
19557		MORIBUND SACRIFICED ON DAY 43 OF STUDY (DAY 2 OF COHABITATION)												
19558	P	286.	287.	302.	305.	303.	308.	299.	297.	309.	302.	306.	317.	324.
19559	NP	260.	260.	264.	267.	265.	269.	268.	268.	271.	273.	276.	279.	273.
19560	P	274.	278.	283.	286.	284.	291.	288.	286.	285.	291.	290.	295.	296.
19561a		254.	260.	262.	259.	264.	265.	262.	268.	262.	266.	268.	271.	265.
19562	P	272.	277.	282.	283.	283.	288.	292.	285.	287.	294.	300.	306.	313.
19563	P	256.	263.	273.	267.	270.	266.	267.	266.	265.	264.	268.	276.	279.
19564	P	258.	257.	264.	266.	268.	268.	273.	271.	274.	276.	279.	283.	288.

RAT #	DAY 13	14	15	16	17	18	19	20	21	GRAVID UTERINE WEIGHTS
19549	NP	MATING NOT CONFIRMED								-----
19550	P	311.	314.	322.						17.57
19551	NP	MATING NOT CONFIRMED								-----
19552	NP	MATING NOT CONFIRMED								-----
19553	P	286.	287.	292.						18.42
19554	P	307.	318.	323.						17.90
19555	NP	298.	296.	299.						-----
19556	NP	268.	263.	261.	268.	270.	265.	272.	276.	270.	-----
19557		MORIBUND SACRIFICED ON DAY 43 OF STUDY (DAY 2 OF COHABITATION)								-----
19558	P	324.	337.	332.						19.53
19559	NP	267.	259.	250.	252.	254.	252.	258.	258.	257.	-----
19560	P	309.	308.	319.	328.	349.	363.	377.	389.	410.	86.60
19561a		260.	262.	263.						-----
19562	P	316.	326.	328.	350.	366.	392.	412.	438.	443.	138.89
19563	P	278.	285.	295.						16.06
19564	P	287.	292.	295.						16.16

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAY = DAY OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Necropsy and Caesarean-section observations were not recorded for rat 19561.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 15 (PAGE 5): MATERNAL BODY WEIGHTS - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #		DOSAGE GROUP V			3.2 MG/KG/DAY								
	PREGNANCY STATUS	DAY 0	1	2	3	4	5	6	7	8	9	10	11	12
19565	P	234.	224.	227.	228.	229.	230.	234.	219.	234.	240.	250.	251.	257.
19566	P	244.	252.	249.	251.	246.	244.	244.	245.	241.	249.	266.	270.	271.
19567	P	228.	226.	228.	230.	231.	234.	237.	236.	245.	250.	254.	256.	261.
19568	P	259.	263.	264.	266.	266.	270.	270.	264.	270.	275.	276.	284.	287.
19569	P	249.	247.	248.	247.	244.	252.	252.	248.	245.	249.	262.	256.	265.
19570	P	257.	257.	258.	260.	253.	266.	265.	260.	265.	272.	275.	281.	282.
19571	P	245.	247.	249.	253.	256.	255.	259.	245.	245.	259.	268.	275.	278.
19572	P	250.	255.	252.	255.	253.	257.	259.	259.	262.	261.	264.	277.	275.
19573	P	229.	225.	223.	227.	238.	244.	247.	250.	243.	248.	256.	260.	266.
19574	P	252.	253.	256.	261.	261.	261.	266.	245.	254.	262.	275.	275.	279.
19575	P	243.	239.	239.	228.	239.	242.	250.	256.	250.	252.	269.	268.	277.
19576	NP	MATING NOT CONFIRMED												
19577	P	230.	229.	230.	227.	219.	208.	208.	219.	217.	221.	230.	236.	240.
19578	NP	MATING NOT CONFIRMED												
19579	P	219.	216.	213.	211.	213.	227.	223.	217.	222.	229.	238.	236.	236.
19580	P	237.	235.	242.	235.	240.	244.	244.	236.	240.	245.	251.	266.	260.

	DAY 13	14	15	16	17	18	19	20	21	GRAVID UTERINE WEIGHTS
19565 P	259.	264.	261.							7.98
19566 P	278.	286.	285.							15.83
19567 P	269.	278.	266.							17.59
19568 P	288.	291.	290.	296.	312.	315.	328.	341.	351.	41.84
19569 P	264.	266.	278.	287.	306.	319.	334.	346.	349.	86.30
19570 P	294.	302.	291.							20.43
19571 P	288.	293.	297.	304.	332.	346.	357.	369.	385.	-----
19572 P	282.	290.	276.	300.	317.	330.	349.	360.	376.	78.32
19573 P	268.	273.	275.							17.44
19574 P	285.	288.	291.							17.60
19575 P	294.	292.	299.							19.43
19576 NP	MATING NOT CONFIRMED									-----
19577 P	247.	245.	248.	258.	264.	274.	280.	286.	295.	31.64
19578 NP	MATING NOT CONFIRMED									-----
19579 P	240.	248.	250.	258.	269.	288.	299.	304.	320.	-----
19580 P	266.	270.	275.							20.54

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAY = DAY OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 16 (PAGE 1): FEED CONSUMPTION VALUES - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP I				0 (VEHICLE) MG/KG/DAY		
DAYS	1- 8	8- 15	15- 22	22- 29	29- 36	36- 41	41- 42a
19501	131.	114.	129.	b	124.	92.	18.
19502	131.	123.	128.	119.	107.	81.	19.
19503	138.	145.	150.	128.	141.	100.	23.
19504	144.	147.	152.	140.	141.	95.	20.
19505	144.	b	140.	b	143.	90.	22.
19506	147.	b	147.	133.	122.	b	24.
19507	141.	b	b	146.	148.	97.	19.
19508	124.	131.	144.	129.	130.	b	21.
19509	123.	128.	127.	121.	120.	b	23.
19510	161.	b	b	b	132.	b	18.
19511	149.	b	150.	150.	140.	99.	22.
19512	126.	124.	131.	133.	120.	93.	16.
19513	b	149.	167.	b	158.	114.	b
19514	156.	144.	140.	141.	131.	92.	b
19515	120.	120.	138.	107.	106.	88.	c
19516	130.	122.	123.	120.	135.	87.	14.

DAYS = DAYS OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.
b. Spilled feed precluded the calculation of this value.
c. Value was incorrectly recorded and was excluded from group averages and statistical analyses.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 16 (PAGE 2): FEED CONSUMPTION VALUES - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP II			0.1 MG/KG/DAY			
DAYS	1- 8	8- 15	15- 22	22- 29	29- 36	36- 41	41- 42a
19517	127.	116.	119.	126.	109.	87.	11.
19518	143.	139.	137.	135.	129.	98.	21.
19519	128.	128.	130.	128.	125.	83.	16.
19520	122.	115.	125.	132.	132.	87.	15.
19521	148.	143.	149.	152.	143.	115.	16.
19522	138.	126.	125.	b	124.	87.	19.
19523	120.	b	150.	119.	120.	83.	18.
19524	140.	150.	149.	153.	127.	99.	18.
19525	121.	119.	123.	108.	114.	73.	17.
19526	140.	148.	146.	148.	151.	97.	18.
19527	145.	138.	144.	124.	121.	82.	23.
19528	137.	124.	128.	126.	111.	84.	16.
19529	146.	131.	127.	117.	112.	88.	20.
19530	129.	135.	145.	140.	128.	94.	19.
19531	154.	142.	153.	144.	143.	102.	20.
19532	133.	121.	133.	136.	135.	85.	14.

DAYS = DAYS OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.
b. Spilled feed precluded the calculation of this value.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 16 (PAGE 3): FEED CONSUMPTION VALUES - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP III			0.4 MG/KG/DAY			
DAYS	1- 8	8- 15	15- 22	22- 29	29- 36	36- 41	41- 42a
19533	125.	108.	122.	113.	126.	88.	17.
19534	151.	131.	152.	141.	129.	94.	23.
19535	115.	103.	122.	117.	118.	84.	15.
19536	124.	123.	125.	122.	121.	79.	20.
19537	130.	118.	118.	109.	122.	80.	20.
19538	129.	115.	118.	117.	115.	87.	17.
19539	117.	105.	114.	110.	115.	79.	15.
19540	122.	122.	132.	133.	133.	87.	18.
19541	112.	112.	117.	112.	127.	85.	b
19542	144.	135.	132.	c	123.	87.	c
19543	149.	138.	c	150.	126.	101.	c
19544	138.	135.	140.	133.	130.	97.	24.
19545	130.	123.	128.	c	124.	94.	19.
19546	146.	c	168.	162.	158.	c	21.
19547	127.	124.	126.	134.	139.	96.	21.
19548	146.	131.	134.	123.	118.	78.	16.

DAYS = DAYS OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.
b. Value was incorrectly recorded and was excluded from group averages and statistical analyses.
c. Spilled feed precluded the calculation of this value.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 16 (PAGE 4): FEED CONSUMPTION VALUES - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP IV			1.6 MG/KG/DAY			
DAYS	1- 8	8- 15	15- 22	22- 29	29- 36	36- 41	41- 42a
19549	127.	121.	b	118.	124.	92.	18.
19550	146.	b	123.	107.	108.	75.	15.
19551	141.	142.	137.	126.	125.	74.	16.
19552	121.	103.	108.	105.	104.	82.	17.
19553	131.	145.	116.	b	122.	b	17.
19554	141.	147.	b	b	139.	96.	18.
19555	b	123.	141.	138.	122.	89.	13.
19556	127.	130.	135.	125.	111.	77.	15.
19557	124.	124.	124.	111.	108.	72.	c
19558	144.	143.	140.	140.	140.	98.	b
19559	137.	122.	b	b	115.	92.	b
19560	132.	122.	115.	118.	121.	85.	12.
19561	109.	118.	119.	116.	111.	87.	10.
19562	140.	119.	129.	123.	120.	84.	16.
19563	143.	138.	137.	134.	142.	105.	21.
19564	120.	111.	109.	105.	105.	77.	9.

DAYS = DAYS OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.
b. Spilled feed precluded the calculation of this value.
c. Value was incorrectly recorded and was excluded from group averages and statistical analyses.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 16 (PAGE 5): FEED CONSUMPTION VALUES - PRECOHABITATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP V			3.2 MG/KG/DAY			
DAYS	1- 8	8- 15	15- 22	22- 29	29- 36	36- 41	41- 42a
19565	118.	109.	102.	104.	100.	68.	11.
19566	143.	119.	124.	106.	103.	78.	17.
19567	125.	101.	105.	101.	97.	72.	14.
19568	132.	123.	125.	117.	114.	81.	18.
19569	141.	117.	114.	100.	113.	67.	10.
19570	139.	128.	144.	120.	118.	84.	17.
19571	140.	122.	115.	112.	95.	73.	15.
19572	117.	118.	111.	112.	93.	73.	19.
19573	132.	113.	110.	98.	117.	73.	b
19574	157.	b	b	117.	113.	b	b
19575	144.	125.	114.	115.	97.	77.	c
19576	141.	121.	116.	122.	126.	82.	9.
19577	126.	128.	103.	76.	90.	68.	10.
19578	135.	123.	111.	116.	103.	77.	15.
19579	128.	90.	b	91.	b	80.	13.
19580	127.	103.	111.	112.	106.	74.	13.

DAYS = DAYS OF STUDY
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Last value recorded before cohabitation.
b. Spilled feed precluded the calculation of this value.
c. Value was incorrectly recorded and was excluded from group averages and statistical analyses.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 17 (PAGE 1): MATERNAL FEED CONSUMPTION VALUES - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP I					0 (VEHICLE) MG/KG/DAY						
PREGNANCY STATUS	DAYS 0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12	12 - 13
19501 P	17.	20.	22.	22.	24.	23.	22.	24.	22.	23.	23.	18.	24.
19502 NP	21.	22.	22.	23.	22.	23.	23.	21.	19.	24.	22.	21.	24.
19503 P	NO CONFIRMED MATING DATE; DELIVERED ON DAY 66 OF STUDY												
19504 P	23.	24.	22.	22.	27.	21.	24.	25.	24.	24.	28.	28.	23.
19505 P	22.	21.	24.	23.	24.	25.	22.	22.	23.	26.	25.	26.	25.
19506 P	24.	29.	28.	23.	25.	26.	23.	23.	27.	26.	18.	28.	24.
19507 P	27.	32.	27.	21.	28.	25.	20.	17.	25.	24.	24.	24.	22.
19508 P	21.	23.	26.	24.	23.	24.	24.	21.	25.	25.	25.	29.	26.
19509 P	20.	22.	23.	23.	24.	27.	22.	21.	25.	25.	25.	26.	23.
19510 P	16.	25.	23.	26.	45.	30.	27.	23.	27.	29.	28.	26.	29.
19511 P	18.	23.	23.	24.	25.	23.	26.	22.	22.	22.	21.	22.	24.
19512 P	24.	21.	23.	24.	21.	24.	19.	21.	21.	22.	19.	23.	22.
19513 P	22.	21.	25.	29.	27.	28.	29.	24.	25.	28.	26.	26.	29.
19514 NP	21.	13.	21.	24.	24.	26.	27.	24.	28.	28.	26.	27.	29.
19515 P	22.	21.	22.	22.	23.	23.	24.	22.	24.	23.	23.	27.	21.
19516 P	20.	26.	22.	24.	24.	24.	17.	24.	20.	23.	25.	28.	26.

	DAYS 13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21
19501 P	23.	18.						
19502 NP	19.	16.						
19503 P	NO CONFIRMED MATING DATE; DELIVERED ON DAY 66 OF STUDY							
19504 P	25.	20.	25.	28.	27.	24.	33.	26.
19505 P	26.	23.	23.	29.	28.	28.	27.	24.
19506 P	21.	25.	22.	25.	28.	25.	22.	23.
19507 P	21.	17.	22.	27.	28.	27.	16.	23.
19508 P	23.	25.						
19509 P	20.	25.	18.	20.	25.	23.	24.	11.
19510 P	25.	18.						
19511 P	21.	17.						
19512 P	20.	17.	28.	24.	24.	23.	25.	17.
19513 P	26.	23.						
19514 NP	26.	22.						
19515 P	24.	20.						
19516 P	27.	23.	24.	31.	26.	30.	26.	25.

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAYS = DAYS OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 17 (PAGE 2): MATERNAL FEED CONSUMPTION VALUES - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP II	0.1 MG/KG/DAY										
PREGNANCY STATUS	DAYS 0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12	12 - 13
19517 NP	21.	12.	16.	19.	18.	15.	18.	16.	16.	14.	17.	21.	18.
19518 P	26.	24.	26.	23.	24.	28.	25.	25.	25.	23.	26.	27.	25.
19519 P	19.	23.	15.	23.	21.	24.	27.	20.	25.	24.	26.	21.	26.
19520	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED												
19521 P	25.	23.	25.	19.	21.	22.	15.	24.	24.	25.	22.	23.	25.
19522 P	17.	23.	20.	22.	23.	23.	24.	19.	25.	22.	23.	24.	25.
19523 P	22.	21.	25.	23.	24.	24.	-21.	22.	25.	25.	24.	26.	26.
19524 P	23.	24.	29.	27.	29.	28.	25.	26.	27.	32.	29.	26.	27.
19525 P	16.	21.	19.	21.	19.	19.	22.	20.	19.	18.	20.	21.	23.
19526 P	20.	25.	23.	26.	23.	23.	28.	22.	24.	25.	23.	24.	26.
19527 P	20.	19.	20.	21.	18.	24.	26.	18.	22.	19.	19.	27.	20.
19528 P	25.	24.	28.	28.	26.	26.	30.	26.	29.	24.	30.	24.	30.
19529 P	21.	23.	20.	26.	22.	21.	24.	18.	24.	21.	22.	20.	26.
19530 P	22.	27.	23.	29.	25.	30.	24.	26.	28.	27.	25.	24.	28.
19531 P	16.	21.	24.	28.	24.	24.	25.	22.	28.	26.	26.	28.	29.
19532 P	20.	23.	20.	23.	23.	25.	22.	23.	27.	24.	22.	25.	28.

	DAYS 13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21
19517 NP	11.	a						
19518 P	22.	a	27.	25.	32.	28.	28.	28.
19519 P	21.	22.	26.	28.	25.	29.	22.	12.
19520	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED							
19521 P	20.	17.	28.	29.	25.	26.	26.	18.
19522 P	21.	22.						
19523 P	26.	18.	21.	23.	26.	28.	24.	20.
19524 P	24.	22.	27.	26.	28.	30.	28.	26.
19525 P	22.	18.						
19526 P	25.	18.						
19527 P	19.	a						
19528 P	21.	19.	4.	16.	16.	28.	26.	23.
19529 P	20.	21.	27.	26.	25.	31.	24.	23.
19530 P	23.	15.						
19531 P	22.	17.						
19532 P	24.	21.						

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAYS = DAYS OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Spilled feed precluded the calculation of this value.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 17 (PAGE 3): MATERNAL FEED CONSUMPTION VALUES - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP III	0.4 MG/KG/DAY										
PREGNANCY STATUS	DAYS 0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12	12 - 13
19533 P	19.	17.	17.	20.	19.	19.	19.	19.	18.	18.	21.	18.	22.
19534 P	24.	27.	23.	24.	22.	26.	a	21.	23.	25.	24.	25.	29.
19535 P	8.	17.	17.	21.	18.	20.	a	20.	21.	22.	20.	21.	27.
19536 P	16.	21.	21.	21.	21.	17.	21.	22.	19.	17.	25.	21.	22.
19537 P	16.	16.	19.	21.	22.	20.	a	18.	21.	20.	19.	21.	23.
19538 P	19.	18.	19.	18.	17.	22.	16.	18.	20.	19.	18.	24.	19.
19539 P	18.	17.	20.	22.	20.	22.	a	25.	22.	20.	22.	22.	23.
19540 P	17.	24.	20.	24.	23.	25.	a	21.	27.	24.	22.	22.	28.
19541	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED												
19542 P	25.	20.	22.	21.	24.	24.	20.	21.	20.	23.	24.	26.	26.
19543 P	27.	23.	25.	26.	23.	26.	24.	24.	25.	26.	25.	26.	28.
19544 P	24.	28.	19.	25.	24.	22.	a	24.	24.	30.	21.	27.	28.
19545 NP	MATING NOT CONFIRMED												
19546 P	12.	22.	24.	27.	26.	30.	a	25.	29.	26.	25.	24.	32.
19547 P	21.	23.	23.	25.	21.	23.	a	21.	22.	23.	23.	23.	27.
19548 NP	16.	21.	20.	21.	20.	17.	a	21.	23.	22.	23.	20.	24.

	DAYS 13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21
19533 P	19.	16.	22.	25.	25.	23.	22.	19.
19534 P	26.	11.	24.	17.	17.	25.	30.	23.
19535 P	22.	19.						
19536 P	21.	10.	21.	20.	25.	26.	28.	24.
19537 P	20.	17.						
19538 P	17.	9.						
19539 P	22.	18.						
19540 P	22.	14.						
19541	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED							
19542 P	22.	b						
19543 P	23.	19.	39.	27.	28.	23.	28.	20.
19544 P	24.	21.						
19545 NP	MATING NOT CONFIRMED							
19546 P	26.	20.	31.	21.	31.	34.	27.	21.
19547 P	22.	18.						
19548 NP	20.	19.	18.	18.	20.	18.	20.	19.

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAYS = DAYS OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Value not recorded.
b. Spilled feed precluded the calculation of this value.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 17 (PAGE 4): MATERNAL FEED CONSUMPTION VALUES - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP IV			1.6 MG/KG/DAY								
PREGNANCY STATUS	DAYS 0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12	12 - 13
19549 NP	MATING NOT CONFIRMED												
19550 P	14.	16.	16.	16.	18.	20.	a	17.	23.	22.	23.	25.	21.
19551 NP	MATING NOT CONFIRMED												
19552 NP	MATING NOT CONFIRMED												
19553 P	15.	16.	20.	21.	18.	17.	a	19.	22.	21.	23.	24.	28.
19554 P	b	17.	15.	19.	23.	22.	a	23.	22.	21.	22.	19.	26.
19555 NP	19.	20.	18.	24.	18.	16.	a	17.	19.	15.	20.	20.	23.
19556 NP	19.	11.	18.	16.	15.	11.	17.	18.	18.	15.	19.	22.	16.
19557	MORIBUND SACRIFICED ON DAY 43 OF STUDY (DAY 2 OF COHABITATION)												
19558 P	14.	22.	22.	22.	20.	18.	a	23.	25.	24.	25.	23.	27.
19559 NP	15.	18.	18.	19.	20.	21.	21.	20.	20.	21.	23.	20.	16.
19560 P	24.	23.	21.	22.	23.	18.	16.	21.	17.	22.	21.	20.	26.
19561c	18.	20.	18.	17.	20.	18.	a	19.	20.	20.	21.	15.	13.
19562 P	18.	21.	19.	20.	21.	21.	17.	20.	23.	23.	25.	25.	23.
19563 P	19.	23.	21.	21.	19.	18.	a	18.	22.	22.	22.	23.	24.
19564 P	13.	18.	16.	20.	18.	20.	a	17.	20.	20.	20.	17.	22.

	DAYS 13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21
19549 NP	MATING NOT CONFIRMED							
19550 P	20.	16.						
19551 NP	MATING NOT CONFIRMED							
19552 NP	MATING NOT CONFIRMED							
19553 P	20.	18.						
19554 P	21.	18.						
19555 NP	17.	17.						
19556 NP	14.	b	21.	20.	14.	19.	18.	15.
19557	MORIBUND SACRIFICED ON DAY 43 OF STUDY (DAY 2 OF COHABITATION)							
19558 P	23.	15.						
19559 NP	8.	b	13.	14.	14.	17.	20.	17.
19560 P	17.	24.	28.	26.	27.	27.	29.	22.
19561c	18.	13.						
19562 P	25.	21.	22.	33.	25.	28.	26.	21.
19563 P	22.	18.						
19564 P	19.	15.						

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAYS = DAYS OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Value not recorded.
b. Spilled feed precluded the calculation of this value.
c. Necropsy and Caesarean-section observations were not recorded for rat 19561.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 17 (PAGE 5): MATERNAL FEED CONSUMPTION VALUES - PRESUMED GESTATION - INDIVIDUAL DATA

RAT #	DOSAGE GROUP V			3.2 MG/KG/DAY								
PREGNANCY STATUS	DAYS 0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12	12 - 13
19565 P	6.	9.	12.	10.	15.	14.	a	26.	21.	19.	21.	20.	23.
19566 P	19.	17.	17.	13.	10.	13.	14.	14.	20.	22.	21.	27.	27.
19567 P	10.	15.	17.	15.	18.	21.	20.	19.	22.	22.	21.	24.	24.
19568 P	13.	16.	17.	17.	17.	17.	a	19.	20.	19.	21.	19.	24.
19569 P	16.	14.	15.	13.	19.	17.	15.	10.	14.	18.	21.	19.	20.
19570 P	16.	15.	15.	14.	22.	22.	23.	14.	21.	19.	17.	22.	24.
19571 P	18.	15.	19.	22.	19.	18.	11.	16.	21.	22.	21.	24.	22.
19572 P	19.	18.	18.	13.	18.	17.	33.	14.	20.	18.	19.	24.	20.
19573 P	4.	8.	b	19.	22.	20.	a	15.	20.	19.	21.	20.	24.
19574 P	15.	18.	21.	23.	18.	21.	a	18.	20.	23.	24.	22.	27.
19575 P	7.	12.	b	b	19.	20.	a	13.	20.	23.	22.	22.	28.
19576 NP	MATING NOT CONFIRMED												
19577 P	13.	14.	11.	6.	2.	6.	a	b	18.	20.	23.	21.	26.
19578 NP	MATING NOT CONFIRMED												
19579 P	9.	13.	6.	30.	27.	16.	10.	17.	16.	23.	19.	16.	18.
19580 P	9.	16.	15.	13.	18.	15.	a	15.	17.	17.	21.	20.	21.

	DAYS 13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21
19565 P	18.	14.						
19566 P	20.	b						
19567 P	22.	b						
19568 P	21.	17.	20.	23.	25.	26.	24.	23.
19569 P	14.	17.	24.	22.	24.	17.	21.	11.
19570 P	21.	b						
19571 P	21.	19.	25.	27.	25.	29.	24.	23.
19572 P	18.	14.	25.	25.	31.	26.	23.	30.
19573 P	22.	16.						
19574 P	20.	19.						
19575 P	25.	20.						
19576 NP	MATING NOT CONFIRMED							
19577 P	18.	20.	23.	17.	22.	24.	23.	18.
19578 NP	MATING NOT CONFIRMED							
19579 P	17.	15.	19.	23.	24.	18.	15.	19.
19580 P	18.	15.						

P = PREGNANT NP = NOT PREGNANT (VALUES EXCLUDED FROM AVERAGES)
DAYS = DAYS OF PRESUMED GESTATION
ALL WEIGHTS WERE RECORDED IN GRAMS (G).
a. Value not recorded.
b. Spilled feed precluded the calculation of this value.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 18 (PAGE 1): CAESAREAN-SECTIONING OBSERVATIONS - INDIVIDUAL DATA

RATS CAESAREAN-SECTION ON DAY 15 OF PRESUMED GESTATION

RAT #	VIABLE EMBRYOS RIGHT HORN	VIABLE EMBRYOS LEFT HORN	VIABLE EMBRYOS TOTAL	NONVIABLE EMBRYOS RIGHT HORN	NONVIABLE EMBRYOS LEFT HORN	NONVIABLE EMBRYOS TOTAL	IMPLANTATION SITES RIGHT HORN	IMPLANTATION SITES LEFT HORN	IMPLANTATION SITES TOTAL	CORPORA LUTEA RIGHT OVARY	CORPORA LUTEA LEFT OVARY	CORPORA LUTEA TOTAL
DOSAGE GROUP I			0 (VEHICLE) MG/KG/DAY									
19501	5	9	14	1	0	1	6	9	15	9	10	19
19502	NOT PREGNANT											
19508	9	7	16	0	0	0	9	7	16	9	7	16
19510	5	6	11	1	1	2	6	7	13	6	7	13
19511	8	11	19	0	0	0	8	11	19	11	12	23
19513	10	6	16	0	0	0	10	6	16	10	6	16
19514	NOT PREGNANT											
19515	7	6	13	2	1	3	9	7	16	10	7	17
DOSAGE GROUP II			0.1 MG/KG/DAY									
19517	NOT PREGNANT											
19522	8	7	15	0	0	0	8	7	15	9	8	17
19525	4	2	6	0	1	1	4	3	7	7	9	16
19526	5	5	10	0	0	0	5	5	10	10	9	19
19527	8	9	17	0	1	1	8	10	18	10	10	20
19530	4	7	11	4	0	4	8	7	15	9	9	18
19531	8	7	15	1	0	1	9	7	16	9	11	20
19532	8	4	12	1	0	1	9	4	13	10	6	16
DOSAGE GROUP III			0.4 MG/KG/DAY									
19535	4	3	7	1	1	2	5	4	9	8	7	15
19537	0	3	3	1	2	3	1	5	6	4	8	12
19538	8	4	12	0	0	0	8	4	12	9	6	15
19539	7	6	13	2	0	2	9	6	15	9	9	18
19540	9	7	16	0	0	0	9	7	16	11	7	18
19542	8	8	16	0	0	0	8	8	16	9	10	19
19544	6	5	11	2	1	3	8	6	14	12	10	22
19547	5	11	16	0	0	0	5	11	16	6	12	18

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 18 (PAGE 2): CAESAREAN-SECTIONING OBSERVATIONS - INDIVIDUAL DATA

RATS CAESAREAN-SECTION ON DAY 15 OF PRESUMED GESTATION

RAT #	VIABLE EMBRYOS RIGHT HORN	VIABLE EMBRYOS LEFT HORN	VIABLE EMBRYOS TOTAL	NONVIABLE EMBRYOS RIGHT HORN	NONVIABLE EMBRYOS LEFT HORN	NONVIABLE EMBRYOS TOTAL	IMPLANTATION SITES RIGHT HORN	IMPLANTATION SITES LEFT HORN	IMPLANTATION SITES TOTAL	CORPORA LUTEA RIGHT OVARY	CORPORA LUTEA LEFT OVARY	CORPORA LUTEA TOTAL
DOSAGE GROUP IV	1.6 MG/KG/DAY											
19550	9	5	14	0	0	0	9	5	14	9	10	19
19553	6	7	13	1	0	1	7	7	14	10	10	20
19554	9	5	14	0	1	1	9	6	15	10	7	17
19555	NOT PREGNANT											
19558	7	6	13	3	0	3	10	6	16	10	8	18
19561	NECROPSY AND CAESAREAN-SECTION OBSERVATIONS WERE NOT RECORDED											
19563	5	7	12	1	1	2	6	8	14	8	11	19
19564	7	4	11	0	1	1	7	5	12	13	13	26
DOSAGE GROUP V	3.2 MG/KG/DAY											
19565	2	4	6	0	0	0	2	4	6	6	7	13
19566	7	5	12	1	0	1	8	5	13	9	8	17
19567	8	5	13	0	0	0	8	5	13	9	8	17
19570	6	9	15	1	1	2	7	10	17	7	10	17
19573	5	9	14	0	1	1	5	10	15	5	10	15
19574	7	6	13	0	0	0	7	6	13	10	10	20
19575	7	6	13	0	4	4	7	10	17	8	11	19
19580	7	8	15	0	0	0	7	8	15	11	10	21

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 18 (PAGE 3): CAESAREAN-SECTIONING OBSERVATIONS - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF PRESUMED GESTATION

			VIABLE FETUSES			DEAD FETUSES			EARLY RESORPTIONS			LATE RESORPTIONS			IMPLANTATION SITES			CORPORA LUTEA		
	SEX		RIGHT	LEFT		RIGHT	LEFT		RIGHT	LEFT		RIGHT	LEFT		RIGHT	LEFT		RIGHT	LEFT	
RAT #	M	F	HORN		TOTAL	HORN		TOTAL	HORN		TOTAL	HORN		TOTAL	HORN		TOTAL	OVARY		TOTAL
DOSAGE GROUP I						0 (VEHICLE) MG/KG/DAY														
19503	NO CONFIRMED MATING DATE; DELIVERED ON DAY 66 OF STUDY																			
19504	8	4	5	7	12	0	0	0	2	3	5	0	0	0	7	10	17	10	13	23
19505	8	9	4	13	17	0	0	0	0	2	2	0	0	0	4	15	19	4	16	20
19506	4	9	5	8	13	0	0	0	1	0	1	0	0	0	6	8	14	7	8	15
19507	7	7	9	5	14	0	0	0	0	1	1	0	0	0	9	6	15	13	12	25
19509	5	7	6	6	12	0	0	0	1	0	1	0	0	0	7	6	13	7	8	15
19512	7	7	4	10	14	0	0	0	0	0	0	0	0	0	4	10	14	4	11	15
19516	5	9	6	8	14	0	0	0	0	0	0	0	0	0	6	8	14	8	9	17
DOSAGE GROUP II						0.1 MG/KG/DAY														
19518	6	5	6	5	11	0	0	0	2	0	2	0	0	0	8	5	13	8	7	15
19519	9	7	9	7	16	0	0	0	0	0	0	0	0	0	9	7	16	10	7	17
19520	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED																			
19521	7	8	9	6	15	0	0	0	0	0	0	0	0	0	9	6	15	9	6	15
19523	3	7	8	2	10	0	0	0	1	1	2	1	1	2	10	4	14	10	4	14
19524	12	4	8	8	16	0	0	0	0	1	1	0	0	0	8	9	17	9	12	21
19528	3	2	1	4	5	0	0	0	1	2	3	0	0	0	2	6	8	6	9	15
19529	6	8	7	7	14	0	0	0	1	0	1	0	0	0	8	7	15	8	8	16
DOSAGE GROUP III						0.4 MG/KG/DAY														
19533	8	4	4	8	12	0	0	0	0	0	0	0	0	0	4	8	12	4	12	16
19534	8	6	7	7	14	0	0	0	0	0	0	0	0	0	7	7	14	13	15	28
19536	5	13	6	12	18	0	0	0	0	0	0	0	0	0	6	12	18	7	12	19
19541	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED																			
19543	11	6	10	7	17	0	0	0	1	1	2	0	0	0	11	8	19	11	10	21
19545	MATING NOT CONFIRMED																			
19546	4	1	4	1	5	0	0	0	1	3	4	0	0	0	5	4	9	14	11	25
19548	NOT PREGNANT																			

M = MALE F = FEMALE

PLACENTAE APPEARED NORMAL UNLESS NOTED OTHERWISE.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 18 (PAGE 4): CAESAREAN-SECTIONING OBSERVATIONS - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF PRESUMED GESTATION

			VIABLE FETUSES			DEAD FETUSES		EARLY RESORPTIONS		LATE RESORPTIONS		IMPLANTATION SITES			CORPORA LUTEA		
	SEX		RIGHT	LEFT		RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT		RIGHT	LEFT	
RAT #	M	F	HORN	HORN	TOTAL	HORN	TOTAL	HORN	TOTAL	HORN	TOTAL	HORN	HORN	TOTAL	OVARY	OVARY	TOTAL
DOSAGE GROUP IV				1.6 MG/KG/DAY													
19549	MATING NOT CONFIRMED																
19551	MATING NOT CONFIRMED																
19552	MATING NOT CONFIRMED																
19556	NOT PREGNANT																
19557	MORIBUND SACRIFICED ON DAY 43 OF STUDY (DAY 2 OF COHABITATION)																
19559	NOT PREGNANT																
19560	5	7	9	3	12	0	0	0	0	0	0	0	0	0	9	3	12	12	7	19
19562	10	10	8	12	20	0	0	0	0	2	2	0	0	0	8	14	22	8	14	22
DOSAGE GROUP V				3.2 MG/KG/DAY													
19568	6	0	6	0	6	0	0	0	0	3	3	0	0	0	6	3	9	8	11	19
19569	6	7	9	4	13	0	0	0	0	0	0	0	0	0	9	4	13	10	6	16
19571	DELIVERED ON DAY 21 OF GESTATION																
19572	6	6	7	5	12	0	0	0	1	2	3	0	0	0	8	7	15	8	9	17
19576	MATING NOT CONFIRMED																
19577	1	3	4	0	4	0	0	0	1	0	1	0	0	0	5	0	5	8	5	13
19578	MATING NOT CONFIRMED																
19579	DELIVERED ON DAY 21 OF GESTATION																

M = MALE F = FEMALE

PLACENTAE APPEARED NORMAL UNLESS NOTED OTHERWISE.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 19 (PAGE 1): LITTER OBSERVATIONS (CAESAREAN-DELIVERED EMBRYOS OR FETUSES) - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 15 OF GESTATION

RAT #	NUMBER OF LIVE EMBRYOS TOTAL	CONCEPTUSES N	NONVIABLE N	NONVIABLE %
DOSAGE GROUP I	0 (VEHICLE) MG/KG/DAY			
19501	14	15	1	6.7
19502	NOT PREGNANT			
19508	16	16	0	0.0
19510	11	13	2	15.4
19511	19	19	0	0.0
19513	16	16	0	0.0
19514	NOT PREGNANT			
19515	13	16	3	18.8
DOSAGE GROUP II	0.1 MG/KG/DAY			
19517	NOT PREGNANT			
19522	15	15	0	0.0
19525	6	7	1	14.3
19526	10	10	0	0.0
19527	17	18	1	5.6
19530	11	15	4	26.7
19531	15	16	1	6.2
19532	12	13	1	7.7
DOSAGE GROUP III	0.4 MG/KG/DAY			
19535	7	9	2	22.2
19537	3	6	3	50.0
19538	12	12	0	0.0
19539	13	15	2	13.3
19540	16	16	0	0.0
19542	16	16	0	0.0
19544	11	14	3	21.4
19547	16	16	0	0.0

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 19 (PAGE 2): LITTER OBSERVATIONS (CAESAREAN-DELIVERED EMBRYOS OR FETUSES) - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 15 OF GESTATION

RAT #	NUMBER OF LIVE EMBRYOS TOTAL	CONCEPTUSES N	NONVIABLE N	NONVIABLE %
DOSAGE GROUP IV	1.6 MG/KG/DAY			
19550	14	14	0	0.0
19553	13	14	1	7.1
19554	14	15	1	6.7
19555	NOT PREGNANT			
19558	13	16	3	18.8
19561	NECROPSY AND CAESAREAN-SECTION OBSERVATIONS WERE NOT RECORDED			
19563	12	14	2	14.3
19564	11	12	1	8.3
DOSAGE GROUP V	3.2 MG/KG/DAY			
19565	6	6	0	0.0
19566	12	13	1	7.7
19567	13	13	0	0.0
19570	15	17	2	11.8
19573	14	15	1	6.7
19574	13	13	0	0.0
19575	13	17	4	23.5
19580	15	15	0	0.0

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 19 (PAGE 3): LITTER OBSERVATIONS (CAESAREAN-DELIVERED EMBRYOS OR FETUSES) - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

	NUMBER OF LIVE FETUSES			AVERAGE FETAL BODY WEIGHT (G)			---- CONCEPTUSES ------		
								RESORBED	
RAT #	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL a	N	N	%
DOSAGE GROUP I			0 (VEHICLE) MG/KG/DAY						
19503	NO CONFIRMED DATE OF MATING; DELIVERED ON DAY 66 OF STUDY								
19504	8	4	12	4.75	4.44	4.64	17	5	29.4
19505	8	9	17	5.13	5.10	5.12	19	2	10.5
19506	4	9	13	5.66	5.48	5.54	14	1	7.1
19507	7	7	14	5.47	5.21	5.34	15	1	6.7
19509	5	7	12	5.34	5.14	5.22	13	1	7.7
19512	7	7	14	5.14	4.87	5.01	14	0	0.0
19516	5	9	14	5.17	4.87	4.98	14	0	0.0
DOSAGE GROUP II			0.1 MG/KG/DAY						
19518	6	5	11	4.80	4.52	4.67	13	2	15.4
19519	9	7	16	5.29	5.16	5.23	16	0	0.0
19520	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED								
19521	7	8	15	5.12	4.79	4.94	15	0	0.0
19523	3	7	10	5.47	5.28	5.34	14	4	28.6
19524	12	4	16	5.51	5.11	5.41	17	1	5.9
19528	3	2	5	6.45	5.06	5.89	8	3	37.5
19529	6	8	14	5.87	5.54	5.68	15	1	6.7
DOSAGE GROUP III			0.4 MG/KG/DAY						
19533	8	4	12	5.30	4.89	5.16	12	0	0.0
19534	8	6	14	5.00	4.82	4.92	14	0	0.0
19536	5	13	18	5.31	5.05	5.12	18	0	0.0
19541	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED								
19543	11	6	17	5.18	4.72	5.02	19	2	10.5
19545	MATING NOT CONFIRMED								
19546	4	1	5	5.18	4.70	5.09	9	4	44.4
19548	NOT PREGNANT								

a. TOTAL = SUM OF FETAL WEIGHTS/NUMBER OF LIVE FETUSES.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 19 (PAGE 4): LITTER OBSERVATIONS (CAESAREAN-DELIVERED EMBRYOS OR FETUSES) - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

	NUMBER OF LIVE FETUSES			AVERAGE FETAL BODY WEIGHT (G)			---- CONCEPTUSES ------ RESORBED		
RAT #	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL a	N	N	%
DOSAGE GROUP IV			1.6 MG/KG/DAY						
19549	MATING NOT CONFIRMED								
19551	MATING NOT CONFIRMED								
19552	MATING NOT CONFIRMED								
19556	NOT PREGNANT								
19557	MORIBUND SACRIFICED ON DAY 43 OF STUDY (DAY 2 OF COHABITATION)								
19559	NOT PREGNANT								
19560	5	7	12	5.26	5.06	5.14	12	0	0.0
19562	10	10	20	4.97	4.84	4.91	22	2	9.1
DOSAGE GROUP V			3.2 MG/KG/DAY						
19568	6	0	6	4.50	----	4.50	9	3	33.3
19569	6	7	13	4.84	4.50	4.66	13	0	0.0
19571	DELIVERED ON DAY 21 OF GESTATION								
19572	6	6	12	4.78	4.57	4.68	15	3	20.0
19576	MATING NOT CONFIRMED								
19577	1	3	4	5.18	5.00	5.04	5	1	20.0
19578	MATING NOT CONFIRMED								
19579	DELIVERED ON DAY 21 OF GESTATION								

a. TOTAL = SUM OF FETAL WEIGHTS/NUMBER OF LIVE FETUSES.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 20 (PAGE 1): EMBRYONAL VITAL STATUS OR FETAL SEX, VITAL STATUS AND BODY WEIGHT - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 15 OF PRESUMED GESTATION

EMBRYO #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DOSAGE GROUP I							0 (VEHICLE) MG/KG/DAY																
RAT # CLs																							
19501 9/10	E	A	A	A	A	A /	A	A	A	A	A	A	A	A	A								
19502	NOT PREGNANT																						
19508 9/ 7	A	A	A	A	A	A	A	A	A /	A	A	A	A	A	A	A							
19510 6/ 7	E	A	A	A	A	A /	A	A	A	A	A	E	A										
19511 11/12	A	A	A	A	A	A	A	A /	A	A	A	A	A	A	A	A	A	A	A				
19513 10/ 6	A	A	A	A	A	A	A	A	A	A /	A	A	A	A	A	A							
19514	NOT PREGNANT																						
19515 10/ 7	E	A	A	E	A	A	A	A	A /	A	A	E	A	A	A	A							
DOSAGE GROUP II							0.1 MG/KG/DAY																
19517	NOT PREGNANT																						
19522 9/ 8	A	A	A	A	A	A	A	A /	A	A	A	A	A	A	A								
19525 7/ 9	A	A	A	A /	E	A	A																
19526 10/ 9	A	A	A	A	A /	A	A	A	A	A													
19527 10/10	A	A	A	A	A	A	A	A /	A	A	E	A	A	A	A	A	A	A					
19530 9/ 9	E	A	E	A	A	E	A	E /	A	A	A	A	A	A	A								
19531 9/11	A	A	A	A	A	A	A	A	E /	A	A	A	A	A	A	A							
19532 10/ 6	A	E	A	A	A	A	A	A	A /	A	A	A	A										

A = VIABLE EMBRYO E = NONVIABLE EMBRYO "/" DENOTES POSITION OF CERVIX
CLs = CORPORA LUTEA/OVARY

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 20 (PAGE 2): EMBRYONAL VITAL STATUS OR FETAL SEX, VITAL STATUS AND BODY WEIGHT - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 15 OF PRESUMED GESTATION

EMBRYO #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DOSAGE GROUP III					0.4 MG/KG/DAY																		
RAT # CLs																							
19535 8/ 7	A	E	A	A	A /	E	A	A	A														
19537 4/ 8	E /	E	A	A	A	E																	
19538 9/ 6	A	A	A	A	A	A	A	A /	A	A	A	A											
19539 9/ 9	A	A	A	A	E	E	A	A	A /	A	A	A	A	A	A								
19540 11/ 7	A	A	A	A	A	A	A	A	A /	A	A	A	A	A	A	A							
19542 9/10	A	A	A	A	A	A	A	A /	A	A	A	A	A	A	A	A							
19544 12/10	E	A	A	A	A	A	A	E /	A	A	A	A	E	A									
19547 6/12	A	A	A	A	A /	A	A	A	A	A	A	A	A	A	A	A							
DOSAGE GROUP IV					1.6 MG/KG/DAY																		
19550 9/10	A	A	A	A	A	A	A	A	A /	A	A	A	A	A									
19553 10/10	A	A	A	A	E	A	A /	A	A	A	A	A	A	A									
19554 10/ 7	A	A	A	A	A	A	A	A	A /	A	A	A	E	A	A								
19555	NOT PREGNANT																						
19558 10/ 8	E	E	E	A	A	A	A	A	A	A /	A	A	A	A	A	A							
19561a																							
19563 8/11	A	E	A	A	A	A /	A	A	E	A	A	A	A	A									
19564 13/13	A	A	A	A	A	A	A /	A	E	A	A	A											

A = VIABLE EMBRYO E = NONVIABLE EMBRYO "/" DENOTES POSITION OF CERVIX
CLs = CORPORA LUTEA/OVARY
a. Necropsy and Caesarean-section observations were not recorded for rat 19561.

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 20 (PAGE 3): EMBRYONAL VITAL STATUS OR FETAL SEX, VITAL STATUS AND BODY WEIGHT - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 15 OF PRESUMED GESTATION

EMBRYO #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DOSAGE GROUP V							3.2 MG/KG/DAY																
RAT # CLs																							
19565 6/ 7	A	A	/	A	A	A	A																
19566 9/ 8	E	A	A	A	A	A	A	A	/	A	A	A	A	A									
19567 9/ 8	A	A	A	A	A	A	A	A	/	A	A	A	A	A									
19570 7/10	A	A	A	A	A	A	E	/	E	A	A	A	A	A	A	A	A	A					
19573 5/10	A	A	A	A	A	/	A	A	E	A	A	A	A	A	A	A							
19574 10/10	A	A	A	A	A	A	A	/	A	A	A	A	A	A									
19575 8/11	A	A	A	A	A	A	A	/	A	A	E	E	A	A	E	E	A	A					
19580 11/10	A	A	A	A	A	A	A	/	A	A	A	A	A	A	A	A							

A = VIABLE EMBRYO E = NONVIABLE EMBRYO "/" DENOTES POSITION OF CERVIX
CLs = CORPORA LUTEA/OVARY

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 20 (PAGE 4): EMBRYONAL VITAL STATUS OR FETAL SEX, VITAL STATUS AND BODY WEIGHT - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF PRESUMED GESTATION

FETUS #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DOSAGE GROUP I							0 (VEHICLE) MG/KG/DAY																
RAT # CLs																							
19503	NO CONFIRMED MATING DATE; DELIVERED ON DAY 66 OF STUDY																						
19504 10/13	FA	E	MA	E	MA	MA	MA /	E	MA	E	MA	FA	MA	E	FA	MA	FA						
	4.29		4.79		4.76	4.62	4.71		5.10		4.01	4.84	5.21		3.80	4.77	4.83						
19505 4/16	FA	FA	MA	FA / MA	FA	MA	E	FA	MA	MA	FA	MA	MA	MA	E	FA	FA	FA					
	5.04	5.46	5.37	5.41	5.47	4.69	4.15		5.13	5.21	4.81	5.12	5.31	5.36	5.38		4.78	5.34	4.93				
19506 7/ 8	E	FA	MA	FA	MA	MA / FA		FA	FA	MA	FA	FA	FA	FA									
		5.53	5.93	5.66	5.31	5.43	5.40	5.68	5.64	5.95	4.67	5.87	5.22	5.70									
19507 13/12	MA	FA	MA	MA	MA	MA	FA	FA	FA /	E	FA	MA	MA	FA	FA								
	5.48	5.42	5.34	5.53	5.47	5.64	5.06	5.06	5.28		5.32	5.32	5.49	5.18	5.13								
19509 7/ 8	FA	FA	FA	FA	MA	FA	E / MA		MA	FA	FA	MA	MA										
	5.03	5.31	4.90	5.51	5.12	5.14		5.44	5.31	5.12	4.98	5.27	5.54										
19512 4/11	MA	FA	FA	FA / MA	FA	MA	MA	MA	MA	FA	FA	FA	MA										
	5.45	4.87	4.76	5.07	4.78	4.54	4.82	5.29	5.21	4.98	5.30	5.00	4.58	5.47									
19516 8/ 9	MA	FA	FA	FA	FA	FA / MA		MA	MA	FA	FA	FA	MA	FA									
	5.34	4.85	4.87	5.03	5.46	4.92	4.84	5.38	5.06	3.84	5.13	4.91	5.23	4.85									
DOSAGE GROUP II							0.1 MG/KG/DAY																
19518 8/ 7	FA	E	MA	FA	FA	E	FA	FA / MA		MA	MA	MA	MA										
	4.21		4.70	4.78	4.52		4.53	4.56	4.76	4.70	4.85	4.72	5.07										
19519 10/ 7	FA	MA	FA	FA	MA	FA	FA	MA	MA / FA		MA	MA	MA	FA	MA	MA							
	4.99	5.31	5.48	5.14	5.63	5.06	4.63	5.31	5.83	5.59	5.16	4.98	4.88	5.22	5.00	5.51							
19520	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED																						
19521 9/ 6	FA	FA	FA	MA	FA	FA	MA	MA	MA / FA		FA	MA	FA	MA	MA								
	4.89	4.74	4.62	4.66	4.90	4.81	4.92	4.92	5.28	4.49	4.86	5.20	4.98	5.45	5.42								
19523 10/ 4	E	FA	L	FA	FA	FA	FA	FA	MA	MA / MA		E	FA	L									
		4.80		5.52	5.42	5.23	5.57	4.81	5.58	5.32	5.52		5.62										
19524 9/12	FA	MA	MA	MA	MA	FA	MA	MA / MA		MA	E	MA	MA	MA	FA	MA	FA						
	5.16	5.37	5.51	5.64	5.54	5.11	5.70	5.55	5.00	5.49		5.73	5.32	5.56	5.16	5.72	5.00						
19528 6/ 9	E	MA / MA		E	E	FA	MA	FA															
		6.86	6.59			4.83	5.89	5.30															
19529 8/ 8	FA	MA	FA	MA	E	FA	FA	MA / FA		MA	FA	MA	FA	MA	FA								
	5.13	5.87	5.63	5.97		5.54	5.64	5.19	5.68	6.11	5.27	6.25	5.71	5.81	5.74								

M = MALE F = FEMALE A = ALIVE E = EARLY RESORPTION L = LATE RESORPTION */* DENOTES POSITION OF CERVIX
CLs = CORPORA LUTEA/OVARY FETAL BODY WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 20 (PAGE 5): EMBRYONAL VITAL STATUS OR FETAL SEX, VITAL STATUS AND BODY WEIGHT - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF PRESUMED GESTATION

	FETUS #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DOSAGE GROUP III							0.4 MG/KG/DAY																	
RAT #	CLs																							
19533	4/12	MA	MA	FA	MA / FA	FA	MA	MA	MA	MA	MA	FA												
		5.19	5.23	4.92	5.42	4.80	5.01	5.13	5.09	5.57	5.40	5.35	4.82											
19534	13/15	FA	MA	MA	MA	MA	MA	FA / FA	FA	MA	MA	FA	FA	MA										
		4.08	4.80	4.80	4.79	5.20	5.06	5.24	4.78	5.00	5.12	4.87	4.60	5.22	5.32									
19536	7/12	MA	FA	FA	FA	MA	FA / FA	FA	FA	FA	MA	FA	FA	FA	MA	FA	FA	MA						
		5.57	5.15	5.13	4.97	5.89	5.36	4.88	5.22	5.08	4.93	5.16	4.82	4.74	5.23	4.46	5.12	4.97	5.46					
19541		MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED																						
19543	11/10	E	FA	MA	FA	MA	MA	FA	MA	MA	FA	MA / FA	E	MA	MA	MA	MA	MA	FA					
			4.83	5.07	4.60	5.10	5.26	4.66	5.08	5.19	4.47	5.51	4.60		4.74	5.41	5.48	5.38	4.71	5.17				
19545		MATING NOT CONFIRMED																						
19546	14/11	MA	MA	FA	E	MA / MA	E	E	E															
		5.04	5.56	4.70		5.30	4.84																	
19548		NOT PREGNANT																						
DOSAGE GROUP IV							1.6 MG/KG/DAY																	
19549		MATING NOT CONFIRMED																						
19551		MATING NOT CONFIRMED																						
19552		MATING NOT CONFIRMED																						
19556		NOT PREGNANT																						
19557		MORIBUND SACRIFICED ON DAY 43 OF STUDY (DAY 2 OF COHABITATION)																						
19559		NOT PREGNANT																						
19560	12/ 7	FA	FA	MA	MA	MA	FA	FA	FA	MA / MA	FA	FA												
		5.17	5.13	5.20	5.43	5.44	5.12	5.27	4.70	5.13	5.08	4.85	5.15											
19562	8/14	MA	MA	FA	FA	FA	FA	MA	FA / FA	FA	E	MA	E	MA	FA	MA	FA	MA	FA	MA	MA	MA		
		5.50	5.70	4.75	5.27	5.28	4.61	4.84	4.78	4.97	4.74		4.79		4.95	4.93	4.94	4.37	4.75	4.73	5.04	4.77	4.43	

M = MALE F = FEMALE A = ALIVE E = EARLY RESORPTION L = LATE RESORPTION */* DENOTES POSITION OF CERVIX
CLs = CORPORA LUTEA/OVARY FETAL BODY WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 20 (PAGE 6): EMBRYONAL VITAL STATUS OR FETAL SEX, VITAL STATUS AND BODY WEIGHT - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF PRESUMED GESTATION

FETUS #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DOSAGE GROUP V							3.2 MG/KG/DAY																

RAT #	CLs																						
19568	8/11	MA	MA	MA	MA	MA	MA /	E	E	E													
		4.12	3.73	4.16	5.19	4.98	4.84																
19569	10/ 6	FA	MA	FA	MA	FA	FA	MA	MA	FA / MA		FA	FA	MA									
		4.33	4.85	3.43	5.12	4.78	4.33	4.81	4.86	4.66	5.12	5.34	4.61	4.30									
19571		DELIVERED ON DAY 21 OF GESTATION																					
19572	8/ 9	FA	MA	FA	MA	MA	E	MA	FA / FA		E	FA	E	FA	MA	MA							
		4.51	4.56	4.55	5.02	4.96		4.31	4.76	4.39		4.67		4.55	4.67	5.15							
19576		MATING NOT CONFIRMED																					
19577	8/ 5	FA	E	FA	MA	FA /																	
		4.98		5.15	5.18	4.87																	
19578		MATING NOT CONFIRMED																					
19579		DELIVERED ON DAY 21 OF GESTATION																					

M = MALE F = FEMALE A = ALIVE E = EARLY RESORPTION L = LATE RESORPTION "/" DENOTES POSITION OF CERVIX
CLs = CORPORA LUTEA/OVARY FETAL BODY WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 21 (PAGE 1): PLACENTAL WEIGHTS - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

FETUS #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
RAT # MEAN	**DOSAGE GROUP I**								**0 (VEHICLE) MG/KG/DAY**														
19503	NO CONFIRMED MATING DATE; DELIVERED ON DAY 66 OF STUDY																						
19504	FA	E	MA	E	MA	MA	MA /	E	MA	E	MA	FA	MA	E	FA	MA	FA						
0.58	0.52		0.47		0.59	0.59	0.64		0.45		0.61	0.60	0.69		0.65	0.64	0.50						
19505	FA	FA	MA	FA /	MA	FA	MA	E	FA	MA	MA	FA	MA	MA	MA	E	FA	FA	FA				
0.44	0.53	0.48	0.52	0.47	0.48	0.43	0.40		0.37	0.47	0.38	0.41	0.41	0.48	0.41		0.38	0.46	0.43				
19506	E	FA	MA	FA	MA	MA /	FA	FA	FA	MA	FA	FA	FA	FA									
0.54		0.63	0.48	0.63	0.41	0.61	0.55	0.53	0.52	0.65	0.46	0.53	0.45	0.51									
19507	MA	FA	MA	MA	MA	MA	FA	FA	FA /	E	FA	MA	MA	FA	FA								
0.41	0.41	0.44	0.38	0.39	0.38	0.44	0.32	0.35	0.38		0.43	0.37	0.44	0.44	0.52								
19509	FA	FA	FA	FA	MA	FA	E /	MA	MA	FA	FA	MA	MA										
0.53	0.46	0.53	0.56	0.53	0.55	0.45		0.57	0.54	0.57	0.54	0.55	0.47										
19512	MA	FA	FA	FA /	MA	FA	MA	MA	MA	MA	FA	FA	FA	MA									
0.49	0.56	0.54	0.54	0.54	0.53	0.36	0.46	0.47	0.51	0.40	0.48	0.51	0.47	0.53									
19516	MA	FA	FA	FA	FA	FA /	MA	MA	MA	FA	FA	FA	MA	FA									
0.51	0.60	0.46	0.49	0.63	0.63	0.47	0.44	0.48	0.57	0.33	0.61	0.42	0.59	0.42									
RAT # MEAN	**DOSAGE GROUP II**								**0.1 MG/KG/DAY**														
19518	FA	E	MA	FA	FA	E	FA	FA /	MA	MA	MA	MA	MA										
0.51	0.49		0.53	0.55	0.54		0.53	0.42	0.66	0.44	0.41	0.46	0.54										
19519	FA	MA	FA	FA	MA	FA	FA	MA	MA /	FA	MA	MA	MA	FA	MA	MA							
0.45	0.43	0.48	0.47	0.47	0.47	0.42	0.38	0.46	0.43	0.44	0.50	0.45	0.55	0.38	0.45	0.49							
19520	MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED																						
19521	FA	FA	FA	MA	FA	FA	MA	MA	MA /	FA	FA	MA	FA	MA	MA								
0.45	0.44	0.46	0.40	0.44	0.49	0.49	0.48	0.42	0.46	0.37	0.47	0.41	0.48	0.42	0.50								
19523	E	FA	L	FA	FA	FA	FA	FA	MA	MA /	MA	E	FA	L									
0.53		0.49		0.55	0.56	0.44	0.55	0.55	0.56	0.49	0.52		0.59										
19524	FA	MA	MA	MA	MA	FA	MA	MA /	MA	MA	E	MA	MA	MA	FA	MA	FA						
0.53	0.60	0.52	0.58	0.67	0.47	0.55	0.52	0.58	0.46	0.46		0.67	0.54	0.53	0.40	0.49	0.42						
19528	E	MA /	MA	E	E	FA	MA	FA															
0.66		1.08	0.53			0.63	0.52	0.54															
19529	FA	MA	FA	MA	E	FA	FA	MA /	FA	MA	FA	MA	FA	MA	FA								
0.62	0.93	0.77	0.54	0.63		0.56	0.67	0.69	0.49	0.51	0.50	0.59	0.68	0.53	0.58								

M = MALE F = FEMALE A = ALIVE E = EARLY RESORPTION L = LATE RESORPTION "/" DENOTES POSITION OF CERVIX
CLs = CORPORA LUTEA/OVARY PLACENTAL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 21 (PAGE 2) : PLACENTAL WEIGHTS - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION																								
FETUS #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
RAT #	MEAN	DOSAGE GROUP III						0.4 MG/KG/DAY																
19533		MA	MA	FA	MA / FA	FA	MA	MA	MA	MA	MA	FA												
	0.45	0.52	0.38	0.34	0.44	0.42	0.46	0.40	0.43	0.47	0.58	0.50	0.47											
19534		FA	MA	MA	MA	MA	MA	FA / FA		FA	MA	MA	FA	FA	MA									
	0.57	0.49	0.58	0.50	0.51	0.60	0.61	0.62	0.50	0.61	0.53	0.65	0.61	0.53	0.64									
19536		MA	FA	FA	FA	MA	FA / FA		FA	FA	FA	MA	FA	FA	FA	MA	FA	FA	MA					
	0.46	0.45	0.48	0.50	0.54	0.53	0.40	0.38	0.54	0.42	0.39	0.49	0.47	0.45	0.47	0.33	0.48	0.46	0.47					
19541		MORIBUND SACRIFICED ON DAY 0 OF PRESUMED GESTATION; PREGNANCY STATUS COULD NOT BE DETERMINED																						
19543		E	FA	MA	FA	MA	MA	FA	MA	MA	FA	MA / FA		E	MA	MA	MA	MA	MA	FA				
	0.41		0.50	0.39	0.44	0.37	0.49	0.38	0.42	0.43	0.41	0.42	0.28		0.38	0.43	0.43	0.40	0.39	0.42				
19545		MATING NOT CONFIRMED																						
19546		MA	MA	FA	E	MA / MA		E	E	E														
	0.51	0.44	0.47	0.36		0.49	0.79																	
19548		NOT PREGNANT																						
RAT #	MEAN	DOSAGE GROUP IV						1.6 MG/KG/DAY																
19549		MATING NOT CONFIRMED																						
19551		MATING NOT CONFIRMED																						
19552		MATING NOT CONFIRMED																						
19556		NOT PREGNANT																						
19557		MORIBUND SACRIFICED ON DAY 43 OF STUDY (DAY 2 OF COHABITATION)																						
19559		NOT PREGNANT																						
19560		FA	FA	MA	MA	MA	FA	FA	FA	MA / MA		FA	FA											
	0.54	0.48	0.54	0.59	0.67	0.74	0.54	0.50	0.53	0.39	0.56	0.44	0.50											
19562		MA	MA	FA	FA	FA	FA	MA	FA / FA		FA	E	MA	E	MA	FA	MA	FA	MA	FA	MA	MA	MA	
	0.44	0.46	0.54	0.43	0.43	0.41	0.45	0.49	0.54	0.53	0.38		0.57		0.39	0.34	0.39	0.43	0.45	0.41	0.49	0.48	0.32	

M = MALE F = FEMALE A = ALIVE E = EARLY RESORPTION L = LATE RESORPTION "/" DENOTES POSITION OF CERVIX
CLs = CORPORA LUTEA/OVARY PLACENTAL WEIGHTS WERE RECORDED IN GRAMS (G).

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS (SPONSOR'S STUDY NUMBER: T-6295.12)

TABLE 21 (PAGE 3) : PLACENTAL WEIGHTS - INDIVIDUAL DATA

RATS CAESAREAN-SECTIONED ON DAY 21 OF GESTATION

FETUS #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
RAT #	MEAN	DOSAGE GROUP V						3.2 MG/KG/DAY																
19568		MA	MA	MA	MA	MA	MA /	E		E														
	0.62	0.71	0.54	0.76	0.59	0.59	0.54																	
19569		FA	MA	FA	MA	FA	FA	MA	MA	FA /	MA	FA	FA	MA										
	0.50	0.54	0.45	0.47	0.55	0.51	0.44	0.48	0.50	0.58	0.42	0.56	0.53	0.48									
19571		DELIVERED ON DAY 21 OF GESTATION																						
19572		FA	MA	FA	MA	MA	E	MA	FA /	FA	E	FA	E	FA	MA	MA								
	0.42	0.38	0.38	0.39	0.58	0.56		0.39	0.42	0.38		0.51		0.36	0.42	0.30								
19576		MATING NOT CONFIRMED																						
19577		FA	E	FA	MA	FA /																		
	0.67	0.69		0.68	0.68	0.63																		
19578		MATING NOT CONFIRMED																						
19579		DELIVERED ON DAY 21 OF GESTATION																						

M = MALE F = FEMALE A = ALIVE E = EARLY RESORPTION L = LATE RESORPTION "/" DENOTES POSITION OF CERVIX
CLs = CORPORA LUTEA/OVARY PLACENTAL WEIGHTS WERE RECORDED IN GRAMS (G).

APPENDIX C

PROTOCOL AND AMENDMENT

PRIMEDICA

Argus Research Laboratories, Inc.
905 Sheehy Drive, Building A
Horsham, PA 19044
Telephone: (215) 443-8710
Telefax: (215) 443-8587

PROTOCOL 418-013

SPONSOR'S STUDY NUMBER: T-6295.12

STUDY TITLE: Oral (Gavage) Pharmacokinetic Study of PFOS in Rats

PURPOSE: The purpose of this study is to evaluate the pharmacokinetics of PFOS in Fo generation dams and F1 generation fetuses following PFOS treatment of Crl:CD®BR VAF/Plus® female rats during premating and gestation.

TESTING FACILITY:
Argus Research Laboratories, Inc.
905 Sheehy Drive, Building A
Horsham, Pennsylvania 19044-1297
Telephone: (215) 443-8710
Telefax: (215) 443-8587

STUDY DIRECTOR:
Raymond G. York, Ph.D., DABT
Associate Director of Research

SPONSOR:
3M Corporate Toxicology
3M Center, Building 220-2E-02
St. Paul, Minnesota 55144-1000

STUDY MONITOR:
Marvin T. Case, D.V.M., Ph.D.
Telephone: (651) 733-5180
Telefax: (651) 733-1773

ALTERNATE STUDY MONITOR:
Andrew M. Seacat, Ph.D.
Telephone: (651) 575-3161
Telefax: (651) 733-1773

REGULATORY CITATIONS:

U.S. Food and Drug Administration (1994). International Conference on Harmonisation; Guideline on detection of toxicity to reproduction for medicinal products. *Federal Register*, September 22, 1994, Vol. 59, No. 183.

U.S. Food and Drug Administration. Good Laboratory Practice Regulations; Final Rule. 21 CFR Part 58.

Japanese Ministry of Health and Welfare (1997). *Good Laboratory Practice Standard for Safety Studies on Drugs*, MHW Ordinance Number 21, March 26, 1997.

European Economic Community (1989). *Council decision on 28 July 1989 on the acceptance by the European Economic Community of an OECD decision/recommendation on compliance with principles of good laboratory practice.* Official Journal of the European Communities: Legislation. 32 (No. L 315; 28 October): 1-17.

REGULATORY COMPLIANCE:

This study will be conducted in compliance with the Good Laboratory Practice (GLP) regulations cited above.

All changes or revisions of this protocol shall be documented, signed by the Study Director and the Sponsor, dated and maintained with the protocol.

The Quality Assurance Unit (QAU) will audit the protocol, the raw data and the report, and will inspect critical phases of the study in accordance with the Standard Operating Procedures of Argus Research Laboratories, Inc.

The final report will include a statement signed by the Study Director that the report accurately reflects the raw data obtained during the performance of the study and that all applicable GLP regulations were followed in the conduct of the study. Should significant deviations from GLP regulations occur, each will be described in detail, together with how the deviation might affect the quality or integrity of the study.

SCHEMATIC OF STUDY DESIGN AND STUDY SCHEDULE:

See ATTACHMENT 1 to the protocol.

TEST ARTICLE AND VEHICLE:

Identification:

Test Article:

Name:	PFOS (Synonym: FC-95).
Physical Description:	Light-colored powder.
Lot/Batch Number:	217.
Specific Gravity:	~0.6.
Purity:	98.9%.
Expiration Date:	May 2000.

Information on the identity, composition, strength and purity of the test article is on file with the Sponsor.

Vehicle:

0.5% Tween® 80 in Reverse Osmosis Membrane Processed Deionized Water (R.O. Deionized Water). Supplier and lot identification of Tween® 80 to be documented in the raw data.

Neither the Sponsor nor the Study Director is aware of any potential contaminants likely to be present in the vehicle that would interfere with the results of this study. Therefore, no analyses other than those mentioned in this protocol will be conducted.

Safety Precautions:

Gloves, mask, appropriate eye protection and a uniform/lab coat are to be worn during formulation preparation and administration. The Material Safety Data Sheet (MSDS) is attached to the protocol (ATTACHMENT 2).

Storage:

Bulk Test Article:	Room temperature.
Vehicle Components:	Room temperature.
Prepared Vehicle:	Room temperature.
Prepared Formulations:	Room temperature.

All test article shipments to the Testing Facility should be addressed to the attention of Julian Gulbinski, Manager of Formulations, at the previously cited address and telephone number.

Shipments should include information concerning storage conditions and shipping cartons should be labeled appropriately. The recipient should be notified in advance of shipment.

FORMULATION:

Frequency of Preparation:

Formulations (suspensions) will be prepared daily at the Testing Facility. Data verifying the stability of the test article in the vehicle for 48 hours under the conditions of administration are on file with the Sponsor.

Detailed preparation procedures are attached to this protocol (ATTACHMENT 3).

Adjustment for Purity:

The test article will be considered 100% pure for the purpose of dosage calculations.

Testing Facility Reserve Samples:

The Sponsor will reserve a sample (1 g) of each lot of the bulk test article used during the course of this study. The Testing Facility will reserve a sample (5 mL) of each lot of the vehicle components used during the course of this study. Samples will be stored under the previously cited conditions.

ANALYSES:

Samples additional to those described below may be taken if deemed necessary during the course of the study.

Bulk Test Article Sampling:

No analyses of the bulk test article will be conducted during the course of this study. Information on the stability of the bulk test article is on file with the Sponsor.

Analyses of Prepared Formulations:

Homogeneity and stability of prepared formulations is on file with the Sponsor. However, records will be maintained to document how the test article formulations were prepared.

Body Weight and Age:

Female rats will be ordered to have body weights of 200 g to 225 g each at receipt, at which time they will be expected to be at least 60 days of age. Actual body weights will be recorded the day after receipt and will be documented in the raw data. The weight range will be included in the final report.

Sex:

Female rats will be given the test article. Male rats of the same source and strain will be used only as breeders and are not considered part of the Test System.

Source:

Charles River Laboratories, Inc.

The rats will be shipped in filtered cartons by air freight and/or truck from Charles River Laboratories, Inc., to the Testing Facility.

Identification:

Rats are permanently identified using Monel® self-piercing ear tags (Gey Band and Tag Co., Inc., No. MSPT 20101). Male rats are given unique permanent identification numbers upon assignment to the Testing Facility's breeder male rat population. Female rats are assigned temporary numbers at receipt and given unique permanent identification numbers when assigned to the study.

ANIMAL HUSBANDRY:

All cage sizes and housing conditions are in compliance with the *Guide for the Care and Use of Laboratory Animals*[4].

Housing:

Female rats will be individually housed in stainless steel, wire-bottomed cages, except during the cohabitation period and during collection intervals for urine and fecal samples. During cohabitation, each pair of rats will be housed in the male rat's cage. During collection intervals for urine and fecal samples, the female rats will be housed individually in metabolism cages. No nesting materials will be supplied because the female rats will be sacrificed before parturition is expected.

Concentration of Test Article Formulations:

Concentration of the prepared formulations will be verified during the course of this study. Duplicate samples (2 mL each) will be taken from the first and last preparation on the day prepared. One sample of each set will be shipped for analysis; the remaining samples will be retained at the Testing Facility as backup samples. Backup samples will be stored frozen (-70°C or below) and discarded at the Testing Facility upon request of the Sponsor.

Shipping Instructions:

Samples to be analyzed will be shipped (frozen on dry ice) to:

Kris J. Hansen, Ph.D.
3M Environmental Technology and Safety Services
935 Bush Avenue
Building 2-3E-09
St. Paul, Minnesota 55133-3331
Telephone: (612) 778-6018
Telefax: (612) 778-6176

The recipient will be notified in advance of sample shipment.

DISPOSITION:

Prepared formulations will be discarded at the Testing Facility. All remaining bulk test article will be returned to the Study Monitor at the previously cited address upon completion of all work with the test article.

TEST SYSTEM:

Species/Strain and Reason for Selection:

The Crl:CD®BR VAF/Plus® (Sprague-Dawley) rat was selected as the Test System because: 1) this strain of rat was used in the reproductive and developmental toxicity studies; 2) historical data and experience exist at the Testing Facility[1-3]; and 3) the test article is pharmacologically active in the species and strain.

Number:

Initial population acclimated:	120 virgin female rats.
Population selected for study:	80 mated female rats (16 per dosage group).

Room Air, Temperature and Humidity:

The animal room is independently supplied with at least ten changes per hour of 100% fresh air that has been passed through 99.97% HEPA filters (Airo Clean® room). Room temperature will be maintained at 64°F (18°C) to 79°F (26°C) and monitored constantly. Room humidity will also be monitored constantly and maintained at 30% to 70%.

Light:

An automatically controlled 12-hour light:12-hour dark fluorescent light cycle will be maintained. Each dark period will begin at 1900 hours EST.

Diet:

Rats will be given Certified Rodent Diet® #5002 (PMI Nutrition International) available *ad libitum* from individual feeders.

Water:

Water will be available *ad libitum* from individual bottles attached to the cages or from an automatic watering access system. All water will be from a local source and passed through a reverse osmosis membrane before use. Chlorine will be added to the processed water as a bacteriostat; processed water is expected to contain no more than 1.2 ppm chlorine at the time of analysis. Water is analyzed monthly for possible bacterial contamination and twice annually for possible chemical contamination.

Contaminants:

Neither the Sponsor nor the Study Director is aware of any potential contaminants likely to be present in the certified diet or the drinking water at levels that would interfere with the results of this study. Therefore, no analyses other than those routinely performed by the feed supplier or those mentioned in this protocol will be conducted.

RANDOMIZATION AND COHABITATION:

Upon arrival, male and female rats will be assigned to individual housing on the basis of computer-generated random units. After acclimation, virgin female rats will be selected for study on the basis of physical appearance and body weights recorded during acclimation. The female rats will be assigned to dosage groups based on computer-generated (weight-ordered) randomization procedures.

Within each dosage group, consecutive order will be used to assign female rats to cohabitation with breeder male rats, one male rat per female rat. The cohabitation period will consist of a maximum of five days. Female rats with spermatozoa observed in a smear of the vaginal contents and/or a copulatory plug observed *in situ* will be considered to be at day 0 of presumed gestation and assigned to individual housing.

A table of random units or a computer-generated randomization procedure will be used to select eight female rats per dosage group for Caesarean-section examinations on day 15 of presumed gestation. The remaining female rats in each dosage group will be examined on day 21 of presumed gestation.

ADMINISTRATION:

Route and Reason for Choice:

The oral (gavage) route was selected for use because: 1) this was the route of administration in the developmental and reproductive toxicology studies; and 2) it is one of the possible routes of human exposure.

Method and Frequency:

Female rats will be given the test article or vehicle once daily beginning 42 days prior to cohabitation through either day 14 of presumed gestation or day 20 of presumed gestation. Dosages will be adjusted daily for body weight changes and given at approximately the same time each day.

Rationale for Dosage Selection:

Dosages were selected on the basis of a previous study conducted with the test article (Argus Research Laboratories, Inc., Protocol 418-008).

Dosage Levels, Concentrations and Volumes:

Dosage Group	Number of Female Rats	Dosage (mg/kg/day)	Concentration (mg/mL)	Dosage Volume (mL/kg)	Argus Batch Number
I	16	0 (Vehicle)	0	5	B-418-013-A(Day.Month.Year)
II	16	0.1	0.02	5	B-418-013-B(Day.Month.Year)
III	16	0.4	0.08	5	B-418-013-C(Day.Month.Year)
IV	16	1.6	0.32	5	B-418-013-D(Day.Month.Year)
V	16	3.2	0.64	5	B-418-013-E(Day.Month.Year)

The test article will be considered 100% pure for the purpose of dosage calculations.

TESTS, ANALYSES AND MEASUREMENTS:

Viability:

All Periods:	At least twice daily.

Clinical Observations and/or General Appearance:

Acclimation Period:	At least once.
Dosage Period:	Twice daily. Prior to administration and once approximately one hour postdosage.
Postdosage Period:	Once prior to sacrifice.

Clinical observations may be recorded more frequently than cited above, if deemed appropriate by the Study Director and/or Study Monitor.

Body Weights:

Acclimation Period:	At least once.
Dosage Period:	Daily.
Sacrifice:	Terminal weight.

Feed Consumption Values (recorded and tabulated):

Acclimation Period:	At least once.
Dosage Period:	Weekly to cohabitation and daily during presumed gestation.

Feed consumption values may be recorded more frequently if it is necessary to replenish the feed. These intervals will not be tabulated.

Mating Performance:

Mating will be evaluated daily during the cohabitation period and confirmed by observation of spermatozoa in a smear of the vaginal contents and/or a copulatory plug observed *in situ*.

Pharmacokinetic Sample Collection:

Urine and Fecal Samples:

Female rats will be housed individually in metabolism cages for collection of urine and fecal samples for the following intervals: one day prior to initiation of cohabitation to the following morning and days 6 to 7, 14 to 15 and 20 to 21 of presumed gestation. Following each 24-hour collection interval, samples will be collected into centrifuge tubes, placed on dry ice and stored frozen (-70°C or below) until shipment for analysis.

In the event that a dam begins to deliver before completion of urine and fecal sample collection (day 20 to day 21 of presumed gestation), the dam will be removed from the metabolism cage and placed in a nesting box with sufficient bedding until sacrifice.

Blood Samples:

Blood samples will be collected from each of the female rats following removal from metabolism caging (prior to administration) on each of the following days: on the day cohabitation is initiated (prior to cohabitation) and on days 7 and 15 of presumed gestation, as well as day 21 of presumed gestation. The time of blood collection will be recorded in the raw data.

On all days of collection except days 15 and 21 of presumed gestation (dams at their terminal collection interval), blood samples (approximately 1 mL each) will be collected from the orbital sinus. If necessary, whole blood may be collected from an alternate site; if so, the alternate site will be documented in the raw data. On day 21 of presumed gestation, blood samples (approximately 4 mL each) will be collected via the inferior vena cava. If blood collection on day 15 of presumed gestation will be a final bleed for the respective dam (i.e., the dam will be Caesarean-sectioned that day), the sample will be approximately 4 mL and will be collected via the inferior vena cava.

Blood will be collected and transferred into serum separator tubes. The samples will be spun in a refrigerated centrifuge. The serum will be transferred into polypropylene tubes labeled with the study number, animal identification, date of collection, study day and collection timepoint. All samples will be immediately frozen on dry ice and maintained frozen (-70°C or below) until shipment to the Sponsor for analysis.

Shipping Instructions:

All samples will be maintained frozen (-70°C or below) until shipment for analysis. Samples will be shipped frozen on dry ice via overnight mail. A packing list will be included with the samples and sent to Kris J. Hansen, Ph.D., at the previously cited address. Both the recipient and the Study Monitor will be notified in advance of sample shipment.

Caesarean-Sectioning Observations - Day 15 Presumed Gestation:

Eight randomly selected female rats per dosage group will be Caesarean-sectioned on day 15 of presumed gestation. The gravid uterus will be excised and weighed. Placentae that appear abnormal (size, color or shape) will be noted in the raw data. The female rats (pregnant dams) will be examined for number and distribution of:

Corpora Lutea.

Implantation Sites.

Viable and Nonviable Embryos.
(A viable embryo is oval or crescent shaped, pink, firm and enclosed in an amniotic sac filled with clear fluid. A nonviable embryo is amorphous, small, pale pink to tan or deep red to black, soft and enclosed in an amniotic sac filled with clear, cloudy or opaque fluid.)

Sample Collection:

Caps and labeled tubes will be weighed (combined weight, to the nearest .001 gram) before and after retention of pooled embryonic samples for subsequent use in pharmacokinetic analyses. These weights will be documented in the raw data, and copies of these weights will be included with the packing list prior to shipment.

Samples of the amniotic fluid of each viable embryo will be collected, pooled (per litter), frozen and stored (-70°C or below) until shipment to the Sponsor for analysis.

Each viable embryo will be removed from the uterus with the attached placenta, pooled (per litter), frozen and stored (-70°C or below) until shipment to the Sponsor.

Shipping Instructions:

All samples will be maintained frozen (-70°C or below) until shipment for analysis. Samples will be shipped frozen on dry ice via overnight mail. A packing list will be included with the samples and sent to Kris J. Hansen, Ph.D., at the previously cited address. Both the recipient and the Study Monitor will be notified in advance of sample shipment.

Caesarean-Sectioning Observations - Day 21 Presumed Gestation:

All remaining female rats in each dosage group will be Caesarean-sectioned on day 21 of presumed gestation. The gravid uterus will be excised and weighed. Individual placental weights will be recorded. The fetuses will be removed from the uterus, weighed and placed in individual containers. The female rats (pregnant dams) will be examined for number and distribution of:

Corpora Lutea.

Implantation Sites.
[Placentae that appear abnormal (size, color or shape) will be noted in the raw data].

Live and Dead Fetuses.
(A live fetus is defined as one that responds to stimuli; a dead fetus is defined as a term fetus that does not respond to stimuli and that is not markedly autolyzed; dead fetuses demonstrating marked to extreme autolysis are considered to be late resorptions.)

Early and Late Resorptions.
(A conceptus is defined as a late resorption if it is grossly evident that organogenesis has occurred; if this is not the case, the conceptus is defined as an early resorption.)

Fetal Observations:

Caps and labeled tubes will be weighed (combined weight, to the nearest .001 gram) before and after retention of pooled fetal samples for subsequent use in pharmacokinetic analyses. These weights will be documented in the raw data, and copies of these weights will be included with the packing list prior to shipment.

Placental Samples and Amniotic Fluid:

Samples of the amniotic fluid (when possible) and the placenta of each fetus will be collected, individually pooled (per litter), frozen and stored (-70°C or below) until shipment to the Sponsor for analysis.

Gross External Alterations, Sex, Body Weights and Identification:

Fetuses will be examined for sex and for gross external alterations. Late resorptions and dead fetuses will be examined for gross external alterations to the extent possible. The individual body weight of each fetus will be recorded. Only body weights of live fetuses will be used to determine litter fetal body weight averages. Representative photographs of fetal gross external alterations will be taken.

Blood Samples:

Blood samples will be collected from each pup via decapitation, pooled (per litter) and transferred into serum separator tubes. The samples will be spun in a refrigerated centrifuge. The serum will be transferred into polypropylene tubes labeled with the study number, animal identification, date of collection, study day and collection timepoint. All samples will be immediately frozen on dry ice and maintained frozen (-70°C or below) until shipment to the Sponsor for analysis.

Liver Samples:

The liver of each fetus will be collected, pooled (per litter), frozen and stored (-70°C or below) until shipment to the Sponsor for analysis.

Fetal Carcasses:

The remaining carcass (and head) of each fetus will be collected, frozen and stored (-70°C or below) until shipment to the Sponsor for analysis.

Shipping Instructions:

All samples will be maintained frozen (-70°C or below) until shipment for analysis. Samples will be shipped frozen on dry ice via overnight mail. A packing list will be included with the samples and sent to Kris J. Hansen, Ph.D., at the previously cited address. Both the recipient and the Study Monitor will be notified in advance of sample shipment.

METHOD OF SACRIFICE:

Rats will be sacrificed by carbon dioxide asphyxiation. Live fetuses will be sacrificed via decapitation.

NECROPSY:

Gross lesions will be retained in neutral buffered 10% formalin for possible future evaluation (a table of random units will be used to select one control group rat from which all tissues examined at necropsy will be retained, in order to provide control tissues for any possible histopathological evaluations of gross lesions). Unless specifically cited below, all other tissues will be discarded.

Scheduled Sacrifice:

On either day 15 of presumed gestation or day 21 of presumed gestation, following the final collection interval for urine and fecal samples and blood sample collection, female rats will be sacrificed, and a gross necropsy of the thoracic, abdominal and pelvic viscera will be performed. The number and distribution of implantation sites will be recorded. A liver section (right lateral lobe) and the milk-secreting glands from the axillary, thoracic, abdominal and inguinal regions of each dam (left side only) will be collected, frozen and stored (-70°C or below) until shipment to the Sponsor for analysis. Uteri of apparently nonpregnant rats will be stained with 10% ammonium sulfide to confirm the absence of implantation sites[5].

Rats Found Dead or Moribund:

Rats that die or are sacrificed because of moribund condition, abortion or premature delivery will be examined for the cause of death or moribund condition on the day the observation is made. The rats will be examined for gross lesions. A liver section (right lateral lobe) and the milk-secreting glands from the axillary, thoracic, abdominal and inguinal regions of each dam (left side only) will be collected, frozen and stored (-70°C or below) until shipment to the Sponsor for analysis. Pregnancy status and uterine contents of female rats will be recorded. Aborted fetuses and/or delivered pups will be examined to the extent possible, using the same methods described for term fetuses. Uteri of apparently nonpregnant rats will be stained with 10% ammonium sulfide to confirm the absence of implantation sites[5].

Shipping Instructions:

All samples will be maintained frozen (-70°C or below) until shipment for analysis. Samples will be shipped frozen on dry ice via overnight mail. A packing list will be included with the samples and sent to Kris J. Hansen, Ph.D., at the previously cited address. Both the recipient and the Study Monitor will be notified in advance of sample shipment.

STATISTICAL EVALUATION:

Averages and percentages will be calculated. Litter values will be used where appropriate. Additional procedures and/or analyses may be performed, if deemed appropriate.

DATA ACQUISITION, VERIFICATION AND STORAGE:

Data will be hand- and/or computer-recorded. Records will be reviewed by the Study Director and/or appropriate management personnel within 21 days after generation. All original records will be stored in the archives of the Testing Facility. All original data will be bound and indexed. A copy of all raw data will be supplied to the Sponsor upon request. Preserved tissues will be stored at the Testing Facility at no charge for one year after mailing of the draft final report, after which time the Sponsor will be contacted to determine the disposition of these materials.

RECORDS TO BE MAINTAINED:

Protocol and Amendments.
Test Article, Vehicle and/or Reagent Receipt, Preparation and Use.
Animal Acquisition.
Randomization Schedules.
Mating History.
Treatment (if prescribed by Staff Veterinarian).
General Comments.
Clinical Observations and/or General Appearance.
Tissue and Sample Collection, Processing and Shipment.
Cap and Labeled Tube Weights.
Body Weights.
Feed Consumption Values.
Caesarean-Sectioning and Fetal Observations.
Gross Necropsy Observations.
Organ Weights.
Photographs (if required).
Study Maintenance (room and environmental records).
Feed, Water and Bedding Analyses.
Packing and/or Shipment Lists.

KEY PERSONNEL:

Executive Director of Research: Mildred S. Christian, Ph.D., Fellow, ATS
Director of Research: Alan M. Hoberman, Ph.D., DABT
Associate Director of Research and Study Director: Raymond G. York, Ph.D., DABT
Director of Laboratory Operations: John F. Barnett, B.S.
Director of Study Management: Valerie A. Sharper, M.S.
Manager of Animal Operations and Member, Institutional Animal Care and Use Committee: Dena C. Lebo, V.M.D.
Director of Operations and Compliance: Barbara J. Patterson, B.A.
Consultant, Veterinary Pathology: W. Ray Brown, D.V.M., Ph.D., ACVP

FINAL REPORT:

A comprehensive draft final report will be prepared on completion of the study and will be finalized following consultation with the Sponsor. The report will include the following:

Summary and Conclusion.
Experimental Design and Method.
Evaluation of Test Results.
Appendices: Figures, Summary and Individual Tables Summarizing the Above Data, Protocol and Associated Amendments and Deviations, Study Director's GLP Compliance Statement, Reports of Supporting Data (if appropriate) and QAU Statement.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE STATEMENT:

The procedures described in this protocol have been reviewed by the Testing Facility's Institutional Animal Care and Use Committee. All procedures described in this protocol that involve study animals will be conducted in a manner to avoid or minimize discomfort, distress or pain to the animals.

The Sponsor's signature below documents the fact that information concerning the necessity for conducting this study and the fact that this is not an unnecessarily duplicative study may be obtained from the Sponsor. No alternative (*in vitro*) procedures were available for meeting the stated purposes of the study.

REFERENCES:

1. Christian, M.S. and Voytek, P.E. (1982). *In Vivo Reproductive and Mutagenicity Tests*. Environmental Protection Agency, Washington, D.C. National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

2. Christian, M.S. (1984). Reproductive toxicity and teratology evaluations of naltrexone (Proceedings of Naltrexone Symposium, New York Academy of Sciences, November 7, 1983), J. Clin. Psychiat. 45(9):7-10.

3. Lang, P.L. (1988). *Embryo and Fetal Developmental Toxicity (Teratology) Control Data in the Charles River Crl:CD®BR Rat*. Charles River Laboratories, Inc., Wilmington, MA 01887-0630. (Data base provided by Argus Research Laboratories, Inc.)

4. Institute of Laboratory Animal Resources (1996). *Guide for the Care and Use of Laboratory Animals*. National Academy Press, Washington, D.C.

5. Salewski, E. (1964). Färbemethode zum makroskopischen Nachweis von Implantationsstellen am Uterus der Ratte. Arch. Pathol. Exp. Pharmakol. 247:367.

PROTOCOL APPROVAL:

FOR THE TESTING FACILITY

09-NOV-98

Alan M. Hoberman, Ph.D., DABT
Director of Research

Date

09-NOV-98

Raymond G. York, Ph.D., DABT
Associate Director of Research
Study Director

Date

09-NOV-98

Barbara J. Patterson, B.A.
Chairperson, Institutional Animal Care and
Use Committee

Date

FOR THE SPONSOR

10 Nov 98

Marvin T. Case, D.V.M., Ph.D.
Study Monitor

Date

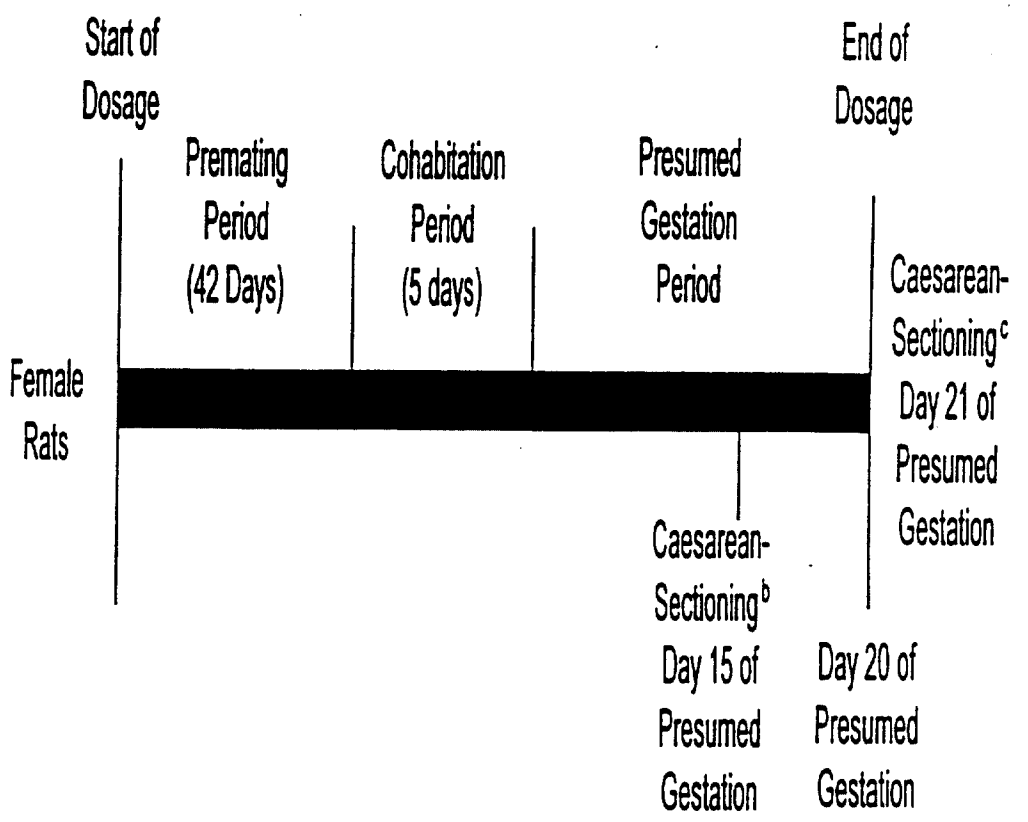
ATTACHMENT 1

SCHEMATIC OF STUDY DESIGN AND STUDY SCHEDULE

ATTACHMENT 1

STUDY SCHEMATIC

PHARMACOKINETIC STUDY[a]



Dosage Period.

a. For additional details see "Tests, Analyses and Measurements" section of the protocol.

b. Evaluation of corpora lutea, implantation sites and viable and nonviable embryos.

c. Fetal evaluations (all fetuses - external examinations).

ATTACHMENT 1

SCHEDULE[a]

10 NOV 98	Animals Arrive - Acclimation Begins.
16 NOV 98 - 21 JAN 99	Dosage Period - Female Rats (42 days prior to cohabitation until day 14 or 20 of presumed gestation).
27 DEC 98 PM - 01 JAN 99 AM	Cohabitation Period.
28 DEC 98 - 01 JAN 99	Day 0 of Presumed Gestation.
12 JAN 99 - 16 JAN 99	Caesarean-Sectioning Period (Day 15 of presumed gestation).
18 JAN 99 - 22 JAN 99	Caesarean-Sectioning Period (Day 21 of presumed gestation).
26 MAY 99	Draft Final Report.

---

a. The study initiation date is the day the Study Director signs the protocol.

ATTACHMENT 2

MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET

3M
3M Center
St. Paul, Minnesota
55144-1000
1-800-364-3577 or (612) 737-6501 (24 hours)

DIVISION: 3M CHEMICALS
TRADE NAME:
FC-95 FLUORAD Brand Fluorochemical Surfactant
ID NUMBER/U.P.C.:
98-0207-0103-7 00-51135-09054-1 98-0207-0104-5 00-51135-09055-8
98-0211-0888-5 00-51135-09362-7 98-0211-3916-1 00-51135-02311-2
ZF-0002-1044-1 - - -
ISSUED: January 29, 1998
SUPERSEDES: November 05, 1997
DOCUMENT: 10-3796-9

1. INGREDIENT

INGREDIENT	C.A.S. NO.	PERCENT
POTASSIUM PERFLUOROALKYL SULFONATE.....	2795-39-3	82 - 86
POTASSIUM PERFLUOROALKYL SULFONATE.....	3871-99-6	3 - 8
POTASSIUM PERFLUOROALKYL SULFONATE.....	29420-49-3	3 - 7
POTASSIUM PERFLUOROALKYL SULFONATE.....	60270-55-5	2 - 6
POTASSIUM PERFLUOROALKYL SULFONATE.....	3872-25-1	1 - 3

2. PHYSICAL DATA

BOILING POINT:..... N/A
VAPOR PRESSURE:..... N/A
VAPOR DENSITY:..... N/A
EVAPORATION RATE:..... N/A
SOLUBILITY IN WATER:..... slight
SPECIFIC GRAVITY:..... ca. 0.6 Water=1
(Bulk)
PERCENT VOLATILE:..... 0 %
pH:..... 7 - 8
(0.1% Aqueous)
VISCOSITY:..... N/D
MELTING POINT:..... N/D

APPEARANCE AND ODOR:
Light colored, free flowing powder.

000912

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:..... None
FLAMMABLE LIMITS - LEL:..... N/A
FLAMMABLE LIMITS - UEL:..... N/A
AUTOIGNITION TEMPERATURE:..... N/A

EXTINGUISHING MEDIA:
Water, Carbon dioxide, Dry chemical, Foam

SPECIAL FIRE FIGHTING PROCEDURES:
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
See Hazardous Decomposition section for products of combustion.

4. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID:
Not applicable.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:
Carbon Monoxide and Carbon Dioxide, Oxides of Sulfur, Hydrogen Fluoride, Toxic Vapors, Gases or Particulates.

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:
Observe precautions from other sections. Vacuum, use wet sweeping compound or water to avoid dusting. CAUTION! A vacuum cleaner could be an ignition source. Clean up residue with water. Place in an approved metal container. Seal the container.

RECOMMENDED DISPOSAL:
Do not release to waterways or sewer. Do not use in products or processes that could result in aquatic concentrations greater than 1/10 of the lowest EC50 or LC50 concentration. Incinerate in an industrial or commercial facility in the presence of a combustible material. Combustion products will include HF. Disposal alternative: Dispose of waste product in a facility permitted to

000913

---

5. ENVIRONMENTAL INFORMATION (continued)

---

accept chemical waste.

ENVIRONMENTAL DATA:
96-Hr. Aquatic Fish LC50, Fathead Minnow(Pimephales promelas)=38 mg/l, Bluegill Sunfish(Lepomis macrochirus)=68 mg/l, Rainbow Trout(Salmo gairdneri)=11 mg/l; 48-Hr. EC50, Daphnia Magna = 50 mg/l; COD=.004 g/g; BOD20 = Nil.

REGULATORY INFORMATION:
Volatile Organic Compounds: N/A.
VOC Less H2O & Exempt Solvents: N/A.

Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste Number = None (Not U.S. EPA Hazardous).

This product complies with the chemical registration requirements of TSCA, EINECS, CDSL, AICS, MITI and Korea.

EPCRA HAZARD CLASS:
FIRE HAZARD: No PRESSURE: No REACTIVITY: No ACUTE: Yes CHRONIC: Yes

---

6. SUGGESTED FIRST AID

EYE CONTACT:
Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

SKIN CONTACT:
Immediately flush skin with large amounts of water. Remove contaminated clothing. If irritation persists, call a physician. Wash contaminated clothing before reuse.

INHALATION:
If signs/symptoms occur, remove person to fresh air. If signs/symptoms continue, call a physician.

IF SWALLOWED:
Drink two glasses of water. Call a physician.

---

7. PRECAUTIONARY INFORMATION

EYE PROTECTION:
Avoid eye contact. Wear vented goggles.

000314

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

7. PRECAUTIONARY INFORMATION (continued)

SKIN PROTECTION:
Avoid skin contact. Wear appropriate gloves when handling this material. A pair of gloves made from the following material(s) are recommended: butyl rubber. Use one or more of the following personal protection items as necessary to prevent skin contact: head covering, coveralls. Protective garments (other than gloves) should be made of either of the following materials: polyethylene/polyvinylidene chloride (Saranex).

RECOMMENDED VENTILATION:
Use with appropriate local exhaust ventilation. Use in a well-ventilated area. Provide sufficient ventilation to maintain emissions below recommended exposure limits. If exhaust ventilation is not adequate, use appropriate respiratory protection.

RESPIRATORY PROTECTION:
Avoid breathing of dust. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: half-mask dust and mist respirator, half-mask supplied air respirator, full-face dust and mist respirator, full-face supplied air respirator.

PREVENTION OF ACCIDENTAL INGESTION:
Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Wash hands after handling and before eating.

RECOMMENDED STORAGE:
Keep container dry. Keep container closed when not in use.

FIRE AND EXPLOSION AVOIDANCE:
Nonflammable.

OTHER PRECAUTIONARY INFORMATION:
No smoking: Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to the formation of the hazardous decomposition products mentioned in section 4 of this MSDS.

HMIS HAZARD RATINGS: HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 0
PERSONAL PROTECTION: X (See precautions, section 7.)

EXPOSURE LIMITS

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
POTASSIUM PERFLUOROALKYL SULFONATE...	0.1	MG/M3	TWA	3M	Y
POTASSIUM PERFLUOROALKYL SULFONATE...	0.1	MG/M3	TWA	3M	Y
POTASSIUM PERFLUOROALKYL SULFONATE...	0.1	MG/M3	TWA	3M	Y
POTASSIUM PERFLUOROALKYL SULFONATE...	0.1	MG/M3	TWA	3M	Y

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

EXPOSURE LIMITS (continued)

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
POTASSIUM PERFLUOROALKYL SULFONATE...	0.1	MG/M3	TWA	3M	Y

* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:
- 3M: 3M Recommended Exposure Guidelines

8. HEALTH HAZARD DATA

EYE CONTACT:
Mild Eye Irritation: signs/symptoms can include redness, swelling, pain, and tearing.

SKIN CONTACT:
Mild Skin Irritation (after prolonged or repeated contact): signs/symptoms can include redness, swelling, and itching.

May be absorbed through the skin and persist in the body for an extended time.

INHALATION:
May be harmful if inhaled.

May be absorbed by inhalation and persist in the body for an extended time.

Single overexposure, above recommended guidelines, may cause:

Irritation (upper respiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

IF SWALLOWED:
Ingestion is not a likely route of exposure to this product.

Illness may result from a single swallowing of a moderate quantity of this material.

May be harmful if swallowed.

MUTAGENICITY:
Mutagenicity assays indicate the product is not mutagenic.

000316

---

8. HEALTH HAZARD DATA (continued)

REPRODUCTIVE/DEVELOPMENTAL TOXINS:
Not teratogenic in the rat at oral doses below maternally toxic levels.

OTHER HEALTH HAZARD INFORMATION:
This product is not known to contain any substances regulated under California Proposition 65.

A Product Toxicity Summary Sheet is available.

SECTION CHANGE DATES

HEADING	SECTION CHANGED SINCE November 05, 1997 ISSUE

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

---

ATTACHMENT 3

TEST ARTICLE AND VEHICLE PREPARATION PROCEDURE

ATTACHMENT 3

TEST ARTICLE AND VEHICLE PREPARATION PROCEDURE

Test Article: PFOS

Vehicle: 0.5% Tween® 80 in R.O. Deionized Water

A. Purpose: The purpose of this procedure is to provide a method for the preparation of dosage suspensions of PFOS and the vehicle for oral administration to rats on Argus Study 418-013.

B. General Information:

1. All suspension containers will be labeled and color coded. Each label will specify the protocol number, test article identification, Argus batch number, concentration, dosage level, preparation date, expiration date and storage conditions.

2a. Suspensions will be prepared:
_X_ Daily ___ Weekly __ For___ days of use

2b. Vehicle will be prepared:
___ Daily _X_ Weekly __ For___ days of use

3. Suspensions will be prepared at a final dosage volume of 5 mL/kg.

4. Safety:
_X_ Gloves, lab coat, goggles or safety glasses and faceshield
_X_ Dust-Mist Respirator
___ Half-Face Respirator
___ Full-Face Respirator/Positive Pressure Hood
___ Tyvek Suit/Apron

5. Dosage suspensions adjusted for Free base and % Purity.
___ Yes _X_ No (Calculations based on 100%)
___ Free Base ___ Purity

6. Sampling requirements: Cited in protocol.

7. Storage: Cited in protocol.

ATTACHMENT 3

TEST ARTICLE AND VEHICLE PREPARATION PROCEDURE

NOTE: Test article will be prepared as a serial dilution from the high dosage to the low dosage. Once the final volumes are achieved, stir bars are to be added to the containers; mixing should occur during sampling and/or administration.

C. Preparation of Vehicle

1. Add the required amount of R.O. deionized water to an appropriately labeled container. Heat the water to 50°C, ±5°C, add the required amount of Tween® 80 and mix until uniform (See TEST ARTICLE CALCULATIONS).

D. Test Article Suspension Preparation:

1. To prepare the 0.64 mg/mL, Group V suspension, add the required amount of test article (See TEST ARTICLE CALCULATIONS) into an appropriately sized, labeled container. QS ad to the required amount with vehicle and heat the mixture to 80°C ±5°C for approximately 30 minutes or until the TA/S dissolves.

2. Once the test article has dissolved; spin while the suspension cools. (Be sure there is a visible vortex, this will achieve the desired emulsion. This may be prepared the day before use.)

3. To prepare the 0.32 mg/mL, Group IV suspension, remove the required amount of stock suspension (Group V) (See TEST ARTICLE CALCULATIONS), QS ad with the vehicle and mix.

4. To prepare the 0.08 mg/mL, Group III suspension, remove the required amount of stock suspension (Group IV) (See TEST ARTICLE CALCULATIONS), QS ad with the vehicle and mix.

5. To prepare the 0.02 mg/mL, Group II suspension, remove the required amount of stock suspension (Group III) (See TEST ARTICLE CALCULATIONS), QS ad with the vehicle and mix.

ATTACHMENT 3

TEST ARTICLE AND VEHICLE PREPARATION PROCEDURE

6. To prepare the 0 mg/mL, Group I suspension, add required amount of vehicle to an appropriately sized, labeled container (See TEST ARTICLE CALCULATIONS) and mix.

Written by: _____

Approved by: _____ Date: 09-NOV-98

Clarification: X No ___ Yes (See attached clarification form.)

Initials/Date : MC 2-2-99

PRIMEDICA

Argus Research Laboratories, Inc.
905 Sheehy Drive, Building A
Horsham, PA 19044
Telephone: (215) 443-8710
Telefax: (215) 443-8587

PROTOCOL 418-013

Oral (Gavage) Pharmacokinetic Study of PFOS in Rats

SPONSOR'S STUDY NUMBER: T-6295.12

Amendment 1 – 6 January 1999

1. Caesarean-Sectioning Observations - Day 21 Presumed Gestation (pages 12 and 13 of the protocol) and Necropsy (page 14 of the protocol):

At Caesarean-sectioning on day 21 of presumed gestation, lung and liver samples will be collected from three fetuses per litter from five litters per dosage group. These collections will occur after weighing and examination for sex and gross external alterations.

One half of the lungs and one lateral lobe of the liver will be individually retained in neutral buffered 10% formalin in scintillation vials. Prior to fixation, several (minimum of two) sections (approximately 1 mm thick) of this half of the lungs and this lobe of the liver will be removed using a scalpel and will be retained in McDowell-Trump's Fixative (stored under refrigeration in scintillation vials) for future evaluation. The other half of the lungs and the other lateral lobe of the liver will be flash frozen in liquid nitrogen and stored in heat-sealable pouches on dry ice. The procedure for collecting and flash freezing these tissues will be available in the raw data. The liver of each of the remaining fetuses, plus any remaining liver from the three selected fetuses, will be collected, pooled (per litter), frozen and stored (-70°C or below) until shipment to the Sponsor for analysis as described on page 13 of the protocol.

The lung and liver sections in McDowell-Trump's Fixative and the lung and liver samples in neutral buffered formalin will be shipped (on cold packs and ambient conditions, respectively), for possible future evaluation by electron microscopy or light microscopy, respectively, to:

Jeanne deWard
Pathology Associates International
4915 D Prospectus Drive
Durham, North Carolina 27713
Telephone: (919) 544-5257
Telefax: (919) 544-3218

The frozen samples will be shipped (on dry ice) to Kris J. Hansen, Ph.D., at the address cited in the protocol for possible future biochemical evaluation.

All recipients will be notified in advance of sample shipment.

Reason for Change:

The Sponsor has requested that these additional samples be retained for continued evaluation of the reasons for reduced pup survival observed in previous studies.

6-JAN-99	06-JAN-99
Alan M. Hoberman, Ph.D., DABT Director of Research	Date
	Raymond G. York, Ph.D., DABT Associate Director of Research Study Director
Date	
6 Jan 99	06 Jan 99
Dena C. Lebo, V.M.D. Chairperson, Institutional Animal Care and Use Committee	Date
	Marvin T. Case, D.V.M., Ph.D. Study Monitor
Date	

APPENDIX D

DEVIATIONS FROM THE PROTOCOL AND THE STANDARD OPERATING PROCEDURES OF THE TESTING FACILITY

DEVIATION FROM THE PROTOCOL AND THE STANDARD OPERATING PROCEDURES OF THE TESTING FACILITY

1. Eighty virgin female rats were randomly assigned to the study and received the test article for forty-two days prior to cohabitation, rather than 120 virgin females assigned to study, dosed, mated and then assigned as the population for the study.

   Female rats with confirmed date of mating were randomly selected for gestation day 15 (DG 15) Caesarean-sectioning. All remaining rats (with and without confirmed dates of mating) were assigned to DG 21 Caesarean-sectioning. Rats with no confirmed date of mating were Caesarean-sectioned on their estimated DG 21.

   These deviations did not adversely affect the outcome or interpreation of the study because sufficient rats were available to collect the pharmacokinetic data.

   All deviations are documented in the raw data.

Raymond L York 21-JUN-99

Raymond G. York, Ph.D., DABT Date
Associate Director of Research
and Study Director

APPENDIX E

TEMPERATURE AND RELATIVE HUMIDITY REPORTS

ARGUS

Temperature and Relative Humidity Report
Location: Room 04

Protocol Number: 418-013

Range of Dates: 10-Nov-1998 15:00 to 23-Nov-1998 15:49

	Temperature		Relative Humidity	
Target Range:	64°F to 79°F		30% to 70%	
Species: Rat				
Total Number of Days:	14		14	
Total Number of Hours:	312.75		312.75	
Total Number of Data Points:	312		312	
Mean (± SD):	69.1	(± 2.5)	58.5	(± 1.7)
Maximum:	76.4		64.4	
Median:	68.3		58.6	
Minimum:	66.8		53.6	
Number of Points in Range (%):	312	(100.0)	312	(100.0)
Number of Points High (%):	0	(0.0)	0	(0.0)
Number of Points Low (%):	0	(0.0)	0	(0.0)

Report Generated: 03-Feb-1999 at 13:44

COMMENTS: _____

_____

_____

_____

REVIEWED BY: _____ **DATE:** 2/3/99

000927

ARGUS

Temperature and Relative Humidity Report
Location: Room 27

Protocol Number: 418-013

Range of Dates: 23-Nov-1998 15:49 to 22-Jan-1999 16:00

	Temperature		Relative Humidity	
Target Range:	64°F to 79°F		30% to 70%	
Species: Rat				
Total Number of Days:	61		61	
Total Number of Hours:	1439.74		1439.74	
Total Number of Data Points:	1442		1442	
Mean (± SD):	70.7	(± 0.7)	54.1	(± 8.2)
Maximum:	72.6		69.8	
Median:	70.8		56.1	
Minimum:	69.0		14.9	
Number of Points in Range (%):	1442	(100.0)	1418	(98.3)
Number of Points High (%):	0	(0.0)	0	(0.0)
Number of Points Low (%):	0	(0.0)	24	(1.7)

Report Generated: 03-Feb-1999 at 13:48

COMMENTS: _____

REVIEWED BY: _____ **DATE:** 2/3/99

000928

ARGUS

Relative Humidity Deviations Report
Location: Room 27

Protocol Number: 418-013

Range of Dates: 23-Nov-1998 15:49 to 22-Jan-1999 16:00

Humidity Target Range: 30% to 70%
Species: Rat

Date	Time	R.H.
04-Jan-1999	16:00	29.1 L
05-Jan-1999	23:00	26.1 L
06-Jan-1999	00:00	23.7 L
06-Jan-1999	01:00	23.3 L
06-Jan-1999	02:00	20.1 L
06-Jan-1999	03:00	18.4 L
06-Jan-1999	04:00	17.6 L
06-Jan-1999	05:00	16.9 L
06-Jan-1999	06:00	14.9 L
06-Jan-1999	07:00	27.0 L
11-Jan-1999	11:00	27.9 L
11-Jan-1999	12:00	29.1 L
11-Jan-1999	13:00	26.1 L
11-Jan-1999	14:00	28.6 L
11-Jan-1999	15:00	26.9 L
11-Jan-1999	16:00	28.7 L
14-Jan-1999	00:00	29.6 L
14-Jan-1999	02:00	28.6 L
14-Jan-1999	03:00	27.8 L
14-Jan-1999	04:00	27.5 L
14-Jan-1999	05:00	26.3 L
14-Jan-1999	06:00	27.0 L
14-Jan-1999	07:00	26.3 L
14-Jan-1999	08:00	25.8 L

H = Value out of range - High L = Value out of range - Low
R.H. = Relative Humidity (%)

Report Generated: 03-Feb-1999 at 13:57

_____ These deviations did not adversely affect the outcome or interpretation of the study.

_____ The following deviation(s) impacted on the outcome of the study as described:

Study Director: _____ Date: 17-Feb-99

000929

APPENDIX F

HISTORICAL CONTROL DATA

SUMMARY OF REPRODUCTIVE INDICES
CD RAT

PERIOD	JUNE 1996 - JUNE 1998
NUMBER OF STUDIES	105
NUMBER OF RATS:	
TESTED	2233
PREGNANT	2065
FOUND DEAD	4
ABORTED	0
DELIVERED	0
NUMBER OF RATS PREGNANT AT CAESAREAN-SECTIONING	2052
NUMBER OF RATS WITH SINGLE CONCEPTUS LITTER:	
LIVE	6
RESORBED	1
ABORTED	0

	MEAN or %	RANGE/STUDY MEAN or %
% PREGNANT	92.8	(64.0-100)
AVERAGE # CORPORA LUTEA	16.9	(14.0-21.0)
AVERAGE # IMPLANTATIONS	15.3	(12.9-18.0)
AVERAGE LITTER SIZE		
AVERAGE # LIVE FETUSES	14.5	(11.8-16.9)
AVERAGE # DEAD FETUSES	0.1	(0-1.4)
AVERAGE # RESORPTIONS	0.7	(0-2.0)
AVERAGE # EARLY RESORPTIONS	0.7	(0-1.9)
AVERAGE # LATE RESORPTIONS	0.0	(0-0.1)

SUMMARY OF REPRODUCTIVE INDICES
CD RAT

	MEAN or %	RANGE/STUDY MEAN or %
AVERAGE % DAMS WITH ANY RESORPTIONS	46.1	(0-87.5)
AVERAGE % DAMS WITH ALL CONCEPTUSES RESORBED	0.1	(0-4.5)
AVERAGE % DAMS WITH ONE OR MORE LIVE FETUSES	99.8	(95.4-100)
AVERAGE SEX RATIO, (% MALES/LITTER)	50.2	(42.8-57.0)
AVERAGE FETAL BODY WEIGHT (G)	3.48	(3.10-3.78)
AVERAGE FOR MALES (G)	3.58	(3.17-3.90)
AVERAGE FOR FEMALES (G)	3.39	(2.98-3.67)
AVERAGE % DEAD OR RESORBED CONCEPTUSES/LITTER	4.7	(0-12.4)

SUMMARY OF MATERNAL NECROPSY OBSERVATIONS
CD RAT

PERIOD	JUNE 1996 - JUNE 1998
# STUDIES	124
# RATS TESTED	2668
# RATS PREGNANT	2480*
# RATS DIED	8**
# RATS ABORTED	0
# RATS DELIVERED	431
# RATS WITH 100% RESORPTION	3

EXTERNAL OBSERVATIONS	N	MEAN %	RANGE N	/STUDY %
Red substance around nose and/or mouth	2	0.07	0-1	(0-12.5)
White substance present in anterior chamber of eyes	1	0.04	0-1	(0-4.2)
Red perivaginal substance	1	0.04	0-1	(0-4.0)
GROSS LESIONS				
ESOPHAGUS				
Torn(attributed to an intubation accident)	1	0.04	0-1	(0-4.0)
LUNGS				
Dark red (attributed to an intubation accident)	1	0.04	0-1	(0-4.0)
THORACIC CAVITY				
Filled with light red or cloudy red fluid	2	0.07	0-1	(0-4.0)
THYMUS				
Large	1	0.04	0-1	(0-4.0)
AXILLA				
Mass present	1	0.04	0-1	(0-4.0)
Lymph nodes enlarged on left side	1	0.04	0-1	(0-4.2)

* Pregnancy status for one dam could not be determined
** One was a moribund sacrifice and one was attributed to an intubation accident

SUMMARY OF MATERNAL NECROPSY OBSERVATIONS
CD RAT

GROSS LESIONS	N	MEAN %	RANGE /STUDY N	%
LIVER				
Adhesion between left lateral lobe and left lateral abdominal wall	1	0.04	0-1	(0-4.0)
Right lateral and median lobes protruded through diaphragm	1	0.04	0-1	(0-4.0)
STOMACH/INTESTINE				
Stomach and intestines distended with gas	1	0.04	0-1	(0-4.0)
Cecum contained a black substance	1	0.04	0-1	(0-4.0)
Stomach contained a dark red, granular substance	1	0.04	0-1	(0-4.2)
BACK				
Spine, protrusion of bone on dorsal thoracic portion	1	0.04	0-1	(0-4.0)
KIDNEY(S)				
Pelvis, slight/moderate dilation with or without fluid	16	0.60	0-2	(0-12.5)
Pelvis, marked/extreme dilation	7	0.26	0-1	(0-4.0)
Mottled	1	0.04	0-1	(0-4.0)
Large	2	0.07	0-1	(0-4.0)
Small	1	0.04	0-1	(0-4.0)
Cortex pitted	1	0.04	0-1	(0-3.4)
Left, pelvis contained yellow fluid	1	0.04	0-1	(0-4.0)
Bilateral, pelvis contained numerous calculi	1	0.04	0-1	(0-4.0)
Right, indentation	1	0.04	0-1	(0-4.0)
Pale	1	0.04	0-1	(0-12.5)
Left, small; right, enlarged cortex with numerous pinpoint yellow areas and viscous yellow fluid in pelvis	1	0.04	0-1	(0-4.0)
ADRENAL GLAND(S)				
Large	1	0.04	0-1	(0-4.0)

SUMMARY OF MATERNAL NECROPSY OBSERVATIONS
CD RAT

GROSS LESIONS	N	MEAN %	RANGE N	/STUDY %
ABDOMINAL CAVITY				
Filled with light red fluid	1	0.04	0-1	(0-4.0)
SPLEEN				
Two white areas on serosal surface	1	0.04	0-1	(0-4.0)
Large	2	0.07	0-2	(0-8.0)
BLADDER				
Wall thick and contained one calculus	1	0.04	0-1	(0-4.0)
URETERS				
Distended with clear fluid	2	0.07	0-1	(0-4.0)
VAGINA/CERVIX				
Cervix contained a dark red, gelatinous substance	1	0.04	0-1	(0-4.0)
Cervix contained green, viscous fluid	1	0.04	0-1	(0-4.0)
Vagina contained brown, viscous fluid	1	0.04	0-1	(0-2.1)
UTERUS				
Contained red-brown fluid	1	0.04	0-1	(0-4.0)
Right horn, absent	1	0.04	0-1	(0-4.0)
Right horn, threadlike	1	0.04	0-1	(0-2.1)
Left horn, lumen absent on cervical end; ovarian end, distended with clear fluid	1	0.04	0-1	(0-4.0)
Right horn, clear masses containing gelatinous substance present	1	0.04	0-1	(0-4.0)
Portion of left uterine horn prolapsed	1	0.04	0-1	(0-4.0)
OVARIES				
Right contained a red, fluid-filled bursal cyst	1	0.04	0-1	(0-4.0)

SUMMARY OF FETAL GROSS EXTERNAL ALTERATIONS
CD RAT

PERIOD JUNE 1996 - JUNE 1998

STUDIES INCLUDED 84
LITTERS EXAMINED 1652
LIVE FETUSES EXAMINED 23689

ALTERATION			N	%	RANGE N	/STUDY %
HEAD						
	Exencephaly	L	4	0.24	0-1	(0-4.2)
		F	4	0.02	0-1	(0-0.3)
	Hematoma	L	1	0.06	0-1	(0-2.2)
		F	1	0.00	0-1	(0-0.2)
	Microcephaly	L	1	0.06	0-1	(0-4.0)
		F	1	0.00	0-1	(0-0.3)
EYE(S)						
	Eye bulges depressed	L	9	0.54	0-2	(0-12.5)
		F	9	0.04	0-2	(0-0.9)
	Eyelids open	L	2	0.12	0-1	(0-4.2)
		F	2	0.01	0-1	(0-0.3)
	Microphthalmia	L	1	0.06	0-1	(0-4.0)
		F	1	0.00	0-1	(0-0.3)
EARS						
	Low set	L	1	0.06	0-1	(0-12.5)
		F	1	0.00	0-1	(0-0.9)
SNOUT						
	Short	L	2	0.12	0-1	(0-4.2)
		F	2	0.01	0-1	(0-0.3)
TONGUE						
	Absent	L	1	0.06	0-1	(0-4.0)
		F	1	0.00	0-1	(0-0.3)
	Protrudes	L	1	0.06	0-1	(0-4.2)
		F	1	0.00	0-1	(0-0.3)
	Fused to lower margin of oral opening	L	1	0.06	0-1	(0-4.8)
		F	1	0.00	0-1	(0-0.4)

L: LITTER INCIDENCE
F: FETAL INCIDENCE

SUMMARY OF FETAL GROSS EXTERNAL ALTERATIONS
CD RAT

ALTERATION			N	%	RANGE /STUDY N	%
JAWS						
	Micrognathia	L	2	0.12	0-1	(0-4.5)
		F	2	0.01	0-1	(0-0.3)
	Agnathia	L	1	0.06	0-1	(0-12.5)
		F	1	0.00	0-1	(0-0.9)
	Cleft	L	1	0.06	0-1	(0-4.8)
		F	1	0.00	0-1	(0-0.4)
BODY						
	Edema	L	2	0.12	0-1	(0-4.3)
		F	2	0.01	0-1	(0-0.3)
	Umbilical hernia	L	5	0.30	0-1	(0-4.3)
		F	5	0.02	0-1	(0-0.3)
	Spina bifida	L	1	0.06	0-1	(0-4.2)
		F	1	0.00	0-1	(0-0.3)
	Hematoma	L	2	0.12	0-1	(0-4.0)
		F	2	0.01	0-1	(0-0.3)
	Conjoined twin	L	1	0.06	0-1	(0-4.0)
		F	1	0.00	0-1	(0-0.3)
HINDLIMBS						
	Third limb present	L	1	0.06	0-1	(0-14.3)
		F	1	0.00	0-1	(0-0.9)
ANUS						
	No opening present	L	1	0.06	0-1	(0-2.6)
		F	1	0.00	0-1	(0-0.2)
TAIL						
	Threadlike	L	5	0.30	0-1	(0-12.5)
		F	5	0.02	0-1	(0-0.9)
	Agenesis	L	2	0.12	0-1	(0-4.5)
		F	2	0.01	0-1	(0-0.3)
	Short	L	1	0.06	0-1	(0-2.4)
		F	1	0.00	0-1	(0-0.2)
	Constricted	L	1	0.06	0-1	(0-2.4)
		F	1	0.00	0-1	(0-0.2)

L: LITTER INCIDENCE
F: FETAL INCIDENCE

SUMMARY OF FETAL SOFT TISSUE ALTERATIONS
CD RAT

PERIOD	JUNE 1996 - JUNE 1998
# STUDIES INCLUDED	36
# LITTERS EXAMINED	830
# FETUSES EXAMINED	5753

	ALTERATION		N	%	RANGE/STUDY N	RANGE/STUDY %
BRAIN						
	Lateral ventricles,	L	1	0.12	0-1	(0-4.3)
	moderate dilation	F	1	0.02	0-1	(0-0.6)
	Lateral ventricles,	L	2	0.24	0-1	(0-4.3)
	marked dilation	F	2	0.03	0-1	(0-0.6)
	Third ventricle,	L	1	0.12	0-1	(0-4.2)
	marked dilation	F	1	0.02	0-1	(0-0.6)
	Lateral and third ventricles, irregularly	L	1	0.12	0-1	(0-4.2)
	shaped	F	1	0.02	0-1	(0-0.6)
	Irregularly shaped	L	1	0.12	0-1	(0-4.2)
		F	1	0.02	0-1	(0-0.6)
EYES						
	Microphthalmia	L	3	0.36	0-1	(0-4.3)
		F	3	0.05	0-1	(0-0.7)
TONGUE						
	Absent	L	1	0.12	0-1	(0-4.0)
		F	1	0.02	0-1	(0-0.6)
JAW						
	Micrognathia	L	1	0.12	0-1	(0-4.0)
		F	1	0.02	0-1	(0-0.6)
HEART						
	Septal defect	L	1	0.12	0-1	(0-4.0)
		F	1	0.02	0-1	(0-0.6)
VESSELS						
	Innominate, absent	L	6	0.72	0-2	(0-8.3)
		F	6	0.10	0-2	(0-1.2)

L: LITTER INCIDENCE
F: FETAL INCIDENCE

SUMMARY OF FETAL SOFT TISSUE ALTERATIONS
CD RAT

ALTERATION		N	%	RANGE/STUDY N	RANGE/STUDY %
VESSELS (CONT.)					
Innominate, arises on left	L	1	0.12	0-1	(0-4.0)
	F	1	0.02	0-1	(0-0.6)
Umbilical artery, descends to left of urinary bladder	L	15	1.81	0-2	(0-8.7)
	F	16	0.28	0-2	(0-1.4)
Situs inversus	L	1	0.12	0-1	(0-4.2)
	F	1	0.02	0-1	(0-0.6)
Aorta, descends to right	L	1	0.12	0-1	(0-4.0)
	F	1	0.02	0-1	(0-0.6)
Pulmonary artery, descends to right behind aorta	L	1	0.12	0-1	(0-4.0)
	F	1	0.02	0-1	(0-0.6)
LUNGS					
Right apical, cardiac and diaphragmatic lobes appear as one	L	1	0.12	0-1	(0-4.0)
	F	1	0.02	0-1	(0-0.6)
Intermediate lobe, absent	L	1	0.12	0-1	(0-4.0)
	F	1	0.02	0-1	(0-0.6)
BODY					
Edema	L	1	0.12	0-1	(0-4.0)
	F	1	0.02	0-1	(0-0.6)
ABDOMINAL CAVITY					
Situs inversus of liver, intestines, stomach, spleen, pancreas and kidneys	L	1	0.12	0-1	(0-4.0)
	F	1	0.02	0-1	(0-0.6)
KIDNEY(S)					
Pelvis, slight dilation	L	2	0.24	0-2	(0-8.7)
	F	2	0.03	0-2	(0-1.3)
Pelvis, moderate dilation	L	1	0.12	0-1	(0-4.3)
	F	1	0.02	0-1	(0-0.6)
ADRENAL(S)					
Dark red	L	2	0.24	0-1	(0-4.3)
	F	2	0.03	0-1	(0-0.6)

L: LITTER INCIDENCE
F: FETAL INCIDENCE

SUMMARY OF FETAL SKELETAL ALTERATIONS
CD RAT

PERIOD	JUNE 1996 - JUNE 1998
# STUDIES INCLUDED	36
# LITTERS EXAMINED	816
# FETUSES EXAMINED	6151

ALTERATION		N	%	RANGE/STUDY N	%
SKULL					
Frontal(s): incompletely or not ossified	L	2	0.24	0-1	(0-4.2)
	F	2	0.03	0-1	(0-0.6)
Parietal(s): incompletely or not ossified	L	2	0.24	0-1	(0-4.2)
	F	2	0.03	0-1	(0-0.6)
Nasal(s): short	L	3	0.37	0-1	(0-4.2)
	F	3	0.05	0-1	(0-0.6)
Sphenoid: incompletely ossified	L	1	0.12	0-1	(0-4.2)
	F	1	0.02	0-1	(0-0.6)
Maxillae and Premaxillae: short	L	3	0.37	0-1	(0-4.2)
	F	3	0.05	0-1	(0-0.6)
Skull: incompletely or not ossified	L	1	0.12	0-1	(0-4.2)
	F	2	0.03	0-2	(0-1.2)
VERTEBRAE					
Thoracic: Centrum, bifid	L	67	8.21	0-5	(0-20.8)
	F	74	1.20	0-6	(0-3.4)
: Centra, unilateral ossification	L	6	0.74	0-2	(0-8.0)
	F	6	0.10	0-2	(0-1.0)
: Centrum, incompletely or not ossified	L	3	0.37	0-2	(0-8.3)
	F	4	0.06	0-3	(0-1.8)
: Centra, fused	L	1	0.12	0-1	(0-4.2)
	F	1	0.02	0-1	(0-0.5)
: Arch, small	L	1	0.12	0-1	(0-4.0)
	F	1	0.02	0-1	(0-0.6)
Lumbar: Centrum, bifid	L	1	0.12	0-1	(0-4.3)
	F	1	0.02	0-1	(0-0.6)
: Centrum, incompletely or not ossified	L	2	0.24	0-2	(0-8.3)
	F	3	0.05	0-3	(0-1.8)
: Arches, incompletely or not ossified	L	12	1.47	0-3	(0-12.0)
	F	17	0.28	0-4	(0-2.1)
: Centra, unilateral ossification	L	2	0.24	0-1	(0-4.2)
	F	2	0.03	0-1	(0-0.6)

L: LITTER INCIDENCE
F: FETAL INCIDENCE

SUMMARY OF FETAL SKELETAL ALTERATIONS
CD RAT

ALTERATION		N	%	RANGE/STUDY N	%
RIBS					
Cervical Rib(s) present	L	23	2.82	0-4	(0-17.4)
	F	26	0.42	0-5	(0-2.9)
One or more, wavy	L	32	3.92	0-4	(0-33.3)
	F	52	0.84	0-8	(0-5.1)
One or more, incompletely ossified (hypoplastic), or not ossified	L	22	2.70	0-2	(0-9.1)
	F	36	0.58	0-5	(0-2.6)
Extra ribs, 14th, unilateral	L	4	0.49	0-4	(0-16.0)
	F	4	0.06	0-4	(0-2.2)
Extra ribs, 14th, bilateral	L	1	0.12	0-1	(0-4.0)
	F	1	0.02	0-1	(0-0.6)
STERNEBRAE					
One or more incompletely ossified or not ossified	L	109	13.36	0-9	(0-36.0)
	F	150	2.44	0-12	(0-6.7)
Fused	L	1	0.12	0-1	(0-4.2)
	F	1	0.02	0-1	(0-0.6)
Asymmetric	L	1	0.12	0-1	(0-4.2)
	F	1	0.02	0-1	(0-0.5)
SCAPULAE					
Bent	L	1	0.12	0-1	(0-4.2)
	F	1	0.02	0-1	(0-0.5)
PELVIS					
Pubis(es) and/or Ischium(a): incompletely or not ossified	L	116	14.22	0-7	(0-30.4)
	F	180	2.93	0-16	(0-9.5)
Pubis(es): incompletely ossified	L	96	11.76	0-7	(0-30.4)
	F	147	2.39	0-16	(0-9.5)
Pubis(es): not ossified	L	3	0.37	0-1	(0-4.2)
	F	3	0.05	0-1	(0-0.6)
Ischium(a): incompletely or not ossified	L	39	4.78	0-4	(0-16.7)
	F	58	0.94	0-9	(0-4.7)
FORELIMB(S)					
Radius and Ulna: Bent	L	1	0.12	0-1	(0-4.2)
	F	1	0.02	0-1	(0-0.6)

L: LITTER INCIDENCE
F: FETAL INCIDENCE

SUMMARY OF FETAL OSSIFICATION SITES
SKELETAL AVERAGES
CD RAT
(CAESAREAN-SECTIONED DAY 20 GESTATION)

PERIOD:	JUNE 1996 - JUNE 1998
# STUDIES INCLUDED	35
# LITTERS EXAMINED	793
# FETUSES EXAMINED	5961

SKELETAL AVERAGES	FETUS/LITTER MEAN	RANGE/STUDY
HYOID	0.86	(0.69-0.98)
VERTEBRAE		
CERVICAL	7.00	–
THORACIC	13.04	(13.00-13.15)
LUMBAR	5.95	(5.85-5.99)
SACRAL	3.00	(2.96-3.01)
CAUDAL	4.82	(4.35-5.16)
RIBS (pairs)	13.03	(13.00-13.09)
STERNUM		
MANUBRIUM	1.00	(0.98-1.01)
STERNAL CENTERS	3.61	(3.26-3.75)
XIPHOID	0.99	(0.94-1.00)
FOREPAWS (Calculated as average per limb)		
CARPALS	0.00	–
METACARPALS	3.54	(3.33-3.74)
DIGITS	5.00	–
PHALANGES	5.04	(4.90-5.27)
HINDPAWS (Calculated as average per limb)		
TARSALS	0.00	–
METATARSALS	3.99	(3.93-4.03)
DIGITS	5.00	–
PHALANGES	4.98	(4.82-5.08)

FETAL OSSIFICATION SITES
SKELETAL AVERAGES
CD RAT
(CAESAREAN-SECTIONED DAY 21 GESTATION)

STUDY #	580
# LITTERS EXAMINED	23
# FETUSES EXAMINED	190
SKELETAL AVERAGES	
HYOID	0.96
VERTEBRAE	
CERVICAL	7.00
THORACIC	13.06
LUMBAR	5.94
SACRAL	3.00
CAUDAL	7.23
RIBS (pairs)	13.05
STERNUM	
MANUBRIUM	1.00
STERNAL CENTERS	3.97
XIPHOID	1.00
FOREPAWS (Calculated as average per limb)	
CARPALS	0.00
METACARPALS	3.99
DIGITS	5.00
PHALANGES	7.53
HINDPAWS (Calculated as average per limb)	
TARSALS	0.02
METATARSALS	4.62
DIGITS	5.00
PHALANGES	5.78

APPENDIX G

STATEMENT OF THE STUDY DIRECTOR

PRIMEDICA

Argus Research Laboratories, Inc.
905 Sheehy Drive, Building A
Horsham, PA 19044
Telephone: (215) 443-8710
Telefax: (215) 443-8587

PROTOCOL 418-013: ORAL (GAVAGE) PHARMACOKINETIC STUDY OF PFOS IN RATS
SPONSOR'S STUDY NUMBER: T-6295.12

STATEMENT OF THE STUDY DIRECTOR

This final report accurately reflects the raw data obtained during the performance of the study. No deviations from the U.S. Food and Drug Administration (FDA) Good Laboratory Practice Regulations; Final Rule[a], the Japanese Ministry of Health and Welfare (MHW) *Good Laboratory Practice Standard for Safety Studies on Drugs*[b] and the European Economic Community (EEC) *Council decision on 28 July 1989 on the acceptance by the European Economic Community of an OECD decision/recommendation on compliance with principles of good laboratory practice*[c] occurred that affected the quality or integrity of the study.

Raymond G. York, Ph.D., DABT Date
Associate Director of Research
and Study Director

---

a. U.S. Food and Drug Administration. Good Laboratory Practice Regulations; Final Rule. 21 CFR Part 58.

b. Japanese Ministry of Health and Welfare (1988). *Good Laboratory Practice Standard for Safety Studies on Drugs*, MHW Ordinance Number 21, March 26, 1997.

c. European Economic Community (1989). *Council decision on 28 July 1989 on the acceptance by the European Economic Community of an OECD decision/recommendation on compliance with principles of good laboratory practice*. Official Journal of the European Communities: Legislation. 32(No. L 315; 28 October): 1-17.

APPENDIX H

QUALITY ASSURANCE UNIT FINAL REPORT STATEMENT

PRIMEDICA

Argus Research Laboratories, Inc.
905 Sheehy Drive, Building A
Horsham, PA 19044
Telephone: (215) 443-8710
Telefax: (215) 443-8587

QUALITY ASSURANCE UNIT FINAL REPORT STATEMENT

Study Director: Raymond G. York, Ph.D., DABT

Executive Director of Research: Mildred S. Christian, Ph.D., Fellow, ATS

Protocol 418-013: Oral (Gavage) Pharmacokinetic Study of PFOS in Rats
Sponsor's Study Number: T-6295.12

The draft protocol for this study was audited for adherence to U.S. Food and Drug Administration (FDA) Good Laboratory Practice Regulations, Japanese Ministry of Health and Welfare (MHW); Good Laboratory Practice Standard for Safety Studies on Drugs, and European Economic Community (1989) council decision on 28 July 1989 on the acceptance by the European Economic Community of an OECD decision/recommendation on compliance with principles of good laboratory practice on 18 OCT 98.

Critical phases of this study were inspected six times; study information and raw data were audited twice (see tables 1 and 2 for dates and phases/data)

The draft final report and the raw data for this study were compared and audited for accuracy, for adherence to protocol requirements, and for adherence to U.S. Food and Drug Administration (FDA) Good Laboratory Practice Regulations, Japanese Ministry of Health and Welfare (MHW); Good Laboratory Practice Standard for Safety Studies on Drugs, and European Economic Community (1989) council decision on 28 July 1989 on the acceptance by the European Economic Community of an OECD decision/recommendation on compliance with principles of good laboratory practice between 25 APR 99 and 26 MAY 99, and for revisions requested by the Sponsor 17 JUN and 18 JUN 99 and for finalization on 24 JUN 99.

This study was conducted according to U.S. Food and Drug Administration (FDA) Good Laboratory Practice Regulations, Japanese Ministry of Health and Welfare (MHW); Good Laboratory Practice Standard for Safety Studies on Drugs, and European Economic Community (1989) council decision on 28 July 1989 on the acceptance by the European Economic Community of an OECD decision/recommendation on compliance with principles of good laboratory practice.

Nancy J Gongliewsk 24Jun99 Gina M. Bach 24 June 99

Nancy J. Gongliewski Date for Lisa A. Zaborowski, B.S. Date
Quality Assurance Manager Senior Quality Assurance Associate and Principal Auditor

TABLE 1

CRITICAL PHASES INSPECTED

Test Article Preparation

Date of inspection: 19 NOV 98

Date results reported to the Study Director and Management: 20 NOV 98

Test Article Administration - Gavage

Date of inspection: 19 NOV 98

Date results reported to the Study Director and Management: 20 NOV 98

Cohabitation

Date of Inspection: 28 DEC 98

Date results reported to the Study Director and Management: 31 DEC 98

Blood Collection

Date of inspection: 04 JAN 99

Date results reported to the Study Director and Management: 04 JAN 99

Urine and Fecal Collection

Date of inspection: 04 JAN 99

Date results reported to the Study Director and Management: 04 JAN 99

Caesarean-Sectioning

Date of inspection: 13 JAN 99

Date results reported to the Study Director and Management: 19 JAN 99

TABLE 2

RAW DATA AUDIT(S)

The following study information and raw data were audited from 18 MAR 99 to 25 MAR 99:

Protocol.
Protocol amendment.
List of personnel and computer operator codes.
Error codes and codes for clinical sign observations.
Animal receipt, randomization, physical examination and acclimation.
In-life transaction record.
Feed consumption.
Cohabitation.
Caesarean-sectioning.
Maternal gross observations.
Fetal gross observations.
Necropsy.
Gravid uterine weights.
Placental weights.
Tissue packing lists.
Male breeder colony records.
General comments.
Study maintenance records.
Temperature and relative humidity reports.
Feed and water analyses.
Edit requests.
Randomizations.
Dosage volumes.
Deviations.
Data review pages.
Blood and liver collection data and packing lists.
Maternal packing lists for liver/glands.
Fetal liver/lung tissue packing lists.
Pooled liver, placenta, liver and lung packing lists.
Fecal/urine collection data and packing lists.
Embryo/placenta collection and packing lists.
Fetal carcass packing lists.
Amniotic fluid collection and packing lists.

The results of this audit were reported to the Study Director and Management on 26 MAR 99.

The following study information and raw data were audited on 25 MAR 99:

Vehicle/Control article receipt, preparation and use.
Test article/substance receipt, preparation and use.
Test article/substance packing lists.
Test article/substance analysis.

The results of this audit were reported to the Study Director and Management on 29 MAR 99.