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March 4, 2005

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Attention: TSCA 8(e) Coordinator

RE: Allyl Alcohol – Prenatal Developmental Toxicity Study in Rats

Dear Sir or Madam:

Lyondell Chemical Company (Lyondell) hereby submits this letter pursuant to Section 8(e) of the Toxic Substances Control Act (TSCA) and EPA's 1991 Section 8(e) Reporting Guide because it includes findings that EPA may consider reportable. In a prenatal developmental toxicity study (OPPTS 870.37800 and OECD Guideline 414) Allyl alcohol (CASRN 107-18-6) dosages of 35 and 50 mg/kg/day produced an increased frequency of total litter loss in dams that exhibited severe toxicity as indicated by loss of body weight, severe decreases in feed consumption, and evidence of significant liver toxicity. Despite the severe maternal toxicity observed, there were no test-article related increases in malformation rates or incidence of variations. Intrauterine growth and survival was not affected in the fetuses from dams that survived to necropsy. Lyondell has not made a determination as to whether a significant risk of injury to health or the environment is actually presented by these findings.

A copy of the study final report is enclosed for your review.

Allyl alcohol was tested pursuant to Lyondell's testing plan for the High Production Volume Chemical Challenge

Should you have any questions or require additional details, please do not hesitate to call me at 713-309-2136. I may also be reached by by e-mail at patrick.gibson@lyondell.com.

Sincerely,

8EHQ-05-15942

Patrick Gibson
Senior Product Safety Specialist – Regulatory
Corporate TSCA Coordinator
Lyondell Chemical Company

8805000014 8

Enclosure

Cc: TSCA 8(e) Files

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FINAL REPORT

STUDY TITLE

A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

STUDY NUMBER

WIL-14038

DATA REQUIREMENT

U.S. EPA OPPTS 870.3700
OECD Guideline 414

STUDY DIRECTOR

Donald G. Stump, Ph.D., D.A.B.T.

STUDY INITIATION DATE

August 20, 2004

STUDY COMPLETION DATE

February 24, 2005

PERFORMING LABORATORY

WIL Research Laboratories, LLC*
1407 George Road
Ashland, OH 44805-9281

SPONSOR

Lyondell Chemical Company
1221 McKinney
P.O. Box 3646
Houston, TX 77253-3646

* = Formerly WIL Research Laboratories, Inc.

COMPLIANCE STATEMENT

This study, designated WIL-14038, was conducted in compliance with the United States Environmental Protection Agency (EPA) Good Laboratory Practice Standards (40 CFR Part 792), September 18, 1989; the Organisation for Economic Cooperation and Development (OECD) Principles of Good Laboratory Practice [C (97) 186/Final], November 26, 1997, the standard operating procedures of WIL Research Laboratories, LLC and the protocol as approved by the sponsor.

The protocol was designed to be in general accordance with the United States EPA Health Effects Test Guidelines, Office of Prevention, Pesticides, and Toxic Substances (OPPTS) 870.3700, Prenatal Developmental Toxicity Study, August 1998, and the OECD Guidelines for Testing of Chemicals, Guideline 414, Prenatal Developmental Toxicity Study, January 22, 2001.

Donald G. Stump

Donald G. Stump, Ph.D., D.A.B.T.
Associate Director, Developmental
and Reproductive Toxicology
Study Director

2/24/05
Date

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1. SUMMARY

1.1. OBJECTIVE

The objective of the study was to determine the potential maternal toxicity and/or prenatal developmental toxicity of the test article, allyl alcohol, when administered to pregnant rats throughout the period of major organogenesis.

1.2. STUDY DESIGN

The test article, allyl alcohol, in the vehicle, deionized water, was administered orally by gavage to three groups of 25 bred female Crl:CD®(SD)IGS BR rats once daily from gestation days 6 through 19. Dosage levels were 10, 35 and 50 mg/kg/day administered at a dosage volume of 5 mL/kg. A concurrent control group of 25 females received the vehicle (deionized water) on a comparable regimen. All animals were observed twice daily for mortality and moribundity. Clinical observations, body weights and food consumption were recorded at appropriate intervals. On gestation day 20, a laparohysterectomy was performed on each surviving female and liver weights were recorded. The uteri, placentae and ovaries were examined, and the numbers of fetuses, early and late resorptions, total implantations and corpora lutea were recorded. Gravid uterine weights were recorded, and net body weights and net body weight changes were calculated. The fetuses were weighed, sexed and examined for external, visceral and skeletal malformations and developmental variations.

1.3. RESULTS

One and six females in the 35 and 50 mg/kg/day groups, respectively, died between gestation days 9 and 20. These females had adverse clinical findings indicative of moribundity (poor grooming, hypoactivity, extremities cool to the touch, wiping the mouth on the cage floor and/or walls and rocking, lurching or swaying while walking), body weight losses and reduced body weight gains and food consumption. In addition, the female in the 35 mg/kg/day group had an entirely resorbed litter and test

article-related yellow and white areas on the liver at necropsy. All other animals survived to scheduled necropsy.

Maternal clinical findings attributed to the known irritant properties of the test article (salivation or evidence of salivation, wiping the mouth on the cage floor and/or walls and/or lacrimation) were observed in the 10, 35 and 50 mg/kg/day groups at the time of dose administration and/or approximately 1 hour following dose administration. In the 35 and 50 mg/kg/day groups, mean body weight losses and reduced food consumption occurred during the first 3 days of dosing (gestation days 6-9). Because many of the most severely affected animals in the 50 mg/kg/day group died by gestation day 11, an increase in group mean body weight gain was then observed for the gestation days 9-12 interval, followed by body weight gains and food consumption values that were similar to the control group throughout the remainder of gestation. A different trend was noted in the 35 mg/kg/day group, where body weight gain and food consumption reductions were sustained throughout gestation days 12-20 and 6-20 due to the continued survival of the increasingly moribund animals in this group despite the administration of supplemental diet to the six most severely affected animals in this group. However, three of the six supplemented females in the 35 mg/kg/day group showed increased basal diet consumption and body weight gain. While basal diet consumption did not substantially increase for the remaining three supplemented females in the 35 mg/kg/day group, the supplementation likely was critical in allowing two of these three females to survive to the scheduled laparohysterectomy. Mean net body weight gains and gravid uterine weights were reduced in the 35 and 50 mg/kg/day groups compared to the control group. The reduced mean gravid uterine weights were attributed to two females in each group that had entirely resorbed litters. There were no effects on body weights and food consumption in the 10 mg/kg/day group.

At the scheduled necropsy on gestation day 20, 11 of the surviving 24 and 12 of the surviving 19 females in the 35 and 50 mg/kg/day groups, respectively, had test article-related liver findings, including yellow and/or white areas on the liver, liver

adhesions and/or misshapen or mottled livers. Mean liver weights were increased in the 35 and 50 mg/kg/day groups. In addition, one female in the 10 mg/kg/day group had yellow areas on the liver. Due to a dose-proportional increase across groups, this liver finding was considered to be test article-related, despite the lack of other adverse effects on the female. While some of the animals with test article-related liver findings had adverse effects on body weight, body weight gains, food consumption and intrauterine growth and survival, many animals remained unaffected, suggesting that the liver is the most sensitive indicator of maternal toxicity.

Mean litter proportions of postimplantation loss were increased in the 35 and 50 mg/kg/day groups, primarily as a result of two dams in each group that had totally resorbed litters. All of these dams in the 35 and 50 mg/kg/day groups that had entirely resorbed litters had liver findings (white or yellow areas) noted macroscopically and one female in each group had an enlarged spleen. These females also experienced large body weight losses and corresponding reductions in food consumption at the start of dose administration (gestation days 6-9). Body weight gains and food consumption in these animals continued to be lower than control group values. No test article-related external malformations or developmental variations were noted in any fetuses in this study, and no other effects on intrauterine growth and survival were noted in any group.

1.4. CONCLUSIONS

Maternal toxicity in the 35 and 50 mg/kg/day groups consisted of mortalities, clinical findings, reductions in body weight gain and food consumption, macroscopic liver findings and increased liver weights. One female in the 10 mg/kg/day group also had macroscopic liver findings. Therefore, a dose level of 10 mg/kg/day was considered to be the lowest-observed-adverse-effect level (LOAEL) for maternal toxicity. Developmental toxicity in the 35 and 50 mg/kg/day groups was expressed by an increase in postimplantation loss. Therefore, a dose level of 10 mg/kg/day was considered to be

the no-observed-adverse-effect level (NOAEL) for developmental toxicity when allyl alcohol was administered orally by gavage to pregnant rats.

2. INTRODUCTION

2.1. GENERAL STUDY INFORMATION

This report presents the data from "A Prenatal Developmental Toxicity Study of Allyl Alcohol in Rats" Due to software spacing constraints, the study title is presented as "A Prenatal Development Toxicity Study of Allyl Alcohol in Rats" on the report tables.

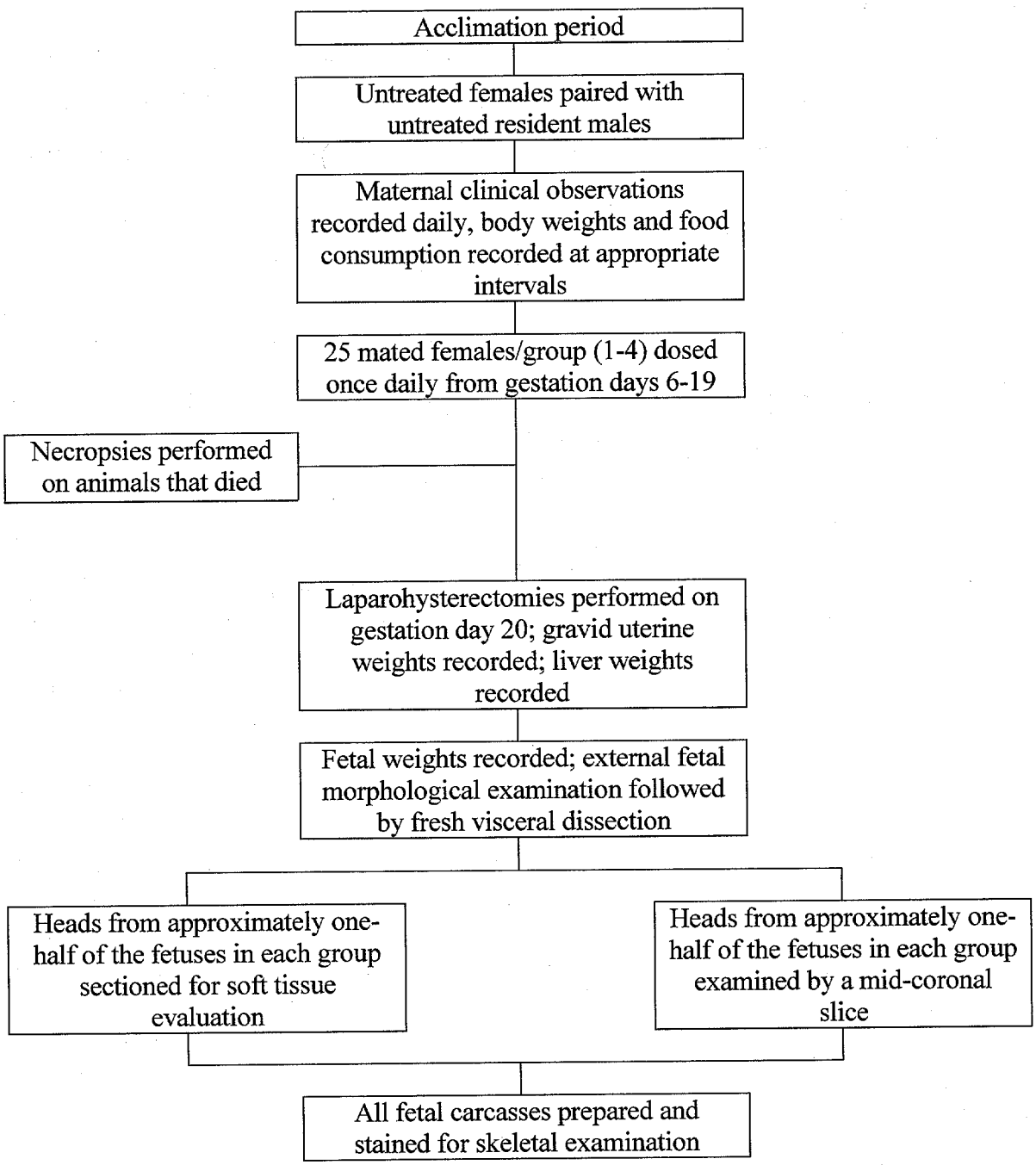
The following computer protocol was used for data collection during the study:

Computer Protocol	Type of Data Collected
WIL-14038	Main study data

2.2. KEY STUDY DATES

Date(s)	Event(s)
August 24, 2004	Experimental starting date (animal receipt)
September 7, 2004	First gestation day 0
September 13, 2004	Experimental start date (initiation of test article administration)
September 13-29, 2004	Test article administration
September 30, 2004	Last laparohysterectomy
November 17, 2004	Experimental termination/completion date (last skeletal examination)

3. STUDY DESIGN



4. EXPERIMENTAL PROCEDURES - MATERIALS AND METHODS

4.1. TEST ARTICLE AND VEHICLE

4.1.1. TEST ARTICLE IDENTIFICATION

The test article, allyl alcohol, was received from Aldrich Chemical Company, Allentown, Pennsylvania, on May 26, 2004, as follows:

Identification	Quantity Received	Physical Description
Allyl Alcohol Lot no. 20906MB Exp. date: 5/26/09 CAS no. 107-18-6 [WIL log no. 6177A]	1 bottle Gross weight: 1594.5 g	Clear, colorless liquid

A Certificate of Analysis for the test article was provided by the sponsor and is presented in Appendix A. The purity of the test article as determined by the manufacturer and presented on the Certificate of Analysis was 99.38%. The test article was also assessed for purity by the Analytical Chemistry department at WIL Research Laboratories, LLC in after completion of dosing (October 1, 2004) and prior to the start of dosing of the previously conducted dose range-finding study (Stump, 2004). The purity was determined to be 99.41% and 99.54%, respectively. The dosing formulations were not adjusted for purity. The test article was stored at room temperature, and was considered stable under these conditions. A reserve sample of the test article (approximately 1 g) was collected on June 21, 2004, and stored in the Archives of WIL Research Laboratories, LLC.

4.1.2. VEHICLE IDENTIFICATION

The vehicle used in preparation of the test article formulations and for administration to the control group was reverse osmosis water further purified by deionization (prepared on-site).

4.1.3. PREPARATION

For administration to the control group (Group 1), an appropriate amount of deionized water was dispensed into a container. The vehicle was stirred using a magnetic stirrer throughout dose administration.

The test article formulations were prepared by measuring the appropriate volume of the test article based on the specific gravity (0.852 g/mL) to get the correct mg/mL concentration. The appropriate amount of the test article for each group was dispensed into a calibrated container. Approximately 70% of the vehicle was added to the containers, and the formulations were stirred until uniform using a magnetic stirrer. A sufficient volume of the vehicle was added to each container to bring the formulations to the calibration mark and the formulations were mixed until uniform.

The test article formulations were prepared approximately weekly as single formulations for each dose level, divided into aliquots for daily dispensation and stored at room temperature. The test article formulations were stirred continuously throughout the preparation, sampling and dose administration procedures. The test article formulations were visually inspected by the study director on September 10, 2004, and were found to be acceptable for dose administration.

4.1.4. ADMINISTRATION

The vehicle and test article formulations were administered orally by gastric intubation, via an appropriately sized, flexible, polypropylene-shafted, silicone bulb-shaped-tipped dosing cannula (Instech Solomon, Plymouth Meeting, Pennsylvania), once daily during gestation days 6-19. The dosage volume for all groups was 5 mL/kg. Individual dosages were calculated based on each day's body weight to provide the correct mg/kg/day dose. All animals were dosed at approximately the same time each day.

The following table presents the study group assignment:

Group Number	Test Article	Dosage Level (mg/kg/day)	Dosage Concentration (mg/mL)	Dosage Volume (mL/kg)	Number of Females
1	Vehicle	0	0	5	25
2	Allyl Alcohol	10	2	5	25
3	Allyl Alcohol	35	7	5	25
4	Allyl Alcohol	50	10	5	25

Dose levels were selected based on the results of a previous range-finding developmental toxicity study (Stump, 2004). In that study, pregnant rats were exposed to 10, 35 and 50 mg/kg/day of allyl alcohol orally by gavage. Maternal toxicity was observed at a dose level of 50 mg/kg/day, including moribundity in one animal, salivation, wiping the mouth on the cage floor and/or walls, lacrimation, reduced mean food consumption and mean body weights and internal findings (yellow areas on the liver). Based on these findings, 50 mg/kg/day was selected as the high dose level in the current study because of the likelihood of causing maternal toxicity.

The selected route of administration for this study was oral (gavage) because this route has been used extensively for studies of this nature. The animal model, the Crl:CD®(SD)IGS BR rat, was selected as appropriate based on the availability of historical control data and susceptibility of the species to known developmental toxicants.

4.1.5. SAMPLING AND ANALYSES

Stability of the test article in deionized water at concentrations of 0.2 and 10 mg/mL was demonstrated for 10 days at room temperature in a previous range-finding developmental toxicity study (Stump, 2004). The dose preparations were solutions; therefore, homogeneity analyses were not required. Samples (2 mL each) for concentration analysis were collected weekly from the middle stratum of each dosing formulation (including the control group). In addition, the purity of the test article was determined after completion of dosing and was found to be greater than 99.4% pure. This result indicated that the test article purity did not significantly change over the course of the previous range-finding study (Stump, 2004) and the current study.

All analyses were conducted by the Analytical Chemistry Department, WIL Research Laboratories, LLC. The methodology and results of these analyses are presented in Appendix B. The test article formulations were determined to contain the amounts of test article specified in the protocol.

4.2. ANIMAL RECEIPT AND ACCLIMATION

One-hundred twenty-five sexually mature, virgin female Crl:CD®(SD)IGS BR rats were received in good health from Charles River Laboratories, Inc., Raleigh, North Carolina, on August 24, 2004. The animals were approximately 71 days old upon receipt. Each female was examined by a qualified technician on the day of receipt and weighed 1 day after receipt. Each rat was uniquely identified by a Monel® metal eartag displaying the animal number and housed for 13 days for acclimation purposes. During the acclimation period, the rats were observed twice daily for mortality and general changes in appearance and behavior. Body weights were recorded prior to the initiation of breeding.

4.3. ANIMAL HOUSING

Upon arrival and until pairing, all rats were individually housed in clean, stainless steel wire-mesh cages suspended above cage-board. The cage-board was changed three times per week. The rats were paired for mating in the home cage of the male. Following positive evidence of mating, the females were returned to individual suspended wire-mesh cages; nesting material was not required as the females were euthanized prior to the date of expected parturition. Animals were maintained in accordance with the *Guide for the Care and Use of Laboratory Animals* (National Research Council, 1996). The animal facilities at WIL Research Laboratories, LLC are fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International).

4.4. DIET, DRINKING WATER AND MAINTENANCE

The basal diet used in this study, PMI Nutrition International, LLC, Certified Rodent LabDiet® 5002, is a certified feed with appropriate analyses performed by the

manufacturer and provided to WIL Research Laboratories, LLC. The feeders were changed and sanitized once per week. Municipal water supplying the facility is regularly sampled for contaminants according to standard operating procedures. The results of the diet and water analyses are maintained at WIL Research Laboratories, LLC. No contaminants were present in animal feed or water at concentrations sufficient to interfere with the objectives of this study. Reverse osmosis-purified (on-site) drinking water, delivered by an automatic watering system, and the basal diet were provided *ad libitum* throughout the acclimation period and during the study. However, due to a number of animals not consuming an appreciable amount of food, the staff veterinarian and the sponsor approved the administration of a supplemental feed (an approximately 50/50 mixture of Hills Prescription Diet® canine feed and water) to all animals consuming less than 10 g per day beginning on September 23, 2004. Product characteristics, nutrient content and ingredients of the Hills Prescription Diet® are presented in Appendix C. One, six and one animals in the control, 35 and 50 mg/kg/day groups were supplemented between September 23 and September 28, 2004 (gestation days 14-19).

4.5. ENVIRONMENTAL CONDITIONS

All rats were housed throughout the acclimation period and during the study in an environmentally controlled room. The room temperature and humidity controls were set to maintain daily averages of 71 ± 5°F (22 ± 3°C) and 50 ± 20% relative humidity. Room temperature and relative humidity were monitored using the Metasys DDC Electronic Environmental control system and were recorded approximately hourly. These data are summarized in Appendix D. Actual mean daily temperature ranged from 70.4°F to 71.5°F (21.3°C to 22.0°C) and mean daily relative humidity ranged from 41.9% to 53.9% during the study. Light timers were calibrated to provide a 12-hour light (6 a.m. to 6 p.m.)/12-hour dark photoperiod. Air handling units were set to provide approximately 10 fresh air changes per hour.

4.6. ASSIGNMENT OF ANIMALS TO TREATMENT GROUPS AND BREEDING PROCEDURES

At the conclusion of the acclimation period, all available females were weighed and examined in detail for physical abnormalities. At the discretion of the study director, each animal judged to be in good health and meeting acceptable body weight requirements (a minimum of 220 g) was placed in a suspended wire-mesh cage with a resident male from the same strain and source for breeding. Resident males were untreated, sexually mature rats utilized exclusively for breeding. These rats were maintained under similar laboratory conditions as the females. A breeding record containing the male and female identification numbers and the dates of cohabitation was prepared. The selected females were approximately 12 weeks old when paired for breeding.

Positive evidence of mating was confirmed by the presence of a vaginal copulatory plug or the presence of sperm following a vaginal lavage. Each mating pair was examined daily. The day on which evidence of mating was identified was termed gestation day 0 and the animals were separated.

The experimental design for WIL-14038 consisted of three test article-treated groups and one control group, composed of 25 rats per group. The bred females were assigned to groups using a WIL Toxicology Data Management System (WTDMS™) computer program which randomized the animals based on stratification of the gestation day 0 body weights in a block design. Body weight values ranged from 225 g to 299 g on gestation day 0.

5. PARAMETERS EVALUATED

5.1. MATERNAL OBSERVATIONS DURING GESTATION

5.1.1. CLINICAL OBSERVATIONS AND SURVIVAL

All rats were observed twice daily, once in the morning and once in the afternoon, for moribundity and mortality. Individual detailed clinical observations were recorded from gestation days 0 through 20 (prior to dose administration during the treatment period). Animals were also observed for signs of toxicity at the time of dose administration and approximately 1 hour following dose administration. All significant findings were recorded.

5.1.2. BODY WEIGHTS AND GRAVID UTERINE WEIGHTS

Individual maternal body weights were recorded on gestation days 0 and 6-20 (daily). Group mean body weights were calculated for each of these days. Mean body weight changes were calculated for each corresponding interval and also for gestation days 6-9, 9-12, 12-20, 6-20 and 0-20. For individual data, the time periods a given female was not weighed were designated as "NA" (Not Applicable) on the report tables.

Gravid uterine weight was collected and net body weight (the day 20 body weight exclusive of the weight of the uterus and contents) and net body weight change (the day 0-20 body weight change exclusive of the weight of the uterus and contents) were calculated and presented for each gravid female at the scheduled laparohysterectomy.

5.1.3. FOOD CONSUMPTION

Individual food consumption was recorded on gestation days 0 and 6-20 (daily). Food intake was reported as g/animal/day and g/kg/day for the corresponding body weight change intervals. When food consumption could not be determined for an animal during a given interval, values were calculated using the appropriate number of days for that interval. Intervals where food consumption could not be recorded due to an erroneous weight or a food spill were documented and footnoted on the corresponding individual food consumption tables.

5.1.4. ANATOMIC PATHOLOGY AND LAPAROHYSTERECTOMY

5.1.4.1. UNSCHEDULED DEATHS

A gross necropsy was performed on females that died during the course of the study. Representative sections of the liver and all gross lesions were retained in 10% neutral-buffered formalin for possible future histopathologic examination. The number and location of implantation sites and corpora lutea were recorded.

5.1.4.2. GESTATION DAY 20 LAPAROHYSTERECTOMY

All surviving females were euthanized on gestation day 20 by carbon dioxide inhalation. The thoracic, abdominal and pelvic cavities were opened by a ventral mid-line incision, and the contents were examined without knowledge of treatment group. In all instances, the *post mortem* findings were correlated with the *ante mortem* comments and any abnormalities were recorded. The uterus and ovaries were then exposed and excised. The number of corpora lutea on each ovary was recorded. The trimmed uterus was weighed and opened, and the number and location of all fetuses, early and late resorptions and the total number of implantation sites were recorded. The placentae were also examined. The individual uterine distribution of implantation sites was documented using the following procedure. All implantation sites, including resorptions, were numbered in consecutive order beginning with the left distal to the left proximal uterine horn, noting the position of the cervix, and continuing from the right proximal to the right distal uterine horn.

Liver weights were recorded and representative sections of the liver and all gross lesions were preserved in 10% neutral-buffered formalin for possible future histopathologic examination. Representative sections of corresponding organs from a sufficient number of control animals were retained for comparison. The carcass of each female was then discarded.

Uteri with no macroscopic evidence of implantation were opened and subsequently placed in 10% ammonium sulfide solution for detection of early implantation loss (Salewski, 1964).

Intrauterine data were summarized using two methods of calculation. An example of each method of calculation follows:

1. Group Mean Litter Basis:

$$\text{Postimplantation Loss/Litter} = \frac{\text{No. Dead Fetuses, Resorptions (Early/Late)/Group}}{\text{No. Gravid Females/Group}}$$

2. Proportional Litter Basis:

$$\text{Summation Per Group (\%)} = \frac{\sum \text{Postimplantation Loss/Litter (\%)}}{\text{No. Litters/Group}}$$

Where:

$$\text{Postimplantation Loss/Litter (\%)} = \frac{\text{No. Dead Fetuses, Resorptions (Early/Late)/Litter}}{\text{No. Implantation Sites/Litter}} \times 100$$

5.2. FETAL MORPHOLOGICAL EXAMINATION

Each viable fetus was examined externally, individually sexed, weighed, tagged for identification, and euthanized by hypothermia followed by an intrathoracic injection of sodium pentobarbital (if necessary). Fetal tags contained the WIL study number, the female number and the fetus number. The detailed external examination of each fetus included, but was not limited to, an examination of the eyes, palate and external orifices, and each finding was recorded. Nonviable fetuses (if the degree of autolysis was minimal or absent) were examined, the crown-rump length measured, weighed, sexed and tagged individually. Crown-rump measurements and degrees of autolysis were recorded for late resorptions, if present, and the tissues were discarded.

Each viable fetus was subjected to a visceral examination using a modification of the Stuckhardt and Poppe fresh dissection technique to include the heart and major blood vessels (Stuckhardt and Poppe, 1984). The sex of each fetus was confirmed by internal examination. Fetal kidneys were examined and graded for renal papillae development (Woo and Hoar, 1972). Heads from approximately one-half of the fetuses in each litter were placed in Bouin's fixative for subsequent soft-tissue examination by the Wilson sectioning technique (Wilson, 1965). The heads from the remaining one-half of the fetuses were examined by a mid-coronal slice. All carcasses were eviscerated and fixed in 100% ethyl alcohol.

Following fixation in alcohol, each fetus was macerated in potassium hydroxide and stained with Alizarin Red S (Dawson, 1926) and Alcian Blue (Inouye, 1976). External, visceral and skeletal findings were recorded as developmental variations (alterations in anatomic structure that are considered to have no significant biological effect on animal health or body conformity and/or occur at high incidence, representing slight deviations from normal) or malformations (those structural anomalies that alter general body conformity, disrupt or interfere with normal body function, or may be incompatible with life).

The fetal developmental findings were summarized by: 1) presenting the incidence of a given finding both as the number of fetuses and the number of litters available for examination in the group; and 2) considering the litter as the basic unit for comparison and calculating the number of affected fetuses in a litter on a proportional basis as follows:

$$\text{Summation per Group (\%)} = \frac{\sum \text{Viable Fetuses Affected/Litter (\%)}}{\text{No. Litters/Group}}$$

Where:

$$\text{Viable Fetuses Affected/Litter (\%)} = \frac{\text{No. Viable Fetuses Affected/Litter}}{\text{No. Viable Fetuses/Litter}} \times 100$$

5.3. STATISTICAL ANALYSES

All statistical tests were performed using appropriate computing devices or programs. Analyses were conducted using two-tailed tests (except as noted otherwise) for minimum significance levels of 1% and 5%, comparing each test article-treated group to the control group. Each mean was presented with the standard deviation (S.D.) and the number of animals (N) used to calculate the mean. Due to the different rounding conventions inherent in the types of software used, the means and standard deviations on the summary and individual tables may differ by ±1 in the last significant figure. Where applicable, the litter was used as the experimental unit.

Mean maternal body weights (absolute and net), body weight changes (absolute and net) and food consumption, gravid uterine weights, numbers of corpora lutea, implantation sites and viable fetuses, and fetal body weights (separately by sex and combined were subjected to a parametric one-way analysis of variance (ANOVA) (Snedecor and Cochran, 1980) to determine intergroup differences. If the ANOVA revealed statistically significant ($p<0.05$) intergroup variance, Dunnett's test (Dunnett, 1964) was used to compare the test article-treated groups to the control group. Mean litter proportions (percent per litter) of prenatal data (viable and nonviable fetuses, early and late resorptions, total resorptions, pre- and postimplantation loss, and fetal sex distribution), total fetal malformations and developmental variations (external, visceral, skeletal and combined) and each particular external, visceral and skeletal malformation or variation were subjected to the Kruskal-Wallis nonparametric ANOVA test (Kruskal and Wallis, 1952) to determine intergroup differences. If the ANOVA revealed statistically significant ($p<0.05$) intergroup variance, the Dunn's test (Dunn, 1964) was used to compare the test article-treated groups to the control group.

5.4. DATA RETENTION

The sponsor has title to all documentation records, raw data, specimens or other work product generated during the performance of the study. All work product generated by

WIL Research Laboratories, LLC, including raw paper data and specimens, are retained in the Archives at WIL Research Laboratories, LLC, as specified in the study protocol.

Reserve samples of the test article, pertinent electronic storage media and the original final report are retained in the Archives at WIL Research Laboratories, LLC in compliance with regulatory requirements.

6. RESULTS

6.1. MATERNAL CLINICAL OBSERVATIONS AND SURVIVAL

Summary Data: Tables 1, 2, 3, 4

Individual Data: Tables 18, 19, 20

One and six females in the 35 and 50 mg/kg/day groups, respectively, were found dead between gestation days 9-20. Female no. 63932 in the 35 mg/kg/day group was found dead on gestation day 20. In the 50 mg/kg/day group, female nos. 63858, 63889, 63933, 63827, 63875 and 63892 were found dead on gestation days 16, 9, 10, 11, 10 and 11, respectively.

The following clinical observations were noted within 4 days for all females found dead. All females, except no. 63875 in the 50 mg/kg/day group, had findings of salivation and/or clear material on various body surfaces and wiping the mouth on the cage floor and/or walls at the daily examinations and/or 1 hour following dose administration as a result of the irritant properties of the test article. Also at the daily examinations and/or 1 hour following dose administration, all females that died displayed signs of poor grooming as a result of declining health, including unkempt appearance and/or yellow, brown and/or red colored material on various body surfaces. All animals except female no. 63875 (50 mg/kg/day group) had behavioral findings indicative of moribundity, including extremities cool to the touch, rocking, lurching or swaying while walking and/or hypoactivity at the daily examinations and/or 1 hour following dose administration. Female no. 63932 (35 mg/kg/day group) had shallow respiration on gestation day 19 and female nos. 63889 and 63892 (50 mg/kg/day group) had decreased defecation on gestation days 8 and 10, respectively.

At necropsy of the animals that died, female nos. 63892, 63933 and 63875 had a distended stomach, dark red stomach contents and/or dark red areas on the stomach lining. Animal no. 63932 (35 mg/kg/day group) had test-article related white and yellow areas on the liver at necropsy and an entirely resorbed litter. All animals found dead had

large body weight losses and reduced food consumption within 2-4 days prior to death. Based on all of the adverse maternal findings in the animals found dead in the 35 and 50 mg/kg/day groups, all mortalities were considered test article-related. All other animals survived to the scheduled necropsy.

At the time of dose administration, salivation was noted in 6 and 13 animals in the 35 and 50 mg/kg/day groups, respectively, between gestation days 11-19. Three of the animals in the 50 mg/kg/day group had salivation prior to dosing. Incidences of salivation and evidence of salivation (clear material on various body surfaces) occurred in 17 and 20 females in the 35 and 50 mg/kg/day groups, respectively, approximately 1 hour following dose administration. Excessive pawing of and/or mouth wiping on the cage floor and/or walls occurred in 19, 23 and 19 animals in the 10, 35 and 50 mg/kg/day groups, respectively, at the time of dosing. However, these findings were rarely observed 1 hour following dose administration. Lacrimation was observed in six females in the 50 mg/kg/day group approximately 1 hour following dose administration. All of these clinical findings were attributed to the irritant properties of the test article. In addition, red, yellow and/or brown materials on various body surfaces were found in six females approximately 1 hour following dose administration in both the 35 and 50 mg/kg/day groups.

Other clinical findings noted in the test article-treated groups at the daily observations, at the time of dose administration and/or approximately 1 hour following dose administration, including hair loss on various body surfaces, were noted infrequently, at a similar frequency in the control group, and/or did not occur in a dose-related manner.

6.2. MATERNAL BODY WEIGHTS AND GRAVID UTERINE WEIGHTS

Summary Data: Tables 5, 6, 7

Individual Data: Tables 21, 22, 23

A test article-related mean maternal body weight loss of 12 g was noted among maternal animals in the 50 mg/kg/day group during gestation days 6-9 compared to a mean body

weight gain of 11 g in the control group. The difference was statistically significant ($p<0.01$). As a result of the mean body weight loss during gestation days 6-9, mean body weight gain was slightly reduced (not statistically significant) when the entire treatment period (gestation days 6-20) was evaluated. In addition, mean body weights were statistically significantly lower ($p<0.05$ or $p<0.01$) than the control group on gestation days 8-11 (5.3% to 8.5%) and continued to be slightly reduced (3.6% to 5.5%) throughout the remainder of the treatment period. Because many of the most severely affected animals in this group died by gestation day 11, mean body weight gain in this group was statistically significantly ($p<0.05$) higher on gestation days 9-12 and similar to the control group on gestation days 12-20. Mean net body weight, net body weight gain and gravid uterine weight in the 50 mg/kg/day group were slightly reduced (not statistically significant) compared to the control group. The decrease in gravid uterine weight was attributed to two females (nos. 63825 and 63860) that had entirely resorbed litters.

A test article-related mean maternal body weight loss of 4 g was noted for the 35 mg/kg/day group during gestation days 6-9 compared to a mean body weight gain of 11 g in the control group. The difference was statistically significant ($p<0.01$). Mean maternal body weight gains in the 35 mg/kg/day group were similar to the control group during gestation days 9-12, but statistically significantly ($p<0.05$ or $p<0.01$) reduced on gestation days 12-20 and when the entire treatment period (gestation days 6-20) was evaluated. The sustained reductions in mean body weight gain in the 35 mg/kg/day group were attributed to the continued survival of the animals most affected by test article administration. This trend was opposite that observed in the 50 mg/kg/day group, where those animals most affected by test article administration died between gestation days 9 and 16, thus no longer contributing to the overall reduced mean body weight gains. As a result of the effects on mean body weight gain in the 35 mg/kg/day group, mean body weights were reduced 4.0% to 7.6% on gestation days 16 to 20; the difference on gestation day 20 was statistically significant ($p<0.05$). Mean net body weight, net body

weight gain and gravid uterine weight in the 35 mg/kg/day group were reduced (not statistically significant) compared to the control group. The decrease in gravid uterine weight was attributed to two females (nos. 63857 and 63900) that had entirely resorbed litters.

Mean maternal body weights, body weight gains, net body weight, net body weight gain and gravid uterine weight in the 10 mg/kg/day group were similar to the control group. Differences from the control group were slight and not statistically significant.

6.3. MATERNAL FOOD CONSUMPTION

Summary Data: Tables 8, 9

Individual Data: Tables 24, 25

A test article-related decrease (statistically significant, $p<0.01$) in mean maternal food consumption, evaluated as g/animal/day and g/kg/day, was noted for the 50 mg/kg/day group during gestation days 6-9 and 9-12. Mean food consumption in this group was similar to the control group when the entire treatment period (gestation days 6-20) was evaluated as a result of the deaths of the most severely affected animals by gestation day 16. Mean food consumption measured as g/kg/day was higher than the control group during gestation days 12-20. However, since mean food consumption measured as g/animal/day was similar to the control group, this effect was attributed to the reduced body weights in this group.

In the 35 mg/kg/day group, a statistically significant ($p<0.01$) reduction in mean food consumption was observed during gestation days 6-9, which corresponded to the reduced mean body weight gain in this group for the same interval. Mean food consumption was statistically significantly ($p<0.05$) lower on gestation days 9-12. Due to the mortality observed in this study and the number of animals not consuming an appreciable amount of food, the staff veterinarian and the sponsor approved administration of supplemental feed (an approximately 50/50 mixture of Hills Prescription Diet® canine feed and water) to all animals consuming less than 10 g per day beginning on September 23, 2004 as

shown in the following table. Reported food consumption values include only the amount of basal feed consumed and do not include the amounts of supplemental diet administered.

Text Table 1: Animals Supplemented With Hills Prescription Diet®

Animal No.	Dose Level (mg/kg/day)	Date	Gestation Day
63865	35	9/23, 24, 25/04	14, 15, 16
63882	35	9/23, 24/04	14, 15
63860	50	9/23/04	14
63932	35	9/24, 25, 26/04	17, 18, 19
63920	35	9/24, 25, 27/04	16, 17, 19
63826	35	9/24/04	15
63876	35	9/24-28/04	15, 16, 17, 18, 19
63818	0	9/25/04	17

Following supplementation of the diet for six animals in the 35 mg/kg/day group beginning on gestation day 14, mean food consumption during gestation days 12-20 (25 g/animal/day) remained slightly reduced to the control group (28 g/animal/day) but was increased from the previous gestation days 6-9 (21 g/animal/day) and 9-12 (24 g/animal/day) values. There was a statistically significant ($p<0.01$) reduction in mean food consumption (g/animal/day) noted in the 35 mg/kg/day group when the entire treatment period (gestation days 6-20) was evaluated. The supplementation of feed with Hills Prescription Diet® resulted in a substantial increase in consumption of basal diet for three of the six females in the 35 mg/kg/day group and of the single supplemented female in the 50 mg/kg/day group. While basal feed consumption did not substantially increase for the remaining three supplemented females in this group, the supplementation likely was critical in allowing two of these three females to survive until the scheduled laparohysterectomy. The remaining supplemented 35 mg/kg/day group female (no. 63932) was found dead on gestation day 20. Therefore, the lower food consumption in the 35 mg/kg/day group relative to the 50 mg/kg/day group during gestation

days 12-20 and 6-20 was attributed to the continued survival of the most affected animals in the 35 mg/kg/day group due to dietary supplementation.

Food consumption in the 10 mg/kg/day group was similar to that in the control group throughout gestation. Differences from the control group were slight and not statistically significant.

6.4. MATERNAL NECROPSY DATA

Summary Data: Table 10

Individual Data: Table 26

One and six females in the 35 and 50 mg/kg/day groups, respectively, were found dead between gestation days 9-20. Female no. 63932 in the 35 mg/kg/day group was found dead on gestation day 20. In the 50 mg/kg/day group, female nos. 63858, 63889, 63933, 63827, 63875 and 63892 were found dead on gestation days 16, 9, 10, 11, 10 and 11, respectively. Female no. 63932 in the 35 mg/kg/day group had white and yellow areas on all lobes of the liver and an entirely resorbed litter (all early resorptions). Female nos. 63875, 63892 and 63933 in the 50 mg/kg/day group had a distended stomach, dark red stomach contents, and/or dark red areas on the stomach lining. These stomach findings were attributed to the irritant properties of the test article. Female nos. 63827, 63858 and 63889 had no significant internal findings at necropsy. Female no. 63827 was nongravid and female nos. 63585 and 63889 had 18 and 19 normally developing implantation sites, respectively. All animals found dead had test article-related mean body weight losses and reduced food consumption within 2-4 days prior to death.

At the scheduled necropsy on gestation day 20, 11 of the surviving 24 and 12 of the surviving 19 females in 35 and 50 mg/kg/day groups, respectively, had test article-related liver findings, including yellow and/or white areas on the liver, liver adhesions and/or misshapen or mottled livers. Of the animals with liver findings, one female each in the 35 and 50 mg/kg/day groups had an enlarged spleen and two females in the 35 mg/kg/day group had a thickened pericardium and/or pericardium adhesions, one of which also had

white discoloration of the heart. One female in the 35 mg/kg/day group had white fluid in the vagina and one female in the 50 mg/kg/day group had dark red discoloration of the lungs.

Female no. 63915 in the 10 mg/kg/day group had yellow areas on the liver. No clinical observations or effects on body weight gain, food consumption or intrauterine growth and survival were noted for this animal. However, the yellow areas on the liver were considered to be test article-related because this finding was observed at a higher incidence in the 35 and 50 mg/kg/day groups but was not observed in any control group females. Other incidental findings observed in this group included one to two females with dark red uterine contents, fused placentae or a thyroid mass. In the control group, one female had a mammary gland mass. No other internal findings were observed in the control group females.

6.5. ORGAN WEIGHTS

Summary Data: Table 11

Individual Data: Table 27

Test article-related increases in mean liver weights (5.4% and 11.6%) were observed in the 35 and 50 mg/kg/day groups, respectively, when compared to the control group. The difference was statistically significant ($p<0.01$) in the 50 mg/kg/day group. The increased liver weights correlated with the macroscopic liver findings observed in these two groups. No test article-related effects mean liver weight was noted in the 10 mg/kg/day group.

6.6. GESTATION DAY 20 LAPAROHYSTERECTOMY DATA

Summary Data: Tables 12, 13

Individual Data: Tables 28, 29, 30

Historical Control Data: Appendix E

Test article-related increases (not statistically significant) in the mean litter proportions of postimplantation loss (early resorptions) were observed in the 35 and 50 mg/kg/day groups (16.2% and 14.3% per litter, respectively) compared to the control group value (6.9% per litter). These values also exceeded the maximum value in the WIL developmental historical control data (8.6% per litter). Corresponding reductions in the mean litter proportion of viable fetuses were also observed in the 35 and 50 mg/kg/day groups. The increased postimplantation loss in these two groups was primarily attributed to female nos. 63857 and 63900 in the 35 mg/kg/day group and female nos. 63825 and 63860 in the 50 mg/kg/day group that had entirely resorbed litters. These animals also had test article-related effects in mean body weight gains during the treatment period. The mean litter proportion of postimplantation loss was unaffected by test article administration in the 10 mg/kg/day group.

Overall mean fetal weight was slightly reduced (3.4 g) in the 35 mg/kg/day group when compared to the control group (3.6 g). However, this was primarily due to female no. 63920, which had a drastically reduced mean fetal weight (1.7 g) and also resorbed 38.9% of its litter. This dam also had a large body weight loss over the entire treatment period. Due to these factors as well as the lack of a dose response across groups, the reduction in mean fetal weight in the 35 mg/kg/day group was not considered to be a direct effect of test article administration. Mean fetal weight in the 10 and 50 mg/kg/day groups was unaffected by test article administration.

Other parameters evaluated, including mean live litter size, fetal sex ratios and numbers of corpora lutea and implantation sites, were similar to the control group values at all dose levels.

6.7. FETAL MORPHOLOGICAL DATA

Summary Data: Tables 14, 15, 16, 17

Individual Data: Table 31

Historical Control Data: Appendix E

The numbers of fetuses (litters) available for morphological evaluation were 387(25), 406(24), 296(19) and 241(16) in the control, 10, 35 and 50 mg/kg/day groups, respectively. Malformations were observed in 0(0), 2(2), 1(1) and 0(0) fetuses (litters) in these same respective dose groups and were considered spontaneous in origin.

6.7.1. EXTERNAL MALFORMATIONS AND VARIATIONS

External malformations were observed in two fetuses in the 10 mg/kg/day group. Fetus no. 63864-09 in this group had vertebral agenesis with a filamentous tail. Skeletally, this finding consisted of absent vertebrae posterior to lumbar vertebra no. 1. Fetus no. 63859-16 in the 10 mg/kg/day group had omphalocele (several loops of intestine protruded through an opening in the umbilicus, with remnants of a membranous sac). No external malformations were noted in the 35 and 50 mg/kg/day groups and no external developmental variations were observed in any fetuses in this study.

6.7.2. VISCERAL MALFORMATIONS AND VARIATIONS

No soft tissue developmental malformations were observed in any fetuses in this study.

Developmental variations were observed in the control, 10 and 50 mg/kg/day groups. Renal papilla(e) not developed and distended ureter(s) were noted in one fetus in the 10 mg/kg/day group. Major blood vessel variations [right carotid and subclavian arteries arose independently from the aortic arch and/or right subclavian artery coursed retroesophageal and joined the aortic arch adjacent to the ductus arteriosus (both with no brachiocephalic trunk)] were noted in one fetus each in the control, 10 and 50 mg/kg/day groups. Because the soft tissue developmental variations noted in this study were observed in single animals and/or similarly in the control group, the findings were not considered test article-related.

Fetus nos. 63845-02, 63891-06, 63891-15 and 63891-17 in the 35 mg/kg/day group had renal papilla(e) not fully developed (left, right or bilateral) Woo and Hoar grade 1 and fetus no. 63920-02 in the 35 mg/kg/day group had dark red discoloration of the thyroid (right). These findings were not classified as either malformations or developmental variations and were not included in any tabulation.

6.7.3. SKELETAL MALFORMATIONS AND VARIATIONS

One skeletal malformation of vertebral agenesis (absent vertebrae posterior to sacral vertebra no. 2) was observed in fetus no. 63920-15 in the 35 mg/kg/day group.

Skeletal variations occurred in all groups, including the control group, and consisted primarily of sternebra(e) no. 5 and/or no. 6 unossified, cervical centrum no. 1 unossified, hyoid unossified and 14th rudimentary ribs. Other skeletal variations in the test article-treated groups occurred infrequently, occurred similarly in the control group, and/or did not occur in a dose-related manner.

6.7.4. SUMMARY OF EXTERNAL, VISCERAL AND SKELETAL EXAMINATIONS

The numbers of fetuses (litters) available for morphological evaluation were 387(25), 406(24), 296(19) and 241(16) in the control, 10, 35 and 50 mg/kg/day groups, respectively. Malformations were observed in 0(0), 2(2), 1(1) and 0(0) fetuses (litters) in these same respective dose groups and were considered spontaneous in origin. When the total malformations (0.0%, 0.5%, 0.5% and 0.0% per litter) and developmental variations (37.6%, 37.5%, 41.2% and 40.9% per litter) were evaluated on a proportional basis in the control, 10, 35 and 50 mg/kg/day groups, respectively, no statistically significant differences from the control group were noted. Fetal malformations and developmental variations, when observed in the test article-treated groups, occurred infrequently or at a frequency similar to that in the control group, did not occur in a dose-related manner and/or were within the WIL historical control data ranges. Based on these data, no fetal malformations or developmental variations were attributed to the test article.

7. DISCUSSION

The objective of the study was to determine the potential of the test article, allyl alcohol, to induce developmental toxicity after maternal exposure during the critical period of organogenesis, to characterize maternal toxicity at the exposure levels tested and to determine a NOAEL for maternal toxicity and developmental toxicity.

Developmental toxicity was observed in both the 35 and 50 mg/kg/day groups as a result of elevated mean litter proportions of postimplantation loss. Although the increases were not statistically significant and were primarily the result of two dams in each group that had totally resorbed litters, the values exceeded the maximum value in the WIL developmental historical control data. All of these dams in the 35 and 50 mg/kg/day groups that had entirely resorbed litters had liver findings (white or yellow areas) noted macroscopically and one female in each group had an enlarged spleen. These females also experienced large body weight losses and corresponding reductions in food consumption at the start of dose administration (gestation days 6-9). Body weight gains and food consumption in these animals continued to be lower than control group values. However, no test article-related malformations or developmental variations were observed, and no adverse effects on fetal weight were noted in any group.

The developmental toxicity observed in the 35 and 50 mg/kg/day groups occurred in the presence of pronounced maternal toxicity. One and six females in the 35 and 50 mg/kg/day groups, respectively, died between gestation days 9 and 20. These females had adverse clinical findings indicative of moribundity, as well as body weight losses and reduced body weight gains and food consumption. In addition, the female in the 35 mg/kg/day group had an entirely resorbed litter and test article-related yellow and white areas on the liver at necropsy.

Test article-related clinical findings were observed in many of the animals in the 10, 35 and 50 mg/kg/day groups, mainly due to the known irritant properties of the test article. In the 35 and 50 mg/kg/day groups, severe mean body weight losses and reduced food

consumption occurred during the first 3 days of dosing. Because a number of animals in the 35 mg/kg/day group were not eating appreciable amounts of food and the deaths that occurred in the 50 mg/kg/day group, it was necessary to administer a supplemental feed to the most severely affected animals in an attempt to stimulate appetite. Despite the administration of the supplemental diet to six animals in the 35 mg/kg/day group, mean food consumption and body weight gain in this group remained slightly lower than the control group during gestation days 12-20. However, three of the six supplemented females in the 35 mg/kg/day group showed increased basal diet consumption and body weight gain. While basal diet consumption did not substantially increase for the remaining three supplemented females in the 35 mg/kg/day group, the supplementation likely was critical in allowing two of these three females to survive to the scheduled laparohysterectomy. In contrast to the lower body weight and food consumption noted in the 35 mg/kg/day group during gestation days 12-20, these parameters in the 50 mg/kg/day group were similar to the control group values during these days. This lack of a dose response was attributed to the fact that many of the most severely affected dams in the 50 mg/kg/day group died by gestation day 11. As a result, the effects on body weight gain and food consumption in the latter part of gestation were more pronounced in the 35 mg/kg/day than in the 50 mg/kg/day group.

Further indication of maternal toxicity was observed at the scheduled necropsy on gestation day 20. Test article-related liver findings, including yellow and/or white areas on the liver, liver adhesions and/or misshapen or mottled livers were noted in 11 of the surviving 24 and 12 of the surviving 19 females in the 35 and 50 mg/kg/day groups, respectively. Mean liver weights were increased in the 35 and 50 mg/kg/day groups. In addition, one female in the 10 mg/kg/day group had yellow areas on the liver. Due to a dose-proportional increase across groups, this liver finding is considered to be test article-related, despite the lack of other adverse effects on the female. While some of the animals with test article-related liver findings had adverse effects on body weight, body weight gains, food consumption and intrauterine growth and survival, many animals

remained unaffected, suggesting that the liver is the most sensitive indicator of maternal toxicity.

The extent of toxicity observed in this study at dose levels of 10, 35 and 50 mg/kg/day was not expected based on the results of the range-finding study at the same dose levels (WIL-14037; Stump, 2004). At the 50 mg/kg/day dose level of both studies, maternal body weight losses and reductions in food consumption during gestation days 6-9 and clinical findings (due to the irritant properties of the test article) were noted. However, in the range-finding study (WIL-14037; Stump, 2004), only one female in the 50 mg/kg/day group was euthanized *in extremis* on gestation day 15, but six females in the current definitive study (WIL-14038) died by gestation day 11. The macroscopic finding of yellow areas on the liver were also noted at the 50 mg/kg/day dose level at a similar incidence in maternal animals of both studies. At the 35 mg/kg/day dose level, maternal toxicity was only suggested in the range-finding study (WIL-14037; Stump, 2004) as no deaths occurred and the decreases in body weight gains and food consumption were noted only during gestation days 6-9. However, in the current study (WIL-14038), one female in the 35 mg/kg/day group died during the course of the study and the body weight and food consumption reductions were more severe and were sustained throughout the study. Additionally, 12 of the 25 females in the 35 mg/kg/day group of the current study had white and/or yellow areas on the liver in contrast to only one of eight females noted in the range-finding study. In the 10 mg/kg/day group, no indications of systemic toxicity were noted in the dose range-finding study (WIL-14037; Stump, 2004), while one female had yellow areas on the liver noted at necropsy in the current study (WIL-14038). Finally, no developmental toxicity was observed at any dose level in the range-finding study (WIL-14037; Stump, 2004), but the current study (WIL-14038) had increased postimplantation loss noted at dose levels of 35 and 50 mg/kg/day compared to the concurrent control group.

8. CONCLUSIONS

Maternal toxicity in the 35 and 50 mg/kg/day groups consisted of mortalities, clinical findings, reductions in body weight gain and food consumption, macroscopic liver findings and increased liver weights. One female in the 10 mg/kg/day group also had macroscopic liver findings. Therefore, a dose level of 10 mg/kg/day was considered to be the lowest-observed-adverse-effect level (LOAEL) for maternal toxicity. Developmental toxicity in the 35 and 50 mg/kg/day groups was expressed by an increase in postimplantation loss. Therefore, a dose level of 10 mg/kg/day was considered to be the no-observed-adverse-effect level (NOAEL) for developmental toxicity when allyl alcohol was administered orally by gavage to pregnant rats.

9. KEY STUDY PERSONNEL AND REPORT SUBMISSION

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10. QUALITY ASSURANCE UNIT STATEMENT

10.1. PHASES INSPECTED

Date(s) of Inspection(s)	Phase Inspected	Date(s) Findings Reported to Study Director	Date(s) Findings Reported to Management	Auditor(s)
9/7/04	Confirmation of Breeding	9/7/04	10/29/04	J. Tooman
9/10/04	Test Article Preparation	9/10/04	10/29/04	J. Tooman, C. O'Neill
9/13/04	Test Article Administration	9/13/04	10/29/04	K. Dobbs
9/23/04	Animal Care	9/23/04	10/29/04	K. Dobbs
9/23/04	Equipment	9/23/04	10/29/04	K. Dobbs
9/27/04	Laparohysterectomy	9/27/04	10/29/04	T. DeVan Booth
10/19,20,21,23/04	Study Records (I-1)	10/29/04	11/30/04	A. Deppe
10/25/04	Study Records (Rx-1)	10/29/04	11/30/04	A. Deppe
10/29/04	Study Records (A-1 and A-2)	10/29/04	11/30/04	E. Crawford
11/21/04	Draft AC Appendix	11/22/04	12/20/04	E. Crawford
11/29/04, 12/1/04	Study Records (N-1)	12/2/04	01/27/05	A. Deppe
12/1,2/04	Study Records (N-2)	12/2/04	01/27/05	A. Deppe
12/3,7,10,11/04,	Draft Report (except Analytical Appendix)	12/11/04	01/27/05	A. Deppe

This study was inspected in accordance with the U.S. EPA Good Laboratory Practice Standards (40 CFR Part 792), the OECD Principles of Good Laboratory Practice, the standard operating procedures of WIL Research Laboratories, LLC and the sponsor's protocol and protocol amendments with the following exceptions. The data located in Appendix A (Certificate of Analysis) was the responsibility of the sponsor. Quality Assurance findings, derived from the inspections during the conduct of the study and from the inspections of the raw data and draft report, are documented and have been reported to the study director. A status report is submitted to management monthly.

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

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

10.2. APPROVAL

This study was inspected according to the criteria discussed in Section 10.1.

Report Audited By:

Tracy S DeVan Booth
for Alan D. Deppe, B.A., RQAP-GLP
Project Coordinator, Quality Assurance

2/24/05
Date

Report Released By:

Lori J Goodrich
for: Heather L. Osborn, B.S., RQAP-GLP
Manager, Quality Assurance

2/24/05
Date

11. REFERENCES

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12. DEVIATIONS FROM THE PROTOCOL

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

- **Protocol Section 7.6.1** states that appropriate amounts of the test article were to be added to deionized water for each formulation. In a previous study (Stump, **2004**) volumes of test article were measured and placed into calibrated container, then the deionized water was added. The same procedure was followed for the current study.
- **Protocol Section 7.7.4** states that sections of the liver from animals found dead were to be retained in 10% neutral-buffered formalin. Liver sections were not retained for animal no. 63933 in the 50 mg/kg/day group that was found dead on gestation day 10.
- **Protocol Section 7.9.2** states that a mid-coronal slice was to be performed to examine the brains of fetuses at the time of fresh visceral examination. However, at the time of skeletal examination, it was discovered that a mid-coronal slice was not performed during the visceral examination for fetus no. 63905-07 in the 50 mg/kg/day group.

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

TABLES 1 - 31

TABLE 1

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 1

SPONSOR:LYONDELL CHEMICAL SUMMARY OF MATERNAL SURVIVAL AND PREGNANCY STATUS

DOSE GROUP :	1		2		3		4	
	NO.	%	NO.	%	NO.	%	NO.	%
FEMALES ON STUDY	25		25		25		25	
FEMALES THAT ABORTED OR DELIVERED	0	0.0	0	0.0	0	0.0	0	0.0
FEMALES THAT DIED	0	0.0	0	0.0	1	4.0	6	24.0
FEMALES THAT ABORTED	0	0.0	0	0.0	0	0.0	0	0.0
NONGRAVID	0	0.0	0	0.0	0	0.0	1	16.7
GRAVID	0	0.0	0	0.0	1	100.0	5	83.3
FEMALES THAT WERE EUTHANIZED	0	0.0	0	0.0	0	0.0	0	0.0
NONGRAVID	0	0.0	0	0.0	0	0.0	0	0.0
GRAVID	0	0.0	0	0.0	0	0.0	0	0.0
FEMALES EXAMINED AT SCHEDULED NECROPSY	25	100.0	25	100.0	24	96.0	19	76.0
FEMALES THAT ABORTED	0	0.0	0	0.0	0	0.0	0	0.0
NONGRAVID	0	0.0	0	0.0	3	12.5	1	5.3
GRAVID	25	100.0	25	100.0	21	87.5	18	94.7
WITH RESORPTIONS ONLY	0	0.0	1	4.0	2	9.5	2	11.1
WITH VIABLE FETUSES	25	100.0	24	96.0	19	90.5	16	88.9
TOTAL FEMALES GRAVID	25	100.0	25	100.0	22	88.0	23	92.0

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

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TABLE 2 (DAILY EXAMINATIONS)

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

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

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

TABLE RANGE:	09-07-04 TO 09-30-04			
GROUP:	1	2	3	4
NORMAL				
-NO SIGNIFICANT CLINICAL OBSERVATIONS	512/25	515/25	479/25	409/25
DISPOSITION				
-FOUND DEAD	0/ 0	0/ 0	1/ 1	6/ 6
-SCHEDULED EUTHANASIA; GESTATION DAY 20	25/25	25/25	24/24	19/19
BEHAVIOR/CNS				
-HYPOACTIVITY	0/ 0	0/ 0	3/ 2	1/ 1
-ROCKS, LURCHES, OR SWAYS AS IT WALKS	0/ 0	0/ 0	1/ 1	0/ 0
-EXTREMITIES COOL TO TOUCH	0/ 0	0/ 0	2/ 2	3/ 3
BODY/INTEGUMENT				
-UNKEMPT APPEARANCE	0/ 0	0/ 0	3/ 3	0/ 0
-HAIR LOSS LEFT FORELIMB	4/ 2	7/ 3	9/ 4	1/ 1
-HAIR LOSS RIGHT FORELIMB	4/ 2	6/ 2	8/ 3	3/ 2
-HAIR LOSS VENTRAL THORACIC AREA	0/ 0	0/ 0	1/ 1	2/ 1
-HAIR LOSS VENTRAL ABDOMINAL AREA	0/ 0	0/ 0	4/ 1	19/ 3
-HAIR LOSS LEFT HINDLIMB	0/ 0	0/ 0	0/ 0	7/ 2
-HAIR LOSS RIGHT HINDLIMB	0/ 0	0/ 0	2/ 1	0/ 0
-HAIR LOSS DORSAL HEAD	0/ 0	0/ 0	0/ 0	1/ 1
-HAIR LOSS LEFT LATERAL ABDOMINAL AREA	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 2 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

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

TABLE RANGE:	09-07-04 TO 09-30-04			
GROUP:	1	2	3	4
BODY/INTEGUMENT				
-WET RED MATERIAL RIGHT FORELIMB	0/ 0	2/ 2	0/ 0	1/ 1
CARDIO-PULMONARY				
-GASPING	0/ 0	2/ 1	0/ 0	0/ 0
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND LEFT EYE	0/ 0	0/ 0	3/ 2	1/ 1
-DRIED RED MATERIAL AROUND RIGHT EYE	0/ 0	0/ 0	4/ 2	1/ 1
-DRIED RED MATERIAL AROUND NOSE	1/ 1	1/ 1	16/ 6	9/ 6
-WET RED MATERIAL AROUND NOSE	1/ 1	1/ 1	2/ 2	1/ 1
EXCRETA				
-SOFT STOOL	2/ 2	0/ 0	4/ 4	4/ 1
-DECREASED DEFECATION	0/ 0	0/ 0	9/ 7	4/ 3
-DIARRHEA	0/ 0	0/ 0	2/ 2	2/ 1
-DARK YELLOW URINE	0/ 0	0/ 0	0/ 0	2/ 2
-WET RED MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	1/ 1
ORAL/DENTAL				
-DRIED CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	0/ 0	2/ 2
-DRIED RED MATERIAL AROUND MOUTH	0/ 0	1/ 1	15/ 7	6/ 4

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 2 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

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

TABLE RANGE:	09-07-04 TO 09-30-04			
GROUP:	1	2	3	4
ORAL/DENTAL				
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	1/ 1	0/ 0	0/ 0
-WET RED MATERIAL AROUND MOUTH	0/ 0	1/ 1	1/ 1	0/ 0
-SALIVATION	0/ 0	0/ 0	0/ 0	2/ 2
BODY/INTEG II				
-WET RED MATERIAL DORSAL HEAD	0/ 0	0/ 0	1/ 1	0/ 0
-DRIED RED MATERIAL RIGHT FORELIMB	0/ 0	0/ 0	8/ 4	5/ 3
-DRIED RED MATERIAL LEFT FORELIMB	0/ 0	0/ 0	8/ 4	5/ 3
-WET BROWN MATERIAL UROGENITAL AREA	0/ 0	0/ 0	10/ 4	3/ 2
-WET RED MATERIAL LEFT FORELIMB	0/ 0	1/ 1	0/ 0	1/ 1
-DRIED YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	11/ 6	11/ 8
-DRIED YELLOW MATERIAL VENTRAL ABDOMINAL AREA	0/ 0	0/ 0	11/ 6	1/ 1
-DRIED YELLOW MATERIAL VENTRAL THORACIC AREA	0/ 0	0/ 0	9/ 6	0/ 0
-WET YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	6/ 5	8/ 5
-WET YELLOW MATERIAL VENTRAL ABDOMINAL AREA	0/ 0	0/ 0	5/ 2	5/ 4
-WET YELLOW MATERIAL VENTRAL THORACIC AREA	0/ 0	0/ 0	4/ 2	3/ 2
-WET CLEAR MATERIAL LEFT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 2 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

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

TABLE RANGE:	09-07-04 TO 09-30-04			
GROUP:	1	2	3	4
BODY/INTEG II				
-WET CLEAR MATERIAL RIGHT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1
-WET YELLOW MATERIAL RIGHT HINDLIMB	0/ 0	0/ 0	1/ 1	3/ 3
-WET YELLOW MATERIAL LEFT HINDLIMB	0/ 0	0/ 0	1/ 1	3/ 3
-WET YELLOW MATERIAL RIGHT FORELIMB	0/ 0	0/ 0	1/ 1	2/ 2
-WET YELLOW MATERIAL LEFT FORELIMB	0/ 0	0/ 0	1/ 1	2/ 2
-SOFT IMMOVABLE MASS VENTRAL THORACIC AREA 22MM X 17MM X 15MM	6/ 1	0/ 0	0/ 0	0/ 0

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 3 (AT TIME OF DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

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

TABLE RANGE:	09-13-04 TO 09-29-04			
GROUP:	1	2	3	4
BEHAVIOR/CNS				
-ROCKS, LURCHES, OR SWAYS AS IT WALKS	0/ 0	0/ 0	1/ 1	0/ 0
-EXCESSIVE PAWING OF CAGE FLOOR AND/OR WALLS	0/ 0	2/ 2	22/16	21/13
-WIPES MOUTH ON CAGE FLOOR AND/OR WALLS FOLLOWING DOSING	0/ 0	31/19	47/23	42/18
ORAL/DENTAL				
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	0/ 0	2/ 2
-SALIVATION	0/ 0	0/ 0	10/ 6	28/13
-SALIVATION PRIOR TO DOSING	0/ 0	0/ 0	0/ 0	3/ 3

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

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TABLE 4 (1 HOUR POST-DOSING)

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

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

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

TABLE RANGE:	09-13-04 TO 09-29-04			
GROUP:	1	2	3	4
BEHAVIOR/CNS				
-HYPOACTIVITY	0/ 0	0/ 0	0/ 0	3/ 3
-EXCESSIVE PAWING OF CAGE FLOOR AND/OR WALLS	0/ 0	0/ 0	1/ 1	4/ 3
-WIPES MOUTH ON CAGE FLOOR AND/OR WALLS FOLLOWING DOSING	0/ 0	0/ 0	2/ 2	4/ 4
-EXTREMITIES COOL TO TOUCH	0/ 0	0/ 0	2/ 2	4/ 4
BODY/INTEGUMENT				
-UNKEMPT APPEARANCE	0/ 0	0/ 0	2/ 2	1/ 1
-WET RED MATERIAL RIGHT FORELIMB	0/ 0	0/ 0	1/ 1	3/ 3
CARDIO-PULMONARY				
-SHALLOW RESPIRATION	0/ 0	0/ 0	1/ 1	0/ 0
-GASPING	0/ 0	1/ 1	0/ 0	0/ 0
EYES/EARS/NOSE				
-DRIED RED MATERIAL AROUND NOSE	0/ 0	0/ 0	5/ 4	1/ 1
-WET RED MATERIAL AROUND LEFT EYE	0/ 0	0/ 0	1/ 1	0/ 0
-WET RED MATERIAL AROUND RIGHT EYE	0/ 0	0/ 0	1/ 1	0/ 0
-WET RED MATERIAL AROUND NOSE	0/ 0	1/ 1	3/ 3	2/ 2
-LACRIMATION LEFT EYE	0/ 0	0/ 0	1/ 1	6/ 6

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 4 (1 HOUR POST-DOSING)

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

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

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

TABLE RANGE:	09-13-04 TO 09-29-04			
GROUP:	1	2	3	4
EYES/EARS/NOSE				
-LACRIMATION RIGHT EYE	0/ 0	0/ 0	1/ 1	5/ 5
-EYELIDS SLIGHTLY DROOPING	0/ 0	0/ 0	0/ 0	1/ 1
-EYELIDS COMPLETELY SHUT	0/ 0	0/ 0	1/ 1	2/ 2
-WET CLEAR MATERIAL AROUND NOSE	0/ 0	0/ 0	3/ 3	0/ 0
EXCRETA				
-SOFT STOOL	0/ 0	0/ 0	3/ 3	0/ 0
-WET RED VAGINAL DISCHARGE	0/ 0	0/ 0	0/ 0	2/ 2
-WET RED MATERIAL UROGENITAL AREA	0/ 0	0/ 0	1/ 1	0/ 0
ORAL/DENTAL				
-DRIED CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	2/ 2	1/ 1
-DRIED RED MATERIAL AROUND MOUTH	0/ 0	1/ 1	9/ 6	6/ 5
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	34/15	61/18
-WET RED MATERIAL AROUND MOUTH	0/ 0	5/ 5	7/ 5	9/ 6
-SALIVATION	0/ 0	1/ 1	5/ 5	8/ 6
BODY/INTEG II				
-BODY PALE	0/ 0	0/ 0	1/ 1	0/ 0
-DRIED RED MATERIAL RIGHT FORELIMB	0/ 0	1/ 1	3/ 3	1/ 1
-DRIED RED MATERIAL LEFT FORELIMB	0/ 0	2/ 2	3/ 3	1/ 1

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 4 (1 HOUR POST-DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

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

TABLE RANGE: 09-13-04 TO 09-29-04

GROUP:	1	2	3	4
BODY/INTEG II				
-WET BROWN MATERIAL UROGENITAL AREA	0/ 0	0/ 0	3/ 3	1/ 1
-WET RED MATERIAL LEFT FORELIMB	0/ 0	0/ 0	1/ 1	3/ 3
-WET YELLOW MATERIAL UROGENITAL AREA	0/ 0	0/ 0	4/ 3	2/ 2
-WET YELLOW MATERIAL VENTRAL ABDOMINAL AREA	0/ 0	0/ 0	2/ 1	0/ 0
-WET YELLOW MATERIAL VENTRAL THORACIC AREA	0/ 0	0/ 0	1/ 1	0/ 0
-WET CLEAR MATERIAL LEFT FORELIMB	0/ 0	1/ 1	12/ 8	23/12
-WET CLEAR MATERIAL RIGHT FORELIMB	0/ 0	1/ 1	11/ 7	23/12
-WET CLEAR MATERIAL VENTRAL ABDOMINAL AREA	0/ 0	0/ 0	1/ 1	0/ 0
-WET BROWN MATERIAL ANOGENITAL AREA	0/ 0	0/ 0	2/ 2	1/ 1
-WET CLEAR MATERIAL LEFT HINDLIMB	0/ 0	0/ 0	1/ 1	0/ 0
-WET CLEAR MATERIAL RIGHT HINDLIMB	0/ 0	0/ 0	1/ 1	0/ 0

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 5
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF BODY WEIGHTS DURING GESTATION [G]

GROUP:		0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 0	MEAN	259.	259.	259.	260.
	S.D.	14.9	18.2	13.3	14.2
	N	25	25	22	23
DAY 6	MEAN	299.	299.	301.	296.
	S.D.	13.9	19.4	21.2	15.6
	N	25	25	22	23
DAY 7	MEAN	303.	301.	300.	294.
	S.D.	14.3	20.7	22.9	15.7
	N	25	25	22	23
DAY 8	MEAN	307.	306.	297.	281.**
	S.D.	14.0	20.6	24.7	16.0
	N	25	25	22	23
DAY 9	MEAN	310.	308.	297.	285.**
	S.D.	14.6	21.5	24.0	17.2
	N	25	25	22	22
DAY 10	MEAN	315.	311.	301.	293.**
	S.D.	16.2	23.6	26.1	19.5
	N	25	25	22	20

** = Significantly different from the control group at 0.01 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 5
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF BODY WEIGHTS DURING GESTATION [G]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 11				
MEAN	321.	320.	310.	304.*
S.D.	17.6	23.1	25.5	18.0
N	25	25	22	19
DAY 12				
MEAN	327.	326.	319.	312.
S.D.	18.6	23.9	26.9	21.4
N	25	25	22	19
DAY 13				
MEAN	333.	331.	327.	320.
S.D.	19.3	23.3	27.4	22.8
N	25	25	22	19
DAY 14				
MEAN	338.	335.	332.	326.
S.D.	20.2	22.9	28.2	25.4
N	25	25	22	19
DAY 15				
MEAN	346.	344.	336.	327.
S.D.	20.8	24.1	30.4	28.5
N	25	25	22	19
DAY 16				
MEAN	354.	352.	340.	339.
S.D.	21.0	25.5	34.4	31.7
N	25	25	22	18

* = Significantly different from the control group at 0.05 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 5
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF BODY WEIGHTS DURING GESTATION [G]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 17				
MEAN	365.	364.	345.	351.
S.D.	25.9	27.3	38.6	31.5
N	25	25	22	18
DAY 18				
MEAN	384.	382.	361.	368.
S.D.	29.9	30.7	47.4	32.7
N	25	25	22	18
DAY 19				
MEAN	402.	401.	375.	385.
S.D.	31.8	33.3	52.9	37.1
N	25	25	22	18
DAY 20				
MEAN	421.	421.	389.*	401.
S.D.	33.6	37.5	59.9	40.8
N	25	25	22	18

* = Significantly different from the control group at 0.05 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

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TABLE 6
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF BODY WEIGHT CHANGES DURING GESTATION [G]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 0- 6				
MEAN	40.	40.	43.	36.
S.D.	12.7	12.5	13.5	10.3
N	25	25	22	23
DAY 6- 7				
MEAN	4.	2.	-1.*	-2.**
S.D.	5.5	3.7	4.4	11.2
N	25	25	22	23
DAY 7- 8				
MEAN	4.	4.	-3.*	-13.**
S.D.	3.6	4.1	10.1	12.7
N	25	25	22	23
DAY 8- 9				
MEAN	3.	2.	0.	4.
S.D.	3.6	4.7	6.3	6.7
N	25	25	22	22
DAY 9- 10				
MEAN	5.	3.	4.	5.
S.D.	3.7	4.8	5.4	5.7
N	25	25	22	20
DAY 10- 11				
MEAN	7.	8.	8.	10.
S.D.	5.4	4.4	4.8	4.7
N	25	25	22	19

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test
MEAN DIFFERENCES CALCULATED FROM INDIVIDUAL DIFFERENCES
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 6
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF BODY WEIGHT CHANGES DURING GESTATION [G]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 11- 12				
MEAN	5.	7.	10.	8.
S.D.	5.4	4.7	4.8	8.8
N	25	25	22	19
DAY 12- 13				
MEAN	7.	5.	8.	8.
S.D.	4.9	8.9	5.1	6.2
N	25	25	22	19
DAY 13- 14				
MEAN	5.	4.	6.	6.
S.D.	3.2	4.7	9.2	5.6
N	25	25	22	19
DAY 14- 15				
MEAN	7.	9.	4.	1.*
S.D.	4.0	4.9	11.2	8.8
N	25	25	22	19
DAY 15- 16				
MEAN	8.	8.	4.	11.
S.D.	3.3	3.9	11.2	6.0
N	25	25	22	18
DAY 16- 17				
MEAN	12.	11.	5.*	12.
S.D.	8.2	5.3	11.6	7.5
N	25	25	22	18

* = Significantly different from the control group at 0.05 using Dunnett's test
MEAN DIFFERENCES CALCULATED FROM INDIVIDUAL DIFFERENCES
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 6
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF BODY WEIGHT CHANGES DURING GESTATION [G]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 17- 18				
MEAN	18.	19.	15.	17.
S.D.	7.8	6.9	12.8	8.1
N	25	25	22	18
DAY 18- 19				
MEAN	19.	19.	14.	18.
S.D.	6.7	8.4	13.1	7.9
N	25	25	22	18
DAY 19- 20				
MEAN	18.	20.	14.	15.
S.D.	5.6	6.1	12.7	8.7
N	25	25	22	18
DAY 6- 9				
MEAN	11.	9.	-4.**	-12.**
S.D.	6.1	6.2	11.3	14.1
N	25	25	22	22
DAY 9- 12				
MEAN	17.	18.	22.	23.*
S.D.	7.3	5.8	8.3	11.5
N	25	25	22	19
DAY 12- 20				
MEAN	94.	95.	70.*	89.
S.D.	20.0	26.0	49.4	27.5
N	25	25	22	18

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test
MEAN DIFFERENCES CALCULATED FROM INDIVIDUAL DIFFERENCES
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 6
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF BODY WEIGHT CHANGES DURING GESTATION [G]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 6- 20				
MEAN	122.	122.	87.**	103.
S.D.	23.7	27.5	54.1	36.6
N	25	25	22	18
DAY 0- 20				
MEAN	161.	162.	130.*	140.
S.D.	26.9	32.2	56.9	35.9
N	25	25	22	18

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test
MEAN DIFFERENCES CALCULATED FROM INDIVIDUAL DIFFERENCES
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 7
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF GRAVID UTERINE WTS. AND NET BODY WT. CHANGES [G]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
INITIAL BODY WT.				
MEAN	259.	259.	259.	261.
S.D.	14.9	18.2	13.6	15.2
N	25	25	21	18
TERMINAL BODY WT.				
MEAN	421.	421.	395.	401.
S.D.	33.6	37.5	54.5	40.8
N	25	25	21	18
GRAVID UTERINE WT.				
MEAN	87.4	91.3	76.0	76.5
S.D.	19.12	21.65	27.95	33.11
N	25	25	21	18
NET BODY WT.				
MEAN	333.2	330.1	318.5	324.0
S.D.	22.93	24.51	42.12	21.59
N	25	25	21	18
NET BODY WT. CHANGE				
MEAN	74.0	70.7	59.5	63.1
S.D.	15.66	18.61	39.26	15.00
N	25	25	21	18

None significantly different from control group

TABLE 8
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 0- 6				
MEAN	22.	23.	23.	22.
S.D.	3.7	5.2	5.9	5.3
N	25	25	22	23
DAY 6- 7				
MEAN	26.	26.	23.	21.**
S.D.	3.7	3.7	5.4	5.2
N	22	20	22	22
DAY 7- 8				
MEAN	26.	26.	20.**	13.**
S.D.	2.1	2.7	7.1	6.7
N	24	24	22	23
DAY 8- 9				
MEAN	27.	25.	20.**	14.**
S.D.	3.2	3.6	6.8	6.8
N	25	25	22	22
DAY 9- 10				
MEAN	27.	26.	21.**	18.**
S.D.	4.2	4.7	6.4	6.2
N	25	25	22	20
DAY 10- 11				
MEAN	27.	27.	23.*	22.**
S.D.	3.4	3.4	5.8	4.4
N	25	25	22	19

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 8
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 11- 12				
MEAN	27.	27.	27.	26.
S.D.	3.3	3.4	5.7	5.6
N	25	25	22	19
DAY 12- 13				
MEAN	28.	26.	27.	27.
S.D.	3.7	5.1	4.4	6.3
N	25	25	21	19
DAY 13- 14				
MEAN	26.	24.	26.	26.
S.D.	2.9	5.9	5.5	6.0
N	25	25	22	18
DAY 14- 15				
MEAN	28.	27.	24.	28.
S.D.	3.6	4.1	9.0	8.6
N	25	25	21	18
DAY 15- 16				
MEAN	29.	29.	25.	30.
S.D.	3.4	3.9	10.3	5.2
N	25	25	22	17
DAY 16- 17				
MEAN	29.	29.	25.	32.
S.D.	5.7	4.4	10.2	4.3
N	25	25	22	17

None significantly different from control group
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 8
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 17- 18				
MEAN	30.	30.	25.*	31.
S.D.	4.2	3.7	9.6	5.1
N	25	25	20	17
DAY 18- 19				
MEAN	29.	29.	25.	31.
S.D.	3.5	3.9	10.5	6.1
N	25	25	19	18
DAY 19- 20				
MEAN	28.	28.	25.	27.
S.D.	2.9	4.5	10.7	5.4
N	25	25	21	17
DAY 6- 9				
MEAN	26.	26.	21.**	16.**
S.D.	2.3	2.7	5.3	5.0
N	25	25	22	23
DAY 9- 12				
MEAN	27.	27.	24.*	22.**
S.D.	3.1	3.1	5.7	4.4
N	25	25	22	19
DAY 12- 20				
MEAN	28.	28.	25.	29.
S.D.	3.0	3.2	7.3	3.6
N	25	25	22	18

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 8
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 6- 20				
MEAN	28.	27.	24.**	25.
S.D.	2.6	2.9	5.4	3.2
N	25	25	22	18
DAY 0- 20				
MEAN	26.	26.	24.	24.
S.D.	2.5	2.9	4.9	2.6
N	25	25	22	18

** = Significantly different from the control group at 0.01 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

PROJECT NO.:WIL-14038
SPONSOR:LYONDELL CHEMICAL

TABLE 9
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 0- 6				
MEAN	77.	83.	83.	77.
S.D.	12.0	16.8	18.9	17.8
N	25	25	22	23
DAY 6- 7				
MEAN	86.	86.	76.*	71.**
S.D.	11.7	9.1	14.6	16.2
N	22	20	22	22
DAY 7- 8				
MEAN	84.	84.	68.**	46.**
S.D.	6.3	6.9	21.0	22.7
N	24	24	22	23
DAY 8- 9				
MEAN	87.	82.	68.**	49.**
S.D.	7.8	9.7	18.7	22.3
N	25	25	22	22
DAY 9- 10				
MEAN	86.	85.	69.**	60.**
S.D.	10.9	10.6	17.5	19.4
N	25	25	22	20
DAY 10- 11				
MEAN	84.	86.	75.*	74.*
S.D.	8.3	10.1	15.0	11.7
N	25	25	22	19

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 9
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 11- 12				
MEAN	82.	85.	84.	83.
S.D.	8.2	8.6	12.6	15.4
N	25	25	22	19
DAY 12- 13				
MEAN	84.	80.	83.	85.
S.D.	8.6	13.8	8.3	18.7
N	25	25	21	19
DAY 13- 14				
MEAN	78.	73.	78.	80.
S.D.	6.0	16.6	15.1	16.4
N	25	25	22	18
DAY 14- 15				
MEAN	81.	80.	73.	83.
S.D.	8.1	8.7	24.4	24.0
N	25	25	21	18
DAY 15- 16				
MEAN	83.	83.	74.	91.
S.D.	7.1	8.5	26.8	10.5
N	25	25	22	17
DAY 16- 17				
MEAN	80.	82.	72.	92.
S.D.	14.4	9.2	26.4	13.6
N	25	25	22	17

None significantly different from control group
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 9
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 17- 18				
MEAN	80.	80.	71.	86.
S.D.	7.6	7.6	25.1	11.7
N	25	25	20	17
DAY 18- 19				
MEAN	73.	75.	67.	83.
S.D.	5.3	7.0	27.2	15.5
N	25	25	19	18
DAY 19- 20				
MEAN	67.	67.	62.	70.
S.D.	4.7	7.9	24.7	13.7
N	25	25	21	17
DAY 6- 9				
MEAN	86.	84.	71.**	56.**
S.D.	5.6	6.1	14.3	16.5
N	25	25	22	22
DAY 9- 12				
MEAN	84.	85.	76.*	74.**
S.D.	6.8	6.7	13.9	11.3
N	25	25	22	19
DAY 12- 20				
MEAN	78.	77.	72.	84.
S.D.	4.3	5.9	16.9	5.7
N	25	25	22	18

* = Significantly different from the control group at 0.05 using Dunnett's test
** = Significantly different from the control group at 0.01 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 9
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
DAY 6- 20				
MEAN	80.	80.	73.**	77.
S.D.	4.3	5.0	11.5	6.1
N	25	25	22	18
DAY 0- 20				
MEAN	76.	78.	73.	75.
S.D.	4.1	5.8	10.2	5.4
N	25	25	22	18

** = Significantly different from the control group at 0.01 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 10
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF MATERNAL MACROSCOPIC FINDINGS

GROUP :	1	2	3	4
NUMBER EXAMINED	25	25	25	25
NO SIGNIFICANT CHANGES OBSERVED	24	20	10	5
NONGRAVID -- AMMONIUM SULFIDE NEGATIVE	0	0	3	1
DIED GESTATION DAY 9	0	0	0	1
SKIN: MATTING, YELLOW	0	0	2	4
DIED GESTATION DAY 10	0	0	0	2
STOMACH: DISTENDED	0	0	0	3
STOMACH: CONTENT(S), DARK RED	0	0	0	3
SKIN: MATTING, RED	0	0	1	2
DIED GESTATION DAY 11	0	0	0	2
STOMACH: AREA(S), DARK RED	0	0	0	1
SKIN: MATTING, WHITE	0	0	0	1
DIED GESTATION DAY 16	0	0	0	1
LIVER: AREA(S), WHITE	0	0	7	5
LIVER: MOTTLED	0	0	1	0
UTERUS: CONTENT(S), DARK RED	0	1	0	0
LUNGS: DISCOLORATION, DARK RED	0	0	0	1
MAMMARY GLAND: MASS	1	0	0	0
VAGINA: CONTENT(S), WHITE FLUID	0	0	1	0
LIVER: MISSHAPEN	0	0	1	1
LIVER: AREA(S), YELLOW	0	1	5	6
DIED GESTATION DAY 20	0	0	1	0
THYROIDS: MASS	0	1	0	0
LIVER: ADHESIONS	0	0	1	1
SPLEEN: ENLARGED	0	0	1	1
PLACENTAE: FUSED	0	2	0	0

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 10
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF MATERNAL MACROSCOPIC FINDINGS

GROUP :	1	2	3	4
NUMBER EXAMINED	25	25	25	25
PERICARDIUM: THICKENED	0	0	2	0
PERICARDIUM: ADHESIONS	0	0	1	0
HEART: DISCOLORATION, WHITE	0	0	1	0

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

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TABLE 11
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF ORGAN WEIGHTS [G]

	----- F E M A L E -----			
GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
LIVER				
MEAN	18.38	18.33	19.38	20.52**
S.D.	1.730	1.943	2.312	1.982
N	25	25	21	18

** = Significantly different from the control group at 0.01 using Dunnett's test
NONGRAVID WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 12
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FETAL DATA AT SCHEDULED NECROPSY

GROUP		SEX M	SEX F	VIABLE FETUSES	DEAD FETUSES	RESORPTIONS EARLY	RESORPTIONS LATE	POST IMPLANTATION LOSS	IMPLANTATION SITES	CORPORA LUTEA	PRE IMPLANTATION LOSS	FETAL WEIGHTS IN GRAMS	NO. OF GRAVID FEMALES
1	TOTAL	193	194	387	0	31	0	31	418	446	28	NA	25
	MEAN	7.7	7.8	15.5	0.0	1.2	0.0	1.2	16.7	17.8	1.1	3.6	
	S.D.	2.59	3.05	3.43	0.00	2.63	0.00	2.63	2.91	2.19	1.86	0.18	
2	TOTAL	203	203	406	0	25	1	26	432	465	33	NA	25
	MEAN	8.1	8.1	16.2	0.0	1.0	0.0	1.0	17.3	18.6	1.3	3.6	
	S.D.	3.15	2.95	3.97	0.00	1.66	0.20	1.65	2.87	2.02	1.91	0.16	
3	TOTAL	145	151	296	0	51	7	58	354	387	33	NA	21
	MEAN	6.9	7.2	14.1	0.0	2.4	0.3	2.8	16.9	18.4	1.6	3.4	
	S.D.	3.25	3.63	5.27	0.00	4.94	1.53	5.00	2.22	2.75	1.47	0.53	
4	TOTAL	118	123	241	0	45	0	45	286	335	49	NA	18
	MEAN	6.6	6.8	13.4	0.0	2.5	0.0	2.5	15.9	18.6	2.7	3.7	
	S.D.	3.54	3.57	6.13	0.00	5.54	0.00	5.54	4.00	2.12	4.01	0.24	

None significantly different from control group
NA = NOT APPLICABLE
MEAN NUMBER OF VIABLE FETUSES, MEAN NUMBER OF IMPLANTATION SITES, MEAN NUMBER OF CORPORA LUTEA,
FETAL WEIGHTS COMPARED USING DUNNETT'S TEST

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 13
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FETAL DATA AT SCHEDULED NECROPSY [% PER LITTER]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
CORPORA LUTEA				
MEAN	17.8	18.6	18.4	18.6
S.D.	2.19	2.02	2.75	2.12
N	25	25	21	18
IMPLANTATION SITES				
MEAN	16.7	17.3	16.9	15.9
S.D.	2.91	2.87	2.22	4.00
N	25	25	21	18
VIABLE FETUSES (%)				
MEAN	93.1	91.9	83.8	85.7
S.D.	13.44	19.62	29.33	31.55
N	25	25	21	18
DEAD FETUSES (%)				
MEAN	0.0	0.0	0.0	0.0
S.D.	0.00	0.00	0.00	0.00
N	25	25	21	18
EARLY RESORPTIONS (%)				
MEAN	6.9	7.8	14.3	14.3
S.D.	13.44	19.68	29.05	31.55
N	25	25	21	18
LATE RESORPTIONS (%)				
MEAN	0.0	0.2	1.9	0.0
S.D.	0.00	1.18	8.49	0.00
N	25	25	21	18

PROPORTIONAL (%) DATA COMPARED USING DUNN'S TEST
CORPORA LUTEA AND IMPLANTATION SITES COMPARED USING DUNNETT'S TEST
MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.
None significantly different from control group

PROJECT NO.:WIL-14038
SPONSOR:LYONDELL CHEMICAL

TABLE 13
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF FETAL DATA AT SCHEDULED NECROPSY [% PER LITTER]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
TOTAL RESORPTIONS (%)				
MEAN	6.9	8.1	16.2	14.3
S.D.	13.44	19.62	29.33	31.55
N	25	25	21	18
PRE-IMPLANTATION LOSS (%)				
MEAN	6.6	7.3	8.1	14.1
S.D.	12.78	11.27	6.87	21.64
N	25	25	21	18
POST-IMPLANTATION LOSS (%)				
MEAN	6.9	8.1	16.2	14.3
S.D.	13.44	19.62	29.33	31.55
N	25	25	21	18
MALES (%)				
MEAN	50.7	49.7	49.4	47.5
S.D.	15.87	13.10	13.80	17.82
N	25	24	19	16
FEMALES (%)				
MEAN	49.3	50.3	50.6	52.5
S.D.	15.87	13.10	13.80	17.82
N	25	24	19	16
MALE FETAL WEIGHTS (g)				
MEAN	3.8	3.7	3.5	3.7
S.D.	0.19	0.17	0.54	0.22
N	25	24	19	15

PROPORTIONAL (%) DATA COMPARED USING DUNN'S TEST
FETAL WEIGHTS COMPARED USING DUNNETT'S TEST
MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.
None significantly different from control group

TABLE 13

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 3

SPONSOR:LYONDELL CHEMICAL SUMMARY OF FETAL DATA AT SCHEDULED NECROPSY [% PER LITTER]

GROUP:	0 MG/KG/DAY	10 MG/KG/DAY	35 MG/KG/DAY	50 MG/KG/DAY
FEMALE FETAL WEIGHTS (g)				
MEAN	3.6	3.6	3.4	3.6
S.D.	0.19	0.18	0.53	0.25
N	25	24	19	16
COMBINED FETAL WEIGHTS (g)				
MEAN	3.6	3.6	3.4	3.7
S.D.	0.18	0.16	0.53	0.24
N	25	24	19	16

PROPORTIONAL (%) DATA COMPARED USING DUNN'S TEST
FETAL WEIGHTS COMPARED USING DUNNETT'S TEST
MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.
None significantly different from control group

PLPSUv5.04
12/15/2004
R:12/15/2004

TABLE 14

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 1

SPONSOR:LYONDELL CHEMICAL SUMMARY OF FETUSES AND LITTERS WITH MALFORMATIONS [ABSOLUTE NO.]

DAY 20

	FETUSES				LITTERS			
DOSE GROUP:	1	2	3	4	1	2	3	4
NUMBER EXAMINED EXTERNALLY	387	406	296	241	25	24	19	16
OMPHALOCELE	0	1	0	0	0	1	0	0
VERTEBRAL AGENESIS	0	1	0	0	0	1	0	0
NUMBER EXAMINED VISCERALLY	387	406	296	241	25	24	19	16
NUMBER WITH FINDINGS	0	0	0	0	0	0	0	0
NUMBER EXAMINED SKELETALLY	387	406	296	241	25	24	19	16
VERTEBRAL AGENESIS	0	0	1	0	0	0	1	0
TOTAL NUMBER WITH MALFORMATIONS								
EXTERNAL :	0	2	0	0	0	2	0	0
SOFT TISSUE:	0	0	0	0	0	0	0	0
SKELETAL :	0	0	1	0	0	0	1	0
COMBINED :	0	2	1	0	0	2	1	0

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

PMALv5.05
12/16/2004

TABLE 15

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 1

SPONSOR:LYONDELL CHEMICAL SUMMARY OF LITTER PROPORTIONS OF MALFORMATIONS

% PER LITTER DAY 20

DOSE GROUP:		1	2	3	4
NUMBER OF LITTERS EXAMINED EXTERNALLY		25	24	19	16
OMPHALOCELE	MEAN	0.0	0.2	0.0	0.0
	S.D.	0.00	1.13	0.00	0.00
VERTEBRAL AGENESIS	MEAN	0.0	0.2	0.0	0.0
	S.D.	0.00	1.13	0.00	0.00

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.

None significantly different from control group

TABLE 15

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 2

SPONSOR:LYONDELL CHEMICAL SUMMARY OF LITTER PROPORTIONS OF MALFORMATIONS

% PER LITTER DAY 20

DOSE GROUP:	1	2	3	4
NUMBER OF LITTERS EXAMINED VISCERALLY	25	24	19	16
NUMBER OF LITTERS WITH FINDINGS	0	0	0	0

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.

None significantly different from control group

TABLE 15

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 3

SPONSOR:LYONDELL CHEMICAL SUMMARY OF LITTER PROPORTIONS OF MALFORMATIONS

% PER LITTER DAY 20

DOSE GROUP:		1	2	3	4
NUMBER OF LITTERS EXAMINED SKELETALLY		25	24	19	16
VERTEBRAL AGENESIS	MEAN	0.0	0.0	0.5	0.0
	S.D.	0.00	0.00	2.09	0.00

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.

None significantly different from control group

TABLE 15

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 4

SPONSOR:LYONDELL CHEMICAL SUMMARY OF LITTER PROPORTIONS OF MALFORMATIONS

% PER LITTER DAY 20

DOSE GROUP:		1	2	3	4
NUMBER OF LITTERS EXAMINED		25	24	19	16
TOTAL MALFORMATIONS					
PERCENT PER LITTER WITH EXTERNAL MALFORMATIONS	MEAN	0.0	0.5	0.0	0.0
	S.D.	0.00	1.57	0.00	0.00
PERCENT PER LITTER WITH SOFT TISSUE MALFORMATIONS	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
PERCENT PER LITTER WITH SKELETAL MALFORMATIONS	MEAN	0.0	0.0	0.5	0.0
	S.D.	0.00	0.00	2.09	0.00
TOTAL PERCENT PER LITTER WITH MALFORMATIONS	MEAN	0.0	0.5	0.5	0.0
	S.D.	0.00	1.57	2.09	0.00

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.

None significantly different from control group

PMALKv5.05
12/16/2004

TABLE 16

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL SUMMARY OF FETUSES AND LITTERS WITH VARIATIONS [ABSOLUTE NO.]

DAY 20

	FETUSES				LITTERS			
DOSE GROUP:	1	2	3	4	1	2	3	4
NUMBER EXAMINED EXTERNALLY	387	406	296	241	25	24	19	16
NUMBER WITH FINDINGS	0	0	0	0	0	0	0	0
NUMBER EXAMINED VISCERALLY	387	406	296	241	25	24	19	16
RENAL PAPILLA(E) NOT DEVELOPED AND/OR DISTENDED URETER(S)	0	1	0	0	0	1	0	0
MAJOR BLOOD VESSEL VARIATION	1	1	0	1	1	1	0	1
NUMBER EXAMINED SKELETALLY	387	406	296	241	25	24	19	16
STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	64	53	75	58	19	16	14	14
CERVICAL CENTRUM #1 OSSIFIED	69	80	31	24	16	21	10	10
HYOID UNOSSIFIED	16	5	6	4	3	4	3	3
14TH RUDIMENTARY RIB(S)	15	29	17	21	6	12	5	7
STERNEBRA(E) #1,#2,#3 AND/OR #4 UNOSSIFIED	1	1	3	1	1	1	3	1
7TH CERVICAL RIB(S)	0	4	2	2	0	2	2	2
REDUCED OSSIFICATION OF THE 13TH RIB(S)	1	0	2	2	1	0	2	2
STERNEBRA(E) MALALIGNED(SLIGHT OR MODERATE)	0	3	1	0	0	3	1	0
ENTIRE STERNUM UNOSSIFIED	1	0	0	0	1	0	0	0
PUBIS UNOSSIFIED	1	0	4	0	1	0	2	0
REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES	1	0	7	0	1	0	1	0
REDUCED OSSIFICATION OF THE SKULL	0	1	0	0	0	1	0	0
25 PRESACRAL VERTEBRAE	0	0	1	0	0	0	1	0
UNCO-OSSIFIED VERTEBRAL CENTRA	0	1	1	0	0	1	1	0
BIPARTITE VERTEBRAL CENTRA	0	1	0	0	0	1	0	0

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

PMALv5.05
12/16/2004

TABLE 17

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 1

SPONSOR:LYONDELL CHEMICAL SUMMARY OF LITTER PROPORTIONS OF VARIATIONS

% PER LITTER DAY 20

DOSE GROUP:	1	2	3	4
NUMBER OF LITTERS EXAMINED EXTERNALLY	25	24	19	16
NUMBER OF LITTERS WITH FINDINGS	0	0	0	0

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.

None significantly different from control group

TABLE 17

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 2

SPONSOR:LYONDELL CHEMICAL SUMMARY OF LITTER PROPORTIONS OF VARIATIONS

% PER LITTER DAY 20

DOSE GROUP:		1	2	3	4
NUMBER OF LITTERS EXAMINED VISCERALLY		25	24	19	16
RENAL PAPILLA(E) NOT DEVELOPED AND/OR DISTENDED URETER(S)	MEAN	0.0	0.2	0.0	0.0
	S.D.	0.00	1.13	0.00	0.00
MAJOR BLOOD VESSEL VARIATION	MEAN	0.2	0.2	0.0	0.4
	S.D.	1.11	1.20	0.00	1.47

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.

None significantly different from control group

PROJECT NO.:WIL-14038
SPONSOR:LYONDELL CHEMICAL

TABLE 17
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF LITTER PROPORTIONS OF VARIATIONS
% PER LITTER

DAY 20

DOSE GROUP:		1	2	3	4
NUMBER OF LITTERS EXAMINED SKELETALLY		25	24	19	16
STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	MEAN	16.4	12.5	26.4	22.4
	S.D.	15.9	14.2	28.6	17.4
CERVICAL CENTRUM #1 OSSIFIED	MEAN	17.4	20.3	9.8	10.7
	S.D.	20.1	18.8	13.5	15.3
HYOID UNOSSIFIED	MEAN	3.8	1.3	2.0	1.5
	S.D.	11.5	3.4	5.3	3.6
14TH RUDIMENTARY RIB(S)	MEAN	3.5	7.8	6.0	8.2
	S.D.	7.6	13.4	14.6	12.1
STERNEBRA(E) #1,#2,#3 AND/OR #4 UNOSSIFIED	MEAN	0.3	0.2	1.1	0.3
	S.D.	1.43	1.13	2.65	1.32
7TH CERVICAL RIB(S)	MEAN	0.0	1.0	0.8	0.8
	S.D.	0.00	3.48	2.52	2.30
REDUCED OSSIFICATION OF THE 13TH RIB(S)	MEAN	0.2	0.0	0.7	0.8
	S.D.	1.00	0.00	2.06	2.26
STERNEBRA(E) MALALIGNED(SLIGHT OR MODERATE)	MEAN	0.0	0.8	0.4	0.0
	S.D.	0.00	2.17	1.91	0.00
ENTIRE STERNUM UNOSSIFIED	MEAN	0.3	0.0	0.0	0.0
	S.D.	1.43	0.00	0.00	0.00
PUBIS UNOSSIFIED	MEAN	0.3	0.0	1.5	0.0
	S.D.	1.43	0.00	4.77	0.00

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY
MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.
None significantly different from control group

TABLE 17

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 4

SPONSOR:LYONDELL CHEMICAL SUMMARY OF LITTER PROPORTIONS OF VARIATIONS

% PER LITTER DAY 20

DOSE GROUP:		1	2	3	4
NUMBER OF LITTERS EXAMINED SKELETALLY		25	24	19	16
REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES	MEAN	0.3	0.0	3.3	0.0
	S.D.	1.4	0.0	14.6	0.0
REDUCED OSSIFICATION OF THE SKULL	MEAN	0.0	0.3	0.0	0.0
	S.D.	0.00	1.46	0.00	0.00
25 PRESACRAL VERTEBRAE	MEAN	0.0	0.0	0.4	0.0
	S.D.	0.00	0.00	1.64	0.00
UNCO-OSSIFIED VERTEBRAL CENTRA	MEAN	0.0	0.3	0.3	0.0
	S.D.	0.00	1.36	1.35	0.00
BIPARTITE VERTEBRAL CENTRA	MEAN	0.0	0.2	0.0	0.0
	S.D.	0.00	1.13	0.00	0.00

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.

None significantly different from control group

TABLE 17
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
SUMMARY OF LITTER PROPORTIONS OF VARIATIONS
% PER LITTER

DAY 20

DOSE GROUP:		1	2	3	4
NUMBER OF LITTERS EXAMINED		25	24	19	16
TOTAL VARIATIONS					
PERCENT PER LITTER WITH EXTERNAL VARIATIONS	MEAN	0.0	0.0	0.0	0.0
	S.D.	0.00	0.00	0.00	0.00
PERCENT PER LITTER WITH SOFT TISSUE VARIATIONS	MEAN	0.2	0.5	0.0	0.4
	S.D.	1.11	1.62	0.00	1.47
PERCENT PER LITTER WITH SKELETAL VARIATIONS	MEAN	37.6	37.3	41.2	40.9
	S.D.	21.4	22.3	26.3	15.8
TOTAL PERCENT PER LITTER WITH VARIATIONS	MEAN	37.6	37.5	41.2	40.9
	S.D.	21.4	22.2	26.3	15.8

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY
MODIFIED STATISTICS USED. * INDICATES PARAMETRIC ANALYSIS AND + INDICATES NON-PARAMETRIC ANALYSIS.
None significantly different from control group

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NO SIGNIFICANT CLINICAL OBSERVATIONS	63910	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63918	1	P	P	P	P	P	P	P	P	P	P	P	P	P					P	P	P	
	63938	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63831	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63817	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63928	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63886	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63895	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		P	P
	63852	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P			P	P
	63880	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63923	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63887	1	P	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P
	63836	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63912	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63818	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63914	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63873	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P			P	P	P
	63867	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63881	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63828	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63839	1	P	P	P	P	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P
	63832	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63841	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63816	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	63878	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63847	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63868	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NO SIGNIFICANT CLINICAL OBSERVATIONS	63823	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63861	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63904	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63937	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		P
	63939	2	P	P	P	P	P	P	P	P	P	P	P	P	P			P	P	P	P	P	P
	63919	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63859	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63864	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63833	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63854	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63924	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				P	P
	63874	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63877	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63911	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				P	P	P
	63930	2	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63935	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63869	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63903	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63925	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63915	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63844	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63829	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63917	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63848	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63871	3	P	P	P	P	P	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P
	63932	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P					
	63840	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NO SIGNIFICANT CLINICAL OBSERVATIONS	63893	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P						P
	63901	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63899	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63822	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63920	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P						
	63885	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63857	3	P	P	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P
	63890	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P			P	P
	63845	3	P	P	P	P	P	P	P				P	P	P	P	P	P	P	P	P	P	P
	63835	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63842	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		P	
	63900	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63929	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63891	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63826	3	P	P	P	P	P	P	P	P	P			P		P	P		P		P	P	P
	63865	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P			P		P	P	
	63876	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		P				
	63936	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63916	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63882	3	P	P	P	P		P	P	P	P	P									P	P	P
	63931	3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63838	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63849	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63898	4	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P		P
	63894	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63858	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P						
	63889	4	P	P	P	P	P	P	P	P													

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NO SIGNIFICANT CLINICAL OBSERVATIONS	63922	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63824	4	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P			P	P
	63872	4	P	P	P	P	P	P	P		P	P			P	P	P	P	P	P	P	P	P
	63821	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63825	4	P	P	P	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P
	63850	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63933	4	P	P	P	P	P	P	P	P													
	63908	4	P	P	P	P	P	P	P	P	P	P			P	P	P	P	P	P	P	P	P
	63827	4	P	P	P	P	P	P	P	P		P											
	63905	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P			P	P	P
	63875	4	P	P	P	P	P	P	P	P													
	63860	4	P	P	P	P	P	P	P	P	P	P	P	P					P				
	63879	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P		P	P		P	P	
	63892	4	P	P	P	P	P	P	P	P													
	63863	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	63846	4	P	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P
	63820	4	P	P	P	P	P	P	P	P	P	P											
	63884	4	P	P	P	P	P	P	P	P	P	P	P								P		
	63926	4		P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P
FOUND DEAD	63932	3																					P
	63858	4																	P				
	63889	4										P											
	63933	4											P										
	63827	4												P									
	63875	4											P										
	63892	4												P									

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
SCHEDULED EUTHANASIA; GESTATION DAY 20	63910	1	P
	63918	1	P
	63938	1	P
	63831	1	P
	63817	1	P
	63928	1	P
	63886	1	P
	63895	1	P
	63852	1	P
	63880	1	P
	63923	1	P
	63887	1	P
	63836	1	P
	63912	1	P
	63818	1	P
	63914	1	P
	63873	1	P
	63867	1	P
	63881	1	P
	63828	1	P
	63839	1	P
	63832	1	P
	63841	1	P
	63816	1	P
	63878	1	P
	63847	2	P
	63868	2	P

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0 1 2 3 4 5 6 7 8 9	1 0	1 1	1 2	1 3	1 4	1 5	1 6	1 7	1 8	1 9	2 0
SCHEDULED EUTHANASIA; GESTATION DAY 20	63823	2												P
	63861	2												P
	63904	2												P
	63937	2												P
	63939	2												P
	63919	2												P
	63859	2												P
	63864	2												P
	63833	2												P
	63854	2												P
	63924	2												P
	63874	2												P
	63877	2												P
	63911	2												P
	63930	2												P
	63935	2												P
	63869	2												P
	63903	2												P
	63925	2												P
	63915	2												P
	63844	2												P
	63829	2												P
	63917	2												P
	63848	3												P
	63871	3												P
	63840	3												P
	63893	3												P

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
SCHEDULED EUTHANASIA; GESTATION DAY 20	63901	3	P
	63899	3	P
	63822	3	P
	63920	3	P
	63885	3	P
	63857	3	P
	63890	3	P
	63845	3	P
	63835	3	P
	63842	3	P
	63900	3	P
	63929	3	P
	63891	3	P
	63826	3	P
	63865	3	P
	63876	3	P
	63936	3	P
	63916	3	P
	63882	3	P
	63931	3	P
	63838	4	P
	63849	4	P
	63898	4	P
	63894	4	P
	63922	4	P
	63824	4	P
	63872	4	P

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SCHEDULED EUTHANASIA; GESTATION DAY 20	63821	4																					P
	63825	4																					P
	63850	4																					P
	63908	4																					P
	63905	4																					P
	63860	4																					P
	63879	4																					P
	63863	4																					P
	63846	4																					P
	63820	4																					P
	63884	4																					P
	63926	4																					P
HYPOACTIVITY	63932	3																			P		P
	63920	3																				P	
	63889	4								P													
ROCKS, LURCHES, OR SWAYS AS IT WALKS	63932	3																			2		
EXTREMITIES COOL TO TOUCH	63932	3																					P
	63920	3																				P	
	63898	4							P														
	63858	4															P						
	63933	4									P												
UNKEMPT APPEARANCE	63871	3												P									
	63920	3																			P		

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
UNKEMPT APPEARANCE	63882	3																		P			
HAIR LOSS LEFT FORELIMB	63852	1																		1	1		
	63873	1																	1	1			
	63937	2																				1	
	63924	2																	1	1	1		
	63911	2																1	1	1			
	63893	3																		1	2	1	
	63890	3																		1	1		
	63842	3																			1		
	63826	3											2		1					3			
	63824	4																			1		
HAIR LOSS RIGHT FORELIMB	63852	1																		1	1		
	63873	1																	1	1			
	63924	2																	1	1	1		
	63911	2																1	1	1			
	63893	3																		1	2	1	
	63890	3																		1	1		
	63826	3											1		2					3			
	63824	4																			1		
	63905	4																	1	1			
HAIR LOSS VENTRAL THORACIC AREA	63893	3																		1			
	63820	4											1	1									
HAIR LOSS VENTRAL ABDOMINAL AREA	63893	3																1	1	1	1		

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HAIR LOSS VENTRAL ABDOMINAL AREA	63879	4															1						
	63820	4											1	1	2	2	2			2	1	1	2
	63884	4												1	1	1	1	1	1	1		1	1
HAIR LOSS LEFT HINDLIMB	63879	4																		2			1
	63820	4															1	1		2		2	2
HAIR LOSS RIGHT HINDLIMB	63893	3																		1	1		
HAIR LOSS DORSAL HEAD	63926	4	2																				
HAIR LOSS LEFT LATERAL ABDOMINAL AREA	63820	4																	1				
WET RED MATERIAL RIGHT FORELIMB	63939	2														P							
	63930	2				1																	
	63892	4											3										
GASPING	63939	2														P						P	
DRIED RED MATERIAL AROUND LEFT EYE	63932	3																			1		1
	63920	3																				P	
	63889	4									2												
DRIED RED MATERIAL AROUND RIGHT EYE	63932	3																		1	1		1
	63920	3																				P	
	63889	4									2												
DRIED RED MATERIAL AROUND NOSE	63895	1																			1		

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DRIED RED MATERIAL AROUND NOSE	63939	2														1							
	63932	3																		2	2		3
	63920	3																	1			P	1
	63826	3																1					
	63865	3																1					2
	63876	3																1					
	63882	3											3	1	1	2	2	2					
	63858	4																1					
	63933	4									2	3											
	63827	4											2										
	63875	4									1												
	63860	4													1			1					
	63892	4									2	2											
WET RED MATERIAL AROUND NOSE	63887	1									1												
	63939	2														P							
	63920	3																			1		
	63842	3																					1
	63892	4											3										
SOFT STOOL	63839	1												P									
	63816	1																					P
	63932	3																				P	
	63826	3																		P			
	63876	3																		P			
	63882	3																		P			
	63860	4															P				P	P	P

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DECREASED DEFECATION	63932	3																					P
	63920	3																				P	P
	63845	3								P													
	63826	3																P					
	63865	3																P					
	63876	3																P				P	
	63882	3														P							
	63889	4									P												
	63860	4														P	P						
	63892	4												P									
DIARRHEA	63920	3																			P		
	63882	3																P					
	63860	4																P		P			
DARK YELLOW URINE	63898	4								P													
	63892	4												P									
WET RED MATERIAL UROGENITAL AREA	63932	3																				3	
	63889	4									3												
DRIED CLEAR MATERIAL AROUND MOUTH	63858	4																2					
	63860	4													3								
DRIED RED MATERIAL AROUND MOUTH	63939	2															1						
	63871	3													2								
	63932	3																		2	2		3

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DRIED RED MATERIAL AROUND MOUTH	63920	3																				P	1
	63826	3																1					
	63865	3															1	1					
	63876	3																1					
	63882	3												1	1	2	2			1			
	63889	4									3												
	63825	4											1										
	63827	4											2										
	63892	4									3	2	3										
WET CLEAR MATERIAL AROUND MOUTH	63939	2														2							
WET RED MATERIAL AROUND MOUTH	63939	2														P							
	63920	3																	2				
SALIVATION	63898	4																				1	
	63905	4																		1			
WET RED MATERIAL DORSAL HEAD	63882	3					1																
DRIED RED MATERIAL RIGHT FORELIMB	63932	3																				2	2
	63920	3																				P	1
	63865	3																					2
	63882	3											2	1			2						
	63889	4									2												
	63933	4									1	2											
	63892	4									2	1											

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DRIED RED MATERIAL LEFT FORELIMB	63932	3																				2	2
	63920	3																				P	1
	63865	3																					2
	63882	3											2	1			2						
	63889	4									2												
	63933	4									1	2											
	63892	4									2	2											
WET BROWN MATERIAL UROGENITAL AREA	63920	3																		2	3		3
	63865	3																		1			3
	63876	3																		1		2	
	63882	3																3	1	1			
	63889	4									3												
	63860	4																2		3			
WET RED MATERIAL LEFT FORELIMB	63939	2														P							
	63892	4											3										
DRIED YELLOW MATERIAL UROGENITAL AREA	63932	3																					3
	63920	3																				P	
	63857	3										2											
	63845	3									3	1											
	63876	3																2				1	
	63882	3												2	2	2	2						
	63858	4																2					
	63824	4									1												
	63872	4									1			1	1								

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)

PROJECT NO.:WIL-14038 — A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS — PAGE 15

SPONSOR:LYONDELL CHEMICAL — INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DRIED YELLOW MATERIAL UROGENITAL AREA	63825	4											1										
	63908	4											1	1									
	63827	4									2												
	63875	4										2											
	63846	4									1												
DRIED YELLOW MATERIAL VENTRAL ABDOMINAL AREA	63932	3																					3
	63920	3																				P	3
	63845	3									2												
	63865	3																					1
	63876	3															2						1
	63882	3											1	1	1	2							
	63858	4															1						
DRIED YELLOW MATERIAL VENTRAL THORACIC AREA	63932	3																				3	2
	63920	3																				P	1
	63845	3									1												
	63865	3																					1
	63876	3															2						
	63882	3												1		2							
WET YELLOW MATERIAL UROGENITAL AREA	63932	3																	2	3			
	63920	3																				3	
	63826	3										1											
	63876	3																		3			
	63882	3											1										
	63933	4									3	3											

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET YELLOW MATERIAL UROGENITAL AREA	63827	4											3										
	63875	4									2												
	63892	4									1	2	3										
	63926	4								2													
WET YELLOW MATERIAL VENTRAL ABDOMINAL AREA	63932	3																		2	3	3	
	63920	3																			3	3	
	63933	4									3	3											
	63827	4											3										
	63875	4									1												
	63892	4											1										
WET YELLOW MATERIAL VENTRAL THORACIC AREA	63932	3																		2	2		
	63920	3																			3	1	
	63933	4									3	3											
	63827	4											3										
WET CLEAR MATERIAL LEFT FORELIMB	63860	4													1								
WET CLEAR MATERIAL RIGHT FORELIMB	63860	4													1								
WET YELLOW MATERIAL RIGHT HINDLIMB	63882	3														2							
	63933	4										3											
	63827	4											3										
	63926	4								1													
WET YELLOW MATERIAL LEFT HINDLIMB	63882	3														1							

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 18 (DAILY EXAMINATIONS)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET YELLOW MATERIAL LEFT HINDLIMB	63933	4										3											
	63827	4											3										
	63926	4								2													
WET YELLOW MATERIAL RIGHT FORELIMB	63882	3														2							
	63858	4																2					
	63827	4											2										
WET YELLOW MATERIAL LEFT FORELIMB	63882	3														2							
	63858	4																2					
	63827	4											2										
SOFT IMMOVABLE MASS VENTRAL THORACIC AREA 22MM X 17MM X 15MM	63918	1													P	P	1	P	P			P	

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 19 (AT TIME OF DOSING)

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION AT TIME OF DOSING	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ROCKS, LURCHES, OR SWAYS AS IT WALKS	63932	3																			2		
EXCESSIVE PAWING OF CAGE FLOOR AND/OR WALLS	63939	2																	P				
	63935	2																P					
	63848	3																		P			
	63840	3																				P	
	63901	3																				P	
	63899	3																		P		P	
	63822	3																		P			
	63920	3																		P			
	63857	3																	P	P			
	63890	3																		P			
	63900	3																	P				
	63929	3																P					
	63826	3																P	P				
	63865	3																	P				
	63876	3																P	P				
	63936	3																P					
	63916	3																P	P				
	63882	3																P	P				
	63849	4																				P	
	63898	4																		P		P	
	63922	4																		P		P	
	63824	4																		P			
	63872	4																		P			
	63821	4																	P	P			
	63825	4																	P	P			

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 19 (AT TIME OF DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION AT TIME OF DOSING	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
EXCESSIVE PAWING OF CAGE FLOOR AND/OR WALLS	63905	4																	P				
	63860	4																P	P				
	63863	4																P	P				
	63846	4																P	P				
	63820	4																P					
	63884	4																P	P				
WIPES MOUTH ON CAGE FLOOR AND/OR WALLS FOLLOWING DOSING	63847	2																		P	P		
	63868	2																		P	P		
	63861	2																		P			
	63904	2																		P	P		
	63939	2																		P			
	63859	2															P		P	P			
	63864	2															P			P			
	63833	2																	P	P			
	63874	2																		P			
	63877	2																		P			
	63911	2																	P				
	63930	2																P	P				
	63935	2																P	P				
	63869	2																P	P				
	63903	2																	P				
	63925	2																P	P			P	
	63844	2																	P				
	63829	2																	P				
	63917	2																	P				

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 19 (AT TIME OF DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION AT TIME OF DOSING	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WIPES MOUTH ON CAGE FLOOR AND/OR WALLS FOLLOWING DOSING	63848	3																		P	P		
	63871	3																		P	P		
	63932	3																		P			
	63840	3																			P		
	63893	3								P		P								P	P		
	63901	3																		P	P		
	63899	3																	P		P		
	63822	3																		P			
	63920	3																	P	P			
	63885	3																	P	P		P	
	63857	3														P	P	P	P	P			
	63890	3																		P			
	63845	3																	P	P			
	63835	3																	P				
	63842	3																	P	P			
	63900	3																P	P				
	63929	3															P	P	P				
	63891	3																P	P				
	63826	3																	P				
	63865	3																P	P				
	63876	3																	P		P	P	
	63936	3																	P				
	63916	3																P	P				
	63838	4																P		P	P		
	63849	4																		P	P		

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 19 (AT TIME OF DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION AT TIME OF DOSING	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WIPES MOUTH ON CAGE FLOOR AND/OR WALLS FOLLOWING DOSING	63898	4																	P			P	
	63894	4																				P	
	63922	4																P			P	P	
	63824	4																	P				
	63872	4												P	P	P			P	P		P	
	63825	4																		P			
	63850	4																	P				
	63908	4																		P			
	63905	4																P	P				
	63860	4															P		P				P
	63879	4																P	P				
	63863	4											P					P	P				P
	63846	4																P	P				P
	63820	4												P				P	P				P
	63884	4																P					
	63926	4															P	P					
WET CLEAR MATERIAL AROUND MOUTH	63838	4											2										
	63898	4											2										
SALIVATION	63893	3																2			1		
	63901	3													3		3						
	63899	3																2	3				
	63857	3														1				2			
	63890	3																		1			

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 19 (AT TIME OF DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION AT TIME OF DOSING	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SALIVATION	63900	3																	3				
	63838	4												2			3	3					
	63849	4															3		2				
	63898	4																	3	3	2		
	63824	4														3				2			
	63872	4											3				3	3		3			
	63821	4															3	3		2			
	63825	4															3		3	1			
	63850	4																		2			
	63905	4																	3				
	63879	4														3						3	
	63863	4																	2				
	63846	4																				3	
	63926	4											3					1					
SALIVATION PRIOR TO DOSING	63838	4											2										
	63825	4																				3	
	63905	4																			2		

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HYPOACTIVITY	63889	4									P												
	63872	4											P										
	63892	4											P										
EXCESSIVE PAWING OF CAGE FLOOR AND/OR WALLS	63920	3																		P			
	63849	4																			P		
	63821	4																		P			
	63863	4																	P	P			
WIPES MOUTH ON CAGE FLOOR AND/OR WALLS FOLLOWING DOSING	63891	3																				P	
	63882	3													P								
	63858	4															P						
	63872	4											P										
	63933	4									P												
	63863	4																				P	
EXTREMITIES COOL TO TOUCH	63876	3																				P	
	63882	3													P								
	63889	4									P												
	63933	4									P												
	63827	4											P										
	63892	4											P										
UNKEMPT APPEARANCE	63932	3																				P	
	63920	3																			P		
	63860	4																		P			

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET RED MATERIAL RIGHT FORELIMB	63932	3																				2	
	63889	4									2												
	63825	4														1							
	63850	4										3											
SHALLOW RESPIRATION	63932	3																				P	
GASPING	63939	2																				P	
DRIED RED MATERIAL AROUND NOSE	63932	3																			2		
	63845	3									1												
	63842	3								1													
	63882	3																	1	2			
	63827	4											3										
WET RED MATERIAL AROUND LEFT EYE	63932	3																				2	
WET RED MATERIAL AROUND RIGHT EYE	63932	3																				2	
WET RED MATERIAL AROUND NOSE	63939	2														3							
	63932	3																				3	
	63835	3										2											
	63882	3											2										
	63889	4									3												
	63827	4									2												
LACRIMATION LEFT EYE	63876	3															3						

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LACRIMATION LEFT EYE	63858	4															3						
	63889	4									1												
	63872	4											2										
	63933	4									2												
	63860	4											2										
	63892	4											3										
LACRIMATION RIGHT EYE	63876	3															3						
	63889	4									1												
	63872	4											2										
	63933	4									2												
	63860	4											2										
	63892	4											3										
EYELIDS SLIGHTLY DROOPING.	63889	4									P												
EYELIDS COMPLETELY SHUT	63876	3															P						
	63872	4											P										
	63860	4											P										
WET CLEAR MATERIAL AROUND NOSE	63822	3																			1		
	63876	3															3						
	63882	3																			1		
SOFT STOOL	63920	3																			P		
	63876	3																		P			
	63882	3																	P				

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET RED VAGINAL DISCHARGE	63858	4																P					
	63825	4														P							
WET RED MATERIAL UROGENITAL AREA	63882	3																1					
DRIED CLEAR MATERIAL AROUND MOUTH	63893	3											2										
	63876	3																2					
	63820	4																1					
DRIED RED MATERIAL AROUND MOUTH	63930	2														1							
	63932	3						1												2			
	63901	3								1	1	1											
	63920	3																		1			
	63845	3								1													
	63865	3																2					
	63876	3																			1		
	63894	4									1									1			
	63922	4									1												
	63825	4															1						
	63908	4						1															
	63827	4						1															
WET CLEAR MATERIAL AROUND MOUTH	63871	3											2						3				
	63932	3																	3		2		
	63899	3																		2		2	
	63822	3																			2		
	63920	3														1		2			2	2	

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET CLEAR MATERIAL AROUND MOUTH	63857	3											2						3				
	63845	3																					1
	63842	3																				1	
	63900	3										2	2			2				2			
	63891	3																		1		2	
	63865	3															2						3
	63876	3																3					2
	63936	3															1		2		2		1
	63916	3																			2		
	63882	3										3				3			1			2	
	63838	4																		3	2	2	
	63849	4														1	2		1	1	2	2	3
	63898	4							1														
	63858	4																3	3				
	63824	4										2	3	2								2	2
	63872	4									1	2	3				2	2				2	
	63821	4																	1	3	2		1
	63825	4												1						2		2	3
	63933	4										3											
	63908	4							2											2			
	63875	4									3	3											
	63860	4										1	3	2	2	3	1						
	63892	4									3												
	63863	4										3					2			2	2	1	2
	63846	4										1						2	2	2			1
	63820	4																			2		
	63884	4											2										

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET CLEAR MATERIAL AROUND MOUTH	63926	4																	2	3	3	3	
WET RED MATERIAL AROUND MOUTH	63939	2														2							
	63854	2										2											
	63874	2										3											
	63903	2															1						
	63925	2								3													
	63932	3																				3	
	63845	3						1															
	63835	3										2	1						1				
	63876	3																		1			
	63882	3											1										
	63889	4								3													
	63825	4											1			1				1			
	63850	4										3											
	63827	4								2			3										
	63879	4											2										
	63892	4											3										
SALIVATION	63937	2														1							
	63932	3																		1			
	63842	3													1								
	63891	3																				3	
	63936	3																			2		
	63882	3																		2			
	63858	4														1							
	63824	4													3								

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SALIVATION	63872	4																				1	
	63905	4												1				1					
	63863	4												1									
	63846	4									2										3		
BODY PALE	63882	3																	P				
DRIED RED MATERIAL RIGHT FORELIMB	63925	2									1												
	63901	3											1										
	63845	3									1												
	63876	3																			1		
	63894	4										1											
DRIED RED MATERIAL LEFT FORELIMB	63874	2										1											
	63925	2									1												
	63901	3											1										
	63845	3									1												
	63876	3																			1		
	63894	4										1											
WET BROWN MATERIAL UROGENITAL AREA	63932	3																				3	
	63920	3																			3		
	63826	3																		2			
	63860	4																		2			
WET RED MATERIAL LEFT FORELIMB	63932	3																				2	
	63889	4									2												

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET RED MATERIAL LEFT FORELIMB	63825	4														1							
	63850	4										3											
WET YELLOW MATERIAL UROGENITAL AREA	63932	3																			3		
	63920	3																		2			
	63882	3																	2	2			
	63825	4																		1			
	63827	4									2												
WET YELLOW MATERIAL VENTRAL ABDOMINAL AREA	63932	3																			3	3	
WET YELLOW MATERIAL VENTRAL THORACIC AREA	63932	3																			3		
WET CLEAR MATERIAL LEFT FORELIMB	63939	2														1							
	63871	3																	1				
	63932	3																	1				
	63857	3																2					
	63891	3																			1	1	
	63865	3																				2	
	63876	3															3					1	
	63936	3														1							
	63882	3										2			3					2			
	63849	4																1				2	
	63858	4															3	2					
	63824	4											2								1	2	
	63872	4									1						1						
	63825	4																			2	2	

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET CLEAR MATERIAL LEFT FORELIMB	63933	4									2												
	63827	4									1												
	63875	4									3												
	63860	4													2	3	1						
	63892	4									2												
	63863	4																					1
	63926	4																	2	2	2		2
WET CLEAR MATERIAL RIGHT FORELIMB	63939	2														1							
	63932	3																	1				
	63857	3																2					
	63891	3																				1	1
	63865	3																					2
	63876	3															3						1
	63936	3														1							
	63882	3										2			3					2			
	63849	4																1					2
	63858	4															3	2					
	63824	4											2									1	2
	63872	4									1						1						
	63825	4																				2	2
	63933	4									2												
	63827	4									1												
	63875	4									3												
	63860	4													2	3	1						
	63892	4									2												
	63863	4																					1

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET CLEAR MATERIAL RIGHT FORELIMB	63926	4																	2	2	2	2	
WET CLEAR MATERIAL VENTRAL ABDOMINAL AREA	63876	3															3						
WET BROWN MATERIAL ANOGENITAL AREA	63876	3																		2			
	63882	3																		2			
	63860	4																		3			

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

TABLE 20 (1 HOUR POST-DOSING)
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

OBSERVATION	ANIMAL	GROUP	GESTATIONAL DAY 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WET CLEAR MATERIAL LEFT HINDLIMB	63882	3											2										
WET CLEAR MATERIAL RIGHT HINDLIMB	63882	3											1										

GRADE CODE: P = PRESENT 1 = SLIGHT 2 = MODERATE 3 = SEVERE

1- 0 MG/KG/DAY 2- 10 MG/KG/DAY 3- 35 MG/KG/DAY 4- 50 MG/KG/DAY

PCOv3.1
12/15/2004
R:12/15/2004

TABLE 21
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHTS DURING GESTATION [G]

DAMS FROM GROUP 1: 0 MG/KG/DAY

	PREGNANCY STATUS	DAY 0	6	7	8	9	10	11	12	13
63816	G	279.	319.	320.	323.	325.	330.	342.	351.	354.
63817	G	268.	308.	316.	315.	321.	330.	335.	342.	349.
63818	G	237.	269.	275.	276.	279.	274.	278.	282.	289.
63828	G	256.	302.	306.	306.	304.	309.	323.	321.	329.
63831	G	254.	291.	290.	298.	299.	305.	312.	314.	320.
63832	G	264.	323.	319.	326.	328.	336.	347.	354.	359.
63836	G	253.	281.	280.	287.	290.	293.	305.	316.	316.
63839	G	263.	293.	295.	304.	301.	304.	313.	324.	334.
63841	G	269.	319.	318.	324.	330.	334.	350.	346.	365.
63852	G	272.	302.	306.	311.	314.	322.	327.	338.	348.
63867	G	246.	316.	320.	321.	322.	330.	340.	343.	347.
63873	G	242.	297.	297.	306.	300.	308.	317.	310.	320.
63878	G	263.	293.	302.	302.	308.	317.	321.	328.	323.
63880	G	268.	303.	310.	314.	318.	321.	327.	337.	336.
63881	G	248.	295.	299.	301.	306.	311.	311.	319.	323.
63886	G	294.	314.	323.	324.	328.	330.	339.	349.	353.
63887	G	258.	304.	306.	308.	316.	326.	316.	326.	337.
63895	G	282.	296.	321.	325.	329.	335.	339.	351.	362.
63910	G	242.	282.	287.	286.	294.	297.	304.	312.	315.
63912	G	246.	294.	300.	303.	301.	301.	312.	324.	327.
63914	G	237.	294.	300.	298.	301.	312.	320.	323.	330.
63918	G	246.	281.	282.	289.	293.	296.	295.	293.	303.
63923	G	265.	294.	301.	312.	314.	315.	322.	322.	334.
63928	G	277.	318.	321.	322.	331.	332.	340.	342.	351.
63938	G	251.	286.	288.	291.	296.	298.	300.	304.	311.
MEAN		259.	299.	303.	307.	310.	315.	321.	327.	333.
S.D.		14.9	13.9	14.3	14.0	14.6	16.2	17.6	18.6	19.3
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 21
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHTS DURING GESTATION [G]

	PREGNANCY STATUS	DAY 14	15	16	17	18	19	20	
DAMS FROM GROUP 1: 0 MG/KG/DAY									
63816	G	360.	371.	376.	381.	413.	426.	434.	SCHEDULED NECROPSY DAY 20
63817	G	357.	364.	373.	386.	415.	424.	450.	SCHEDULED NECROPSY DAY 20
63818	G	291.	297.	302.	281.	290.	306.	315.	SCHEDULED NECROPSY DAY 20
63828	G	331.	337.	346.	360.	384.	407.	420.	SCHEDULED NECROPSY DAY 20
63831	G	324.	327.	332.	344.	351.	367.	382.	SCHEDULED NECROPSY DAY 20
63832	G	366.	375.	382.	402.	424.	441.	457.	SCHEDULED NECROPSY DAY 20
63836	G	320.	325.	336.	348.	360.	375.	393.	SCHEDULED NECROPSY DAY 20
63839	G	333.	332.	336.	341.	366.	377.	391.	SCHEDULED NECROPSY DAY 20
63841	G	374.	378.	387.	402.	428.	455.	474.	SCHEDULED NECROPSY DAY 20
63852	G	348.	351.	363.	376.	396.	418.	433.	SCHEDULED NECROPSY DAY 20
63867	G	354.	352.	365.	372.	397.	410.	423.	SCHEDULED NECROPSY DAY 20
63873	G	327.	331.	345.	354.	375.	389.	402.	SCHEDULED NECROPSY DAY 20
63878	G	331.	338.	343.	368.	387.	394.	409.	SCHEDULED NECROPSY DAY 20
63880	G	346.	356.	360.	375.	392.	417.	438.	SCHEDULED NECROPSY DAY 20
63881	G	325.	332.	338.	349.	374.	393.	408.	SCHEDULED NECROPSY DAY 20
63886	G	360.	369.	380.	394.	406.	432.	451.	SCHEDULED NECROPSY DAY 20
63887	G	340.	347.	354.	364.	374.	405.	423.	SCHEDULED NECROPSY DAY 20
63895	G	365.	377.	382.	392.	405.	431.	450.	SCHEDULED NECROPSY DAY 20
63910	G	321.	330.	335.	350.	363.	376.	400.	SCHEDULED NECROPSY DAY 20
63912	G	338.	347.	355.	368.	386.	412.	436.	SCHEDULED NECROPSY DAY 20
63914	G	333.	341.	356.	366.	397.	417.	436.	SCHEDULED NECROPSY DAY 20
63918	G	304.	318.	329.	339.	340.	360.	383.	SCHEDULED NECROPSY DAY 20
63923	G	337.	349.	358.	371.	390.	418.	439.	SCHEDULED NECROPSY DAY 20
63928	G	354.	368.	377.	397.	414.	431.	463.	SCHEDULED NECROPSY DAY 20
63938	G	319.	326.	337.	355.	370.	379.	405.	SCHEDULED NECROPSY DAY 20
MEAN		338.	346.	354.	365.	384.	402.	421.	
S.D.		20.2	20.8	21.0	25.9	29.9	31.8	33.6	
N		25	25	25	25	25	25	25	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 21
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHTS DURING GESTATION [G]

DAMS FROM GROUP 2: 10 MG/KG/DAY

	PREGNANCY STATUS	DAY 0	6	7	8	9	10	11	12	13
63823	G	252.	299.	299.	311.	314.	316.	315.	324.	331.
63829	G	275.	319.	324.	329.	333.	341.	347.	353.	364.
63833	G	264.	294.	292.	300.	303.	295.	303.	312.	319.
63844	G	271.	301.	307.	307.	317.	320.	331.	326.	328.
63847	G	241.	281.	285.	291.	291.	295.	299.	310.	320.
63854	G	257.	284.	288.	288.	289.	287.	300.	308.	310.
63859	G	276.	313.	315.	322.	323.	327.	334.	346.	345.
63861	G	260.	284.	283.	295.	294.	301.	308.	309.	319.
63864	G	266.	302.	310.	313.	314.	318.	322.	334.	338.
63868	G	247.	291.	294.	303.	296.	308.	311.	319.	331.
63869	G	251.	299.	299.	308.	307.	318.	323.	334.	348.
63874	G	238.	262.	260.	262.	271.	263.	271.	275.	282.
63877	G	225.	271.	280.	284.	289.	289.	299.	310.	314.
63903	G	258.	293.	291.	295.	299.	300.	312.	317.	317.
63904	G	261.	302.	306.	311.	311.	318.	324.	335.	343.
63911	G	227.	289.	288.	288.	297.	299.	309.	310.	316.
63915	G	265.	326.	331.	330.	336.	343.	351.	352.	360.
63917	G	285.	354.	363.	366.	370.	377.	387.	398.	403.
63919	G	289.	311.	310.	313.	313.	316.	320.	330.	335.
63924	G	251.	288.	290.	289.	291.	296.	304.	314.	323.
63925	G	258.	298.	295.	298.	293.	292.	314.	313.	321.
63930	G	245.	279.	286.	287.	289.	294.	307.	310.	304.
63935	G	247.	302.	301.	302.	296.	301.	311.	316.	319.
63937	G	277.	304.	305.	317.	321.	320.	332.	334.	346.
63939	G	299.	328.	332.	332.	344.	346.	354.	364.	332.
MEAN		259.	299.	301.	306.	308.	311.	320.	326.	331.
S.D.		18.2	19.4	20.7	20.6	21.5	23.6	23.1	23.9	23.3
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 21
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHTS DURING GESTATION [G]

	PREGNANCY STATUS	DAY 14	15	16	17	18	19	20	
DAMS FROM GROUP 2: 10 MG/KG/DAY									
63823	G	329.	332.	331.	326.	326.	311.	314.	SCHEDULED NECROPSY DAY 20
63829	G	373.	380.	391.	405.	428.	443.	462.	SCHEDULED NECROPSY DAY 20
63833	G	326.	328.	336.	343.	356.	376.	389.	SCHEDULED NECROPSY DAY 20
63844	G	332.	346.	347.	363.	385.	406.	425.	SCHEDULED NECROPSY DAY 20
63847	G	326.	335.	340.	356.	371.	386.	406.	SCHEDULED NECROPSY DAY 20
63854	G	317.	323.	334.	333.	350.	372.	387.	SCHEDULED NECROPSY DAY 20
63859	G	357.	359.	374.	384.	403.	427.	448.	SCHEDULED NECROPSY DAY 20
63861	G	322.	335.	339.	351.	371.	389.	412.	SCHEDULED NECROPSY DAY 20
63864	G	345.	352.	359.	375.	390.	419.	441.	SCHEDULED NECROPSY DAY 20
63868	G	336.	345.	356.	369.	386.	399.	428.	SCHEDULED NECROPSY DAY 20
63869	G	349.	355.	368.	381.	405.	420.	442.	SCHEDULED NECROPSY DAY 20
63874	G	292.	300.	306.	322.	334.	359.	376.	SCHEDULED NECROPSY DAY 20
63877	G	320.	329.	341.	350.	359.	385.	399.	SCHEDULED NECROPSY DAY 20
63903	G	322.	325.	331.	340.	377.	391.	409.	SCHEDULED NECROPSY DAY 20
63904	G	345.	354.	358.	374.	391.	413.	441.	SCHEDULED NECROPSY DAY 20
63911	G	325.	330.	342.	354.	374.	394.	420.	SCHEDULED NECROPSY DAY 20
63915	G	365.	374.	387.	401.	424.	446.	462.	SCHEDULED NECROPSY DAY 20
63917	G	406.	423.	433.	446.	474.	490.	518.	SCHEDULED NECROPSY DAY 20
63919	G	336.	347.	356.	374.	395.	423.	446.	SCHEDULED NECROPSY DAY 20
63924	G	332.	338.	348.	356.	370.	398.	418.	SCHEDULED NECROPSY DAY 20
63925	G	326.	340.	351.	360.	380.	400.	422.	SCHEDULED NECROPSY DAY 20
63930	G	306.	313.	322.	333.	356.	375.	388.	SCHEDULED NECROPSY DAY 20
63935	G	324.	336.	341.	357.	379.	398.	413.	SCHEDULED NECROPSY DAY 20
63937	G	344.	359.	369.	380.	395.	413.	444.	SCHEDULED NECROPSY DAY 20
63939	G	321.	343.	349.	361.	381.	403.	424.	SCHEDULED NECROPSY DAY 20
MEAN		335.	344.	352.	364.	382.	401.	421.	
S.D.		22.9	24.1	25.5	27.3	30.7	33.3	37.5	
N		25	25	25	25	25	25	25	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 21
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHTS DURING GESTATION [G]

	PREGNANCY STATUS	DAY 0	6	7	8	9	10	11	12	13
DAMS FROM GROUP 3: 35 MG/KG/DAY										
63822	G	277.	316.	316.	319.	328.	328.	341.	354.	365.
63826	G	253.	302.	305.	285.	283.	296.	302.	316.	321.
63835	G	238.	253.	252.	249.	248.	244.	255.	267.	276.
63840	G	254.	287.	288.	294.	298.	302.	304.	312.	322.
63842	G	228.	257.	255.	260.	259.	257.	270.	274.	282.
63845	G	251.	274.	260.	246.	256.	264.	278.	287.	295.
63848	NG	243.	245.	237.	246.	249.	252.	238.	248.	252.
63857	G	264.	313.	313.	306.	294.	291.	292.	299.	304.
63865	G	257.	306.	301.	290.	290.	299.	308.	323.	337.
63871	NG	249.	316.	320.	327.	334.	332.	324.	298.	298.
63876	G	264.	307.	307.	309.	312.	320.	323.	333.	340.
63882	NG	283.	334.	333.	337.	331.	307.	281.	271.	264.
63885	G	267.	294.	286.	281.	281.	285.	289.	293.	302.
63890	G	259.	288.	291.	295.	296.	296.	306.	310.	313.
63891	G	247.	311.	305.	310.	310.	317.	326.	337.	342.
63893	G	266.	314.	318.	312.	305.	305.	307.	318.	318.
63899	G	277.	335.	333.	342.	340.	343.	345.	363.	368.
63900	G	242.	301.	296.	290.	280.	278.	292.	291.	310.
63901	G	273.	316.	321.	299.	302.	315.	320.	338.	346.
63916	G	270.	324.	326.	324.	313.	322.	332.	339.	355.
63920	G	273.	313.	313.	290.	303.	300.	315.	328.	339.
63929	G	243.	294.	290.	300.	304.	306.	320.	328.	325.
63931	G	268.	306.	302.	306.	309.	316.	324.	330.	339.
63932	G	254.	286.	286.	292.	291.	292.	295.	308.	309.
63936	G	268.	333.	334.	342.	341.	353.	365.	370.	381.
MEAN		259.	301.	300.	297.	297.	301.	310.	319.	327.
S.D.		13.3	21.2	22.9	24.7	24.0	26.1	25.5	26.9	27.4
N		22	22	22	22	22	22	22	22	22

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 21
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHTS DURING GESTATION [G]

	PREGNANCY STATUS	DAY 14	15	16	17	18	19	20	
DAMS FROM GROUP 3: 35 MG/KG/DAY									
63822	G	373.	381.	385.	392.	410.	429.	447.	SCHEDULED NECROPSY DAY 20
63826	G	330.	307.	306.	300.	321.	349.	378.	SCHEDULED NECROPSY DAY 20
63835	G	281.	288.	295.	312.	321.	346.	363.	SCHEDULED NECROPSY DAY 20
63840	G	323.	334.	340.	354.	366.	379.	405.	SCHEDULED NECROPSY DAY 20
63842	G	289.	294.	292.	307.	324.	347.	360.	SCHEDULED NECROPSY DAY 20
63845	G	302.	313.	323.	331.	348.	372.	392.	SCHEDULED NECROPSY DAY 20
63848	NG	251.	245.	251.	251.	253.	245.	256.	SCHEDULED NECROPSY DAY 20
63857	G	315.	321.	317.	318.	321.	325.	328.	SCHEDULED NECROPSY DAY 20
63865	G	304.	299.	305.	310.	341.	377.	362.	SCHEDULED NECROPSY DAY 20
63871	NG	305.	324.	328.	308.	323.	326.	334.	SCHEDULED NECROPSY DAY 20
63876	G	354.	323.	309.	308.	299.	296.	318.	SCHEDULED NECROPSY DAY 20
63882	NG	257.	255.	258.	266.	274.	277.	282.	SCHEDULED NECROPSY DAY 20
63885	G	311.	315.	320.	330.	339.	360.	377.	SCHEDULED NECROPSY DAY 20
63890	G	320.	325.	332.	345.	354.	378.	392.	SCHEDULED NECROPSY DAY 20
63891	G	353.	360.	363.	376.	406.	415.	418.	SCHEDULED NECROPSY DAY 20
63893	G	329.	346.	354.	349.	379.	391.	423.	SCHEDULED NECROPSY DAY 20
63899	G	377.	388.	406.	417.	449.	465.	491.	SCHEDULED NECROPSY DAY 20
63900	G	313.	319.	317.	312.	326.	333.	336.	SCHEDULED NECROPSY DAY 20
63901	G	354.	365.	378.	388.	414.	419.	436.	SCHEDULED NECROPSY DAY 20
63916	G	360.	361.	375.	380.	397.	420.	437.	SCHEDULED NECROPSY DAY 20
63920	G	344.	349.	314.	306.	301.	287.	279.	SCHEDULED NECROPSY DAY 20
63929	G	337.	338.	346.	356.	377.	398.	417.	SCHEDULED NECROPSY DAY 20
63931	G	342.	354.	364.	385.	402.	426.	436.	SCHEDULED NECROPSY DAY 20
63932	G	316.	322.	336.	304.	291.	275.	266.	GRAVID, DIED DAY 20
63936	G	385.	398.	406.	419.	449.	465.	491.	SCHEDULED NECROPSY DAY 20
MEAN		332.	336.	340.	345.	361.	375.	389.	
S.D.		28.2	30.4	34.4	38.6	47.4	52.9	59.9	
N		22	22	22	22	22	22	22	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 21
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHTS DURING GESTATION [G]

DAMS FROM GROUP 4: 50 MG/KG/DAY

	PREGNANCY STATUS	DAY 0	6	7	8	9	10	11	12	13
63820	G	273.	297.	302.	293.	289.	299.	311.	321.	332.
63821	G	272.	301.	306.	309.	320.	326.	337.	348.	353.
63824	G	289.	327.	329.	301.	310.	318.	322.	344.	352.
63825	G	262.	291.	293.	274.	277.	277.	287.	292.	310.
63827	NG	238.	262.	271.	249.	256.	237.	NA	NA	NA
63838	G	234.	267.	259.	262.	266.	273.	283.	289.	294.
63846	G	269.	299.	300.	275.	281.	282.	300.	304.	312.
63849	G	246.	293.	296.	300.	305.	310.	314.	314.	320.
63850	G	256.	290.	296.	286.	295.	295.	311.	322.	333.
63858	G	263.	307.	293.	298.	305.	310.	313.	322.	327.
63860	G	247.	288.	294.	267.	275.	271.	280.	262.	253.
63863	G	264.	297.	291.	281.	282.	293.	304.	317.	319.
63872	G	273.	311.	312.	275.	282.	291.	293.	302.	319.
63875	G	243.	292.	291.	265.	270.	NA	NA	NA	NA
63879	G	251.	295.	296.	292.	276.	284.	302.	305.	319.
63884	G	274.	315.	306.	294.	288.	292.	298.	316.	326.
63889	G	270.	273.	299.	272.	NA	NA	NA	NA	NA
63892	G	254.	304.	288.	267.	271.	264.	NA	NA	NA
63894	G	256.	292.	290.	281.	292.	300.	307.	314.	323.
63898	NG	252.	251.	239.	242.	246.	247.	253.	257.	258.
63905	G	237.	278.	276.	283.	283.	291.	299.	308.	311.
63908	G	246.	274.	273.	259.	263.	258.	271.	282.	298.
63922	G	279.	328.	320.	313.	316.	330.	342.	344.	350.
63926	G	268.	304.	268.	265.	277.	288.	295.	317.	324.
63933	G	253.	284.	288.	262.	256.	NA	NA	NA	NA
MEAN		260.	296.	294.	281.	285.	293.	304.	312.	320.
S.D.		14.2	15.6	15.7	16.0	17.2	19.5	18.0	21.4	22.8
N		23	23	23	23	22	20	19	19	19

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE

TABLE 21
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHTS DURING GESTATION [G]

	PREGNANCY STATUS	DAY 14	15	16	17	18	19	20	
DAMS FROM GROUP 4: 50 MG/KG/DAY									
63820	G	340.	347.	357.	377.	387.	413.	442.	SCHEDULED NECROPSY DAY 20
63821	G	360.	358.	383.	405.	421.	457.	459.	SCHEDULED NECROPSY DAY 20
63824	G	366.	373.	384.	391.	413.	425.	454.	SCHEDULED NECROPSY DAY 20
63825	G	314.	312.	307.	309.	308.	321.	322.	SCHEDULED NECROPSY DAY 20
63827	NG	NA	NA	NA	NA	NA	NA	NA	NONGRAVID, DIED DAY 11
63838	G	299.	303.	313.	324.	340.	358.	366.	SCHEDULED NECROPSY DAY 20
63846	G	318.	313.	332.	344.	370.	381.	390.	SCHEDULED NECROPSY DAY 20
63849	G	332.	341.	350.	359.	367.	382.	405.	SCHEDULED NECROPSY DAY 20
63850	G	333.	336.	345.	350.	367.	395.	416.	SCHEDULED NECROPSY DAY 20
63858	G	341.	316.	NA	NA	NA	NA	NA	GRAVID, DIED DAY 16
63860	G	248.	234.	242.	264.	288.	295.	300.	SCHEDULED NECROPSY DAY 20
63863	G	330.	334.	347.	358.	386.	399.	407.	SCHEDULED NECROPSY DAY 20
63872	G	336.	344.	354.	366.	382.	404.	422.	SCHEDULED NECROPSY DAY 20
63875	G	NA	NA	NA	NA	NA	NA	NA	GRAVID, DIED DAY 10
63879	G	325.	325.	333.	352.	376.	395.	419.	SCHEDULED NECROPSY DAY 20
63884	G	330.	329.	340.	357.	380.	398.	410.	SCHEDULED NECROPSY DAY 20
63889	G	NA	NA	NA	NA	NA	NA	NA	GRAVID, DIED DAY 9
63892	G	NA	NA	NA	NA	NA	NA	NA	GRAVID, DIED DAY 11
63894	G	322.	327.	335.	333.	339.	345.	365.	SCHEDULED NECROPSY DAY 20
63898	NG	256.	266.	266.	265.	263.	272.	271.	SCHEDULED NECROPSY DAY 20
63905	G	315.	324.	333.	344.	370.	386.	406.	SCHEDULED NECROPSY DAY 20
63908	G	309.	321.	329.	340.	357.	383.	403.	SCHEDULED NECROPSY DAY 20
63922	G	353.	353.	370.	371.	379.	400.	412.	SCHEDULED NECROPSY DAY 20
63926	G	327.	332.	345.	368.	387.	396.	411.	SCHEDULED NECROPSY DAY 20
63933	G	NA	NA	NA	NA	NA	NA	NA	GRAVID, DIED DAY 10
MEAN		326.	327.	339.	351.	368.	385.	401.	
S.D.		25.4	28.5	31.7	31.5	32.7	37.1	40.8	
N		19	19	18	18	18	18	18	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE

TABLE 22

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 1

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 1: 0 MG/KG/DAY										
63816	G	40.	1.	3.	2.	5.	12.	9.	3.	6.
63817	G	40.	8.	-1.	6.	9.	5.	7.	7.	8.
63818	G	32.	6.	1.	3.	-5.	4.	4.	7.	2.
63828	G	46.	4.	0.	-2.	5.	14.	-2.	8.	2.
63831	G	37.	-1.	8.	1.	6.	7.	2.	6.	4.
63832	G	59.	-4.	7.	2.	8.	11.	7.	5.	7.
63836	G	28.	-1.	7.	3.	3.	12.	11.	0.	4.
63839	G	30.	2.	9.	-3.	3.	9.	11.	10.	-1.
63841	G	50.	-1.	6.	6.	4.	16.	-4.	19.	9.
63852	G	30.	4.	5.	3.	8.	5.	11.	10.	0.
63867	G	70.	4.	1.	1.	8.	10.	3.	4.	7.
63873	G	55.	0.	9.	-6.	8.	9.	-7.	10.	7.
63878	G	30.	9.	0.	6.	9.	4.	7.	-5.	8.
63880	G	35.	7.	4.	4.	3.	6.	10.	-1.	10.
63881	G	47.	4.	2.	5.	5.	0.	8.	4.	2.
63886	G	20.	9.	1.	4.	2.	9.	10.	4.	7.
63887	G	46.	2.	2.	8.	10.	-10.	10.	11.	3.
63895	G	14.	25.	4.	4.	6.	4.	12.	11.	3.
63910	G	40.	5.	-1.	8.	3.	7.	8.	3.	6.
63912	G	48.	6.	3.	-2.	0.	11.	12.	3.	11.
63914	G	57.	6.	-2.	3.	11.	8.	3.	7.	3.
63918	G	35.	1.	7.	4.	3.	-1.	-2.	10.	1.
63923	G	29.	7.	11.	2.	1.	7.	0.	12.	3.
63928	G	41.	3.	1.	9.	1.	8.	2.	9.	3.
63938	G	35.	2.	3.	5.	2.	2.	4.	7.	8.
MEAN		40.	4.	4.	3.	5.	7.	5.	7.	5.
S.D.		12.7	5.5	3.6	3.6	3.7	5.4	5.4	4.9	3.2
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

DAMS FROM GROUP 1: 0 MG/KG/DAY

	PREGNANCY STATUS	DAY14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
63816	G	11.	5.	5.	32.	13.	8.	6.	26.	83.
63817	G	7.	9.	13.	29.	9.	26.	13.	21.	108.
63818	G	6.	5.	-21.	9.	16.	9.	10.	3.	33.
63828	G	6.	9.	14.	24.	23.	13.	2.	17.	99.
63831	G	3.	5.	12.	7.	16.	15.	8.	15.	68.
63832	G	9.	7.	20.	22.	17.	16.	5.	26.	103.
63836	G	5.	11.	12.	12.	15.	18.	9.	26.	77.
63839	G	-1.	4.	5.	25.	11.	14.	8.	23.	67.
63841	G	4.	9.	15.	26.	27.	19.	11.	16.	128.
63852	G	3.	12.	13.	20.	22.	15.	12.	24.	95.
63867	G	-2.	13.	7.	25.	13.	13.	6.	21.	80.
63873	G	4.	14.	9.	21.	14.	13.	3.	10.	92.
63878	G	7.	5.	25.	19.	7.	15.	15.	20.	81.
63880	G	10.	4.	15.	17.	25.	21.	15.	19.	101.
63881	G	7.	6.	11.	25.	19.	15.	11.	13.	89.
63886	G	9.	11.	14.	12.	26.	19.	14.	21.	102.
63887	G	7.	7.	10.	10.	31.	18.	12.	10.	97.
63895	G	12.	5.	10.	13.	26.	19.	33.	22.	99.
63910	G	9.	5.	15.	13.	13.	24.	12.	18.	88.
63912	G	9.	8.	13.	18.	26.	24.	7.	23.	112.
63914	G	8.	15.	10.	31.	20.	19.	7.	22.	113.
63918	G	14.	11.	10.	1.	20.	23.	12.	0.	90.
63923	G	12.	9.	13.	19.	28.	21.	20.	8.	117.
63928	G	14.	9.	20.	17.	17.	32.	13.	11.	121.
63938	G	7.	11.	18.	15.	9.	26.	10.	8.	101.
MEAN		7.	8.	12.	18.	19.	18.	11.	17.	94.
S.D.		4.0	3.3	8.2	7.8	6.7	5.6	6.1	7.3	20.0
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 22

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

DAMS FROM GROUP 1: 0 MG/KG/DAY

	PREGNANCY STATUS	DAY 6-20	0-20	
63816	G	115.	155.	SCHEDULED NECROPSY DAY 20
63817	G	142.	182.	SCHEDULED NECROPSY DAY 20
63818	G	46.	78.	SCHEDULED NECROPSY DAY 20
63828	G	118.	164.	SCHEDULED NECROPSY DAY 20
63831	G	91.	128.	SCHEDULED NECROPSY DAY 20
63832	G	134.	193.	SCHEDULED NECROPSY DAY 20
63836	G	112.	140.	SCHEDULED NECROPSY DAY 20
63839	G	98.	128.	SCHEDULED NECROPSY DAY 20
63841	G	155.	205.	SCHEDULED NECROPSY DAY 20
63852	G	131.	161.	SCHEDULED NECROPSY DAY 20
63867	G	107.	177.	SCHEDULED NECROPSY DAY 20
63873	G	105.	160.	SCHEDULED NECROPSY DAY 20
63878	G	116.	146.	SCHEDULED NECROPSY DAY 20
63880	G	135.	170.	SCHEDULED NECROPSY DAY 20
63881	G	113.	160.	SCHEDULED NECROPSY DAY 20
63886	G	137.	157.	SCHEDULED NECROPSY DAY 20
63887	G	119.	165.	SCHEDULED NECROPSY DAY 20
63895	G	154.	168.	SCHEDULED NECROPSY DAY 20
63910	G	118.	158.	SCHEDULED NECROPSY DAY 20
63912	G	142.	190.	SCHEDULED NECROPSY DAY 20
63914	G	142.	199.	SCHEDULED NECROPSY DAY 20
63918	G	102.	137.	SCHEDULED NECROPSY DAY 20
63923	G	145.	174.	SCHEDULED NECROPSY DAY 20
63928	G	145.	186.	SCHEDULED NECROPSY DAY 20
63938	G	119.	154.	SCHEDULED NECROPSY DAY 20
MEAN		122.	161.	
S.D.		23.7	26.9	
N		25	25	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 2: 10 MG/KG/DAY										
63823	G	47.	0.	12.	3.	2.	-1.	9.	7.	-2.
63829	G	44.	5.	5.	4.	8.	6.	6.	11.	9.
63833	G	30.	-2.	8.	3.	-8.	8.	9.	7.	7.
63844	G	30.	6.	0.	10.	3.	11.	-5.	2.	4.
63847	G	40.	4.	6.	0.	4.	4.	11.	10.	6.
63854	G	27.	4.	0.	1.	-2.	13.	8.	2.	7.
63859	G	37.	2.	7.	1.	4.	7.	12.	-1.	12.
63861	G	24.	-1.	12.	-1.	7.	7.	1.	10.	3.
63864	G	36.	8.	3.	1.	4.	4.	12.	4.	7.
63868	G	44.	3.	9.	-7.	12.	3.	8.	12.	5.
63869	G	48.	0.	9.	-1.	11.	5.	11.	14.	1.
63874	G	24.	-2.	2.	9.	-8.	8.	4.	7.	10.
63877	G	46.	9.	4.	5.	0.	10.	11.	4.	6.
63903	G	35.	-2.	4.	4.	1.	12.	5.	0.	5.
63904	G	41.	4.	5.	0.	7.	6.	11.	8.	2.
63911	G	62.	-1.	0.	9.	2.	10.	1.	6.	9.
63915	G	61.	5.	-1.	6.	7.	8.	1.	8.	5.
63917	G	69.	9.	3.	4.	7.	10.	11.	5.	3.
63919	G	22.	-1.	3.	0.	3.	4.	10.	5.	1.
63924	G	37.	2.	-1.	2.	5.	8.	10.	9.	9.
63925	G	40.	-3.	3.	-5.	-1.	22.	-1.	8.	5.
63930	G	34.	7.	1.	2.	5.	13.	3.	-6.	2.
63935	G	55.	-1.	1.	-6.	5.	10.	5.	3.	5.
63937	G	27.	1.	12.	4.	-1.	12.	2.	12.	-2.
63939	G	29.	4.	0.	12.	2.	8.	10.	-32.	-11.
MEAN		40.	2.	4.	2.	3.	8.	7.	5.	4.
S.D.		12.5	3.7	4.1	4.7	4.8	4.4	4.7	8.9	4.7
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 2: 10 MG/KG/DAY										
63823	G	3.	-1.	-5.	0.	-15.	3.	15.	10.	-10.
63829	G	7.	11.	14.	23.	15.	19.	14.	20.	109.
63833	G	2.	8.	7.	13.	20.	13.	9.	9.	77.
63844	G	14.	1.	16.	22.	21.	19.	16.	9.	99.
63847	G	9.	5.	16.	15.	15.	20.	10.	19.	96.
63854	G	6.	11.	-1.	17.	22.	15.	5.	19.	79.
63859	G	2.	15.	10.	19.	24.	21.	10.	23.	102.
63861	G	13.	4.	12.	20.	18.	23.	10.	15.	103.
63864	G	7.	7.	16.	15.	29.	22.	12.	20.	107.
63868	G	9.	11.	13.	17.	13.	29.	5.	23.	109.
63869	G	6.	13.	13.	24.	15.	22.	8.	27.	108.
63874	G	8.	6.	16.	12.	25.	17.	9.	4.	101.
63877	G	9.	12.	9.	9.	26.	14.	18.	21.	89.
63903	G	3.	6.	9.	37.	14.	18.	6.	18.	92.
63904	G	9.	4.	16.	17.	22.	28.	9.	24.	106.
63911	G	5.	12.	12.	20.	20.	26.	8.	13.	110.
63915	G	9.	13.	14.	23.	22.	16.	10.	16.	110.
63917	G	17.	10.	13.	28.	16.	28.	16.	28.	120.
63919	G	11.	9.	18.	21.	28.	23.	2.	17.	116.
63924	G	6.	10.	8.	14.	28.	20.	3.	23.	104.
63925	G	14.	11.	9.	20.	20.	22.	-5.	20.	109.
63930	G	7.	9.	11.	23.	19.	13.	10.	21.	78.
63935	G	12.	5.	16.	22.	19.	15.	-6.	20.	97.
63937	G	15.	10.	11.	15.	18.	31.	17.	13.	110.
63939	G	22.	6.	12.	20.	22.	21.	16.	20.	60.
MEAN		9.	8.	11.	19.	19.	20.	9.	18.	95.
S.D.		4.9	3.9	5.3	6.9	8.4	6.1	6.2	5.8	26.0
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 2: 10 MG/KG/DAY				
63823	G	15.	62.	SCHEDULED NECROPSY DAY 20
63829	G	143.	187.	SCHEDULED NECROPSY DAY 20
63833	G	95.	125.	SCHEDULED NECROPSY DAY 20
63844	G	124.	154.	SCHEDULED NECROPSY DAY 20
63847	G	125.	165.	SCHEDULED NECROPSY DAY 20
63854	G	103.	130.	SCHEDULED NECROPSY DAY 20
63859	G	135.	172.	SCHEDULED NECROPSY DAY 20
63861	G	128.	152.	SCHEDULED NECROPSY DAY 20
63864	G	139.	175.	SCHEDULED NECROPSY DAY 20
63868	G	137.	181.	SCHEDULED NECROPSY DAY 20
63869	G	143.	191.	SCHEDULED NECROPSY DAY 20
63874	G	114.	138.	SCHEDULED NECROPSY DAY 20
63877	G	128.	174.	SCHEDULED NECROPSY DAY 20
63903	G	116.	151.	SCHEDULED NECROPSY DAY 20
63904	G	139.	180.	SCHEDULED NECROPSY DAY 20
63911	G	131.	193.	SCHEDULED NECROPSY DAY 20
63915	G	136.	197.	SCHEDULED NECROPSY DAY 20
63917	G	164.	233.	SCHEDULED NECROPSY DAY 20
63919	G	135.	157.	SCHEDULED NECROPSY DAY 20
63924	G	130.	167.	SCHEDULED NECROPSY DAY 20
63925	G	124.	164.	SCHEDULED NECROPSY DAY 20
63930	G	109.	143.	SCHEDULED NECROPSY DAY 20
63935	G	111.	166.	SCHEDULED NECROPSY DAY 20
63937	G	140.	167.	SCHEDULED NECROPSY DAY 20
63939	G	96.	125.	SCHEDULED NECROPSY DAY 20
MEAN		122.	162.	
S.D.		27.5	32.2	
N		25	25	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 3: 35 MG/KG/DAY										
63822	G	39.	0.	3.	9.	0.	13.	13.	11.	8.
63826	G	49.	3.	-20.	-2.	13.	6.	14.	5.	9.
63835	G	15.	-1.	-3.	-1.	-4.	11.	12.	9.	5.
63840	G	33.	1.	6.	4.	4.	2.	8.	10.	1.
63842	G	29.	-2.	5.	-1.	-2.	13.	4.	8.	7.
63845	G	23.	-14.	-14.	10.	8.	14.	9.	8.	7.
63848	NG	2.	-8.	9.	3.	3.	-14.	10.	4.	-1.
63857	G	49.	0.	-7.	-12.	-3.	1.	7.	5.	11.
63865	G	49.	-5.	-11.	0.	9.	9.	15.	14.	-33.
63871	NG	67.	4.	7.	7.	-2.	-8.	-26.	0.	7.
63876	G	43.	0.	2.	3.	8.	3.	10.	7.	14.
63882	NG	51.	-1.	4.	-6.	-24.	-26.	-10.	-7.	-7.
63885	G	27.	-8.	-5.	0.	4.	4.	4.	9.	9.
63890	G	29.	3.	4.	1.	0.	10.	4.	3.	7.
63891	G	64.	-6.	5.	0.	7.	9.	11.	5.	11.
63893	G	48.	4.	-6.	-7.	0.	2.	11.	0.	11.
63899	G	58.	-2.	9.	-2.	3.	2.	18.	5.	9.
63900	G	59.	-5.	-6.	-10.	-2.	14.	-1.	19.	3.
63901	G	43.	5.	-22.	3.	13.	5.	18.	8.	8.
63916	G	54.	2.	-2.	-11.	9.	10.	7.	16.	5.
63920	G	40.	0.	-23.	13.	-3.	15.	13.	11.	5.
63929	G	51.	-4.	10.	4.	2.	14.	8.	-3.	12.
63931	G	38.	-4.	4.	3.	7.	8.	6.	9.	3.
63932	G	32.	0.	6.	-1.	1.	3.	13.	1.	7.
63936	G	65.	1.	8.	-1.	12.	12.	5.	11.	4.
MEAN		43.	-1.	-3.	0.	4.	8.	10.	8.	6.
S.D.		13.5	4.4	10.1	6.3	5.4	4.8	4.8	5.1	9.2
N		22	22	22	22	22	22	22	22	22

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 3: 35 MG/KG/DAY										
63822	G	8.	4.	7.	18.	19.	18.	12.	26.	93.
63826	G	-23.	-1.	-6.	21.	28.	29.	-19.	33.	62.
63835	G	7.	7.	17.	9.	25.	17.	-5.	19.	96.
63840	G	11.	6.	14.	12.	13.	26.	11.	14.	93.
63842	G	5.	-2.	15.	17.	23.	13.	2.	15.	86.
63845	G	11.	10.	8.	17.	24.	20.	-18.	31.	105.
63848	NG	-6.	6.	0.	2.	-8.	11.	4.	-1.	8.
63857	G	6.	-4.	1.	3.	4.	3.	-19.	5.	29.
63865	G	-5.	6.	5.	31.	36.	-15.	-16.	33.	39.
63871	NG	19.	4.	-20.	15.	3.	8.	18.	-36.	36.
63876	G	-31.	-14.	-1.	-9.	-3.	22.	5.	21.	-15.
63882	NG	-2.	3.	8.	8.	3.	5.	-3.	-60.	11.
63885	G	4.	5.	10.	9.	21.	17.	-13.	12.	84.
63890	G	5.	7.	13.	9.	24.	14.	8.	14.	82.
63891	G	7.	3.	13.	30.	9.	3.	-1.	27.	81.
63893	G	17.	8.	-5.	30.	12.	32.	-9.	13.	105.
63899	G	11.	18.	11.	32.	16.	26.	5.	23.	128.
63900	G	6.	-2.	-5.	14.	7.	3.	-21.	11.	45.
63901	G	11.	13.	10.	26.	5.	17.	-14.	36.	98.
63916	G	1.	14.	5.	17.	23.	17.	-11.	26.	98.
63920	G	5.	-35.	-8.	-5.	-14.	-8.	-10.	25.	-49.
63929	G	1.	8.	10.	21.	21.	19.	10.	24.	89.
63931	G	12.	10.	21.	17.	24.	10.	3.	21.	106.
63932	G	6.	14.	-32.	-13.	-16.	-9.	5.	17.	-42.
63936	G	13.	8.	13.	30.	16.	26.	8.	29.	121.
MEAN		4.	4.	5.	15.	14.	14.	-4.	22.	70.
S.D.		11.2	11.2	11.6	12.8	13.1	12.7	11.3	8.3	49.4
N		22	22	22	22	22	22	22	22	22

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 3: 35 MG/KG/DAY				
63822	G	131.	170.	SCHEDULED NECROPSY DAY 20
63826	G	76.	125.	SCHEDULED NECROPSY DAY 20
63835	G	110.	125.	SCHEDULED NECROPSY DAY 20
63840	G	118.	151.	SCHEDULED NECROPSY DAY 20
63842	G	103.	132.	SCHEDULED NECROPSY DAY 20
63845	G	118.	141.	SCHEDULED NECROPSY DAY 20
63848	NG	11.	13.	SCHEDULED NECROPSY DAY 20
63857	G	15.	64.	SCHEDULED NECROPSY DAY 20
63865	G	56.	105.	SCHEDULED NECROPSY DAY 20
63871	NG	18.	85.	SCHEDULED NECROPSY DAY 20
63876	G	11.	54.	SCHEDULED NECROPSY DAY 20
63882	NG	-52.	-1.	SCHEDULED NECROPSY DAY 20
63885	G	83.	110.	SCHEDULED NECROPSY DAY 20
63890	G	104.	133.	SCHEDULED NECROPSY DAY 20
63891	G	107.	171.	SCHEDULED NECROPSY DAY 20
63893	G	109.	157.	SCHEDULED NECROPSY DAY 20
63899	G	156.	214.	SCHEDULED NECROPSY DAY 20
63900	G	35.	94.	SCHEDULED NECROPSY DAY 20
63901	G	120.	163.	SCHEDULED NECROPSY DAY 20
63916	G	113.	167.	SCHEDULED NECROPSY DAY 20
63920	G	-34.	6.	SCHEDULED NECROPSY DAY 20
63929	G	123.	174.	SCHEDULED NECROPSY DAY 20
63931	G	130.	168.	SCHEDULED NECROPSY DAY 20
63932	G	-20.	12.	GRAVID, DIED DAY 20
63936	G	158.	223.	SCHEDULED NECROPSY DAY 20
MEAN		87.	130.	
S.D.		54.1	56.9	
N		22	22	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 4: 50 MG/KG/DAY										
63820	G	24.	5.	-9.	-4.	10.	12.	10.	11.	8.
63821	G	29.	5.	3.	11.	6.	11.	11.	5.	7.
63824	G	38.	2.	-28.	9.	8.	4.	22.	8.	14.
63825	G	29.	2.	-19.	3.	0.	10.	5.	18.	4.
63827	NG	24.	9.	-22.	7.	-19.	NA	NA	NA	NA
63838	G	33.	-8.	3.	4.	7.	10.	6.	5.	5.
63846	G	30.	1.	-25.	6.	1.	18.	4.	8.	6.
63849	G	47.	3.	4.	5.	5.	4.	0.	6.	12.
63850	G	34.	6.	-10.	9.	0.	16.	11.	11.	0.
63858	G	44.	-14.	5.	7.	5.	3.	9.	5.	14.
63860	G	41.	6.	-27.	8.	-4.	9.	-18.	-9.	-5.
63863	G	33.	-6.	-10.	1.	11.	11.	13.	2.	11.
63872	G	38.	1.	-37.	7.	9.	2.	9.	17.	17.
63875	G	49.	-1.	-26.	5.	NA	NA	NA	NA	NA
63879	G	44.	1.	-4.	-16.	8.	18.	3.	14.	6.
63884	G	41.	-9.	-12.	-6.	4.	6.	18.	10.	4.
63889	G	3.	26.	-27.	NA	NA	NA	NA	NA	NA
63892	G	50.	-16.	-21.	4.	-7.	NA	NA	NA	NA
63894	G	36.	-2.	-9.	11.	8.	7.	7.	9.	-1.
63898	NG	-1.	-12.	3.	4.	1.	6.	4.	1.	-2.
63905	G	41.	-2.	7.	0.	8.	8.	9.	3.	4.
63908	G	28.	-1.	-14.	4.	-5.	13.	11.	16.	11.
63922	G	49.	-8.	-7.	3.	14.	12.	2.	6.	3.
63926	G	36.	-36.	-3.	12.	11.	7.	22.	7.	3.
63933	G	31.	4.	-26.	-6.	NA	NA	NA	NA	NA
MEAN		36.	-2.	-13.	4.	5.	10.	8.	8.	6.
S.D.		10.3	11.2	12.7	6.7	5.7	4.7	8.8	6.2	5.6
N		23	23	23	22	20	19	19	19	19

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 4: 50 MG/KG/DAY										
63820	G	7.	10.	20.	10.	26.	29.	-8.	32.	121.
63821	G	-2.	25.	22.	16.	36.	2.	19.	28.	111.
63824	G	7.	11.	7.	22.	12.	29.	-17.	34.	110.
63825	G	-2.	-5.	2.	-1.	13.	1.	-14.	15.	30.
63827	NG	NA	NA	NA	NA	NA	NA	-6.	NA	NA
63838	G	4.	10.	11.	16.	18.	8.	-1.	23.	77.
63846	G	-5.	19.	12.	26.	11.	9.	-18.	23.	86.
63849	G	9.	9.	9.	8.	15.	23.	12.	9.	91.
63850	G	3.	9.	5.	17.	28.	21.	5.	27.	94.
63858	G	-25.	NA	NA	NA	NA	NA	-2.	17.	NA
63860	G	-14.	8.	22.	24.	7.	5.	-13.	-13.	38.
63863	G	4.	13.	11.	28.	13.	8.	-15.	35.	90.
63872	G	8.	10.	12.	16.	22.	18.	-29.	20.	120.
63875	G	NA	NA	NA	NA	NA	NA	-22.	NA	NA
63879	G	0.	8.	19.	24.	19.	24.	-19.	29.	114.
63884	G	-1.	11.	17.	23.	18.	12.	-27.	28.	94.
63889	G	NA	NA	NA	NA	NA	NA	NA	NA	NA
63892	G	NA	NA	NA	NA	NA	NA	-33.	NA	NA
63894	G	5.	8.	-2.	6.	6.	20.	0.	22.	51.
63898	NG	10.	0.	-1.	-2.	9.	-1.	-5.	11.	14.
63905	G	9.	9.	11.	26.	16.	20.	5.	25.	98.
63908	G	12.	8.	11.	17.	26.	20.	-11.	19.	121.
63922	G	0.	17.	1.	8.	21.	12.	-12.	28.	68.
63926	G	5.	13.	23.	19.	9.	15.	-27.	40.	94.
63933	G	NA	NA	NA	NA	NA	NA	-28.	NA	NA
MEAN		1.	11.	12.	17.	18.	15.	-12.	23.	89.
S.D.		8.8	6.0	7.5	8.1	7.9	8.7	14.1	11.5	27.5
N		19	18	18	18	18	18	22	19	18

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE

TABLE 22
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES DURING GESTATION [G]

	PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 4: 50 MG/KG/DAY				
63820	G	145.	169.	SCHEDULED NECROPSY DAY 20
63821	G	158.	187.	SCHEDULED NECROPSY DAY 20
63824	G	127.	165.	SCHEDULED NECROPSY DAY 20
63825	G	31.	60.	SCHEDULED NECROPSY DAY 20
63827	NG	NA	NA	NONGRAVID, DIED DAY 11
63838	G	99.	132.	SCHEDULED NECROPSY DAY 20
63846	G	91.	121.	SCHEDULED NECROPSY DAY 20
63849	G	112.	159.	SCHEDULED NECROPSY DAY 20
63850	G	126.	160.	SCHEDULED NECROPSY DAY 20
63858	G	NA	NA	GRAVID, DIED DAY 16
63860	G	12.	53.	SCHEDULED NECROPSY DAY 20
63863	G	110.	143.	SCHEDULED NECROPSY DAY 20
63872	G	111.	149.	SCHEDULED NECROPSY DAY 20
63875	G	NA	NA	GRAVID, DIED DAY 10
63879	G	124.	168.	SCHEDULED NECROPSY DAY 20
63884	G	95.	136.	SCHEDULED NECROPSY DAY 20
63889	G	NA	NA	GRAVID, DIED DAY 9
63892	G	NA	NA	GRAVID, DIED DAY 11
63894	G	73.	109.	SCHEDULED NECROPSY DAY 20
63898	NG	20.	19.	SCHEDULED NECROPSY DAY 20
63905	G	128.	169.	SCHEDULED NECROPSY DAY 20
63908	G	129.	157.	SCHEDULED NECROPSY DAY 20
63922	G	84.	133.	SCHEDULED NECROPSY DAY 20
63926	G	107.	143.	SCHEDULED NECROPSY DAY 20
63933	G	NA	NA	GRAVID, DIED DAY 10
MEAN		103.	140.	
S.D.		36.6	35.9	
N		18	18	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE

TABLE 23

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL GRAVID UTERINE WTS. AND NET BODY WT. CHANGES [G]

DAM #	PREGNANCY STATUS	INITIAL BODY WT.	TERMINAL BODY WT.	GRAVID UTERINE WT.	NET BODY WT.	NET BODY WT. CHANGE
GROUP 1: 0 MG/KG/DAY						
63816	G	279.	434.	74.5	359.5	80.5
63817	G	268.	450.	92.4	357.6	89.6
63818	G	237.	315.	29.2	285.8	48.8
63828	G	256.	420.	104.2	315.8	59.8
63831	G	254.	382.	80.9	301.1	47.1
63832	G	264.	457.	87.4	369.6	105.6
63836	G	253.	393.	81.9	311.1	58.1
63839	G	263.	391.	43.1	347.9	84.9
63841	G	269.	474.	103.3	370.7	101.7
63852	G	272.	433.	93.0	340.0	68.0
63867	G	246.	423.	78.8	344.2	98.2
63873	G	242.	402.	87.9	314.1	72.1
63878	G	263.	409.	76.7	332.3	69.3
63880	G	268.	438.	100.9	337.1	69.1
63881	G	248.	408.	80.2	327.8	79.8
63886	G	294.	451.	90.8	360.2	66.2
63887	G	258.	423.	99.9	323.1	65.1
63895	G	282.	450.	94.9	355.1	73.1
63910	G	242.	400.	79.6	320.4	78.4
63912	G	246.	436.	101.1	334.9	88.9
63914	G	237.	436.	114.4	321.6	84.6
63918	G	246.	383.	80.3	302.7	56.7
63923	G	265.	439.	112.7	326.3	61.3
63928	G	277.	463.	103.3	359.7	82.7
63938	G	251.	405.	92.9	312.1	61.1
MEAN		259.	421.	87.4	333.2	74.0
S.D.		14.9	33.6	19.12	22.93	15.66
N		25	25	25	25	25

G = GRAVID

TABLE 23

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL GRAVID UTERINE WTS. AND NET BODY WT. CHANGES [G]

DAM #	PREGNANCY STATUS	INITIAL BODY WT.	TERMINAL BODY WT.	GRAVID UTERINE WT.	NET BODY WT.	NET BODY WT. CHANGE
GROUP 2: 10 MG/KG/DAY						
63823	G	252.	314.	3.3	310.7	58.7
63829	G	275.	462.	98.8	363.2	88.2
63833	G	264.	389.	71.3	317.7	53.7
63844	G	271.	425.	96.4	328.6	57.6
63847	G	241.	406.	89.7	316.3	75.3
63854	G	257.	387.	86.0	301.0	44.0
63859	G	276.	448.	106.7	341.3	65.3
63861	G	260.	412.	100.1	311.9	51.9
63864	G	266.	441.	99.3	341.7	75.7
63868	G	247.	428.	97.6	330.4	83.4
63869	G	251.	442.	102.6	339.4	88.4
63874	G	238.	376.	92.3	283.7	45.7
63877	G	225.	399.	81.3	317.7	92.7
63903	G	258.	409.	94.6	314.4	56.4
63904	G	261.	441.	91.8	349.2	88.2
63911	G	227.	420.	107.3	312.7	85.7
63915	G	265.	462.	104.4	357.6	92.6
63917	G	285.	518.	111.3	406.7	121.7
63919	G	289.	446.	107.2	338.8	49.8
63924	G	251.	418.	98.2	319.8	68.8
63925	G	258.	422.	102.3	319.7	61.7
63930	G	245.	388.	68.9	319.1	74.1
63935	G	247.	413.	96.2	316.8	69.8
63937	G	277.	444.	103.4	340.6	63.6
63939	G	299.	424.	70.9	353.1	54.1
MEAN		259.	421.	91.3	330.1	70.7
S.D.		18.2	37.5	21.65	24.51	18.61
N		25	25	25	25	25

G = GRAVID

TABLE 23

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL GRAVID UTERINE WTS. AND NET BODY WT. CHANGES [G]

DAM #	PREGNANCY STATUS	INITIAL BODY WT.	TERMINAL BODY WT.	GRAVID UTERINE WT.	NET BODY WT.	NET BODY WT. CHANGE
GROUP 3: 35 MG/KG/DAY						
63822	G	277.	447.	65.8	381.2	104.2
63826	G	253.	378.	87.5	290.5	37.5
63835	G	238.	363.	92.8	270.2	32.2
63840	G	254.	405.	84.8	320.2	66.2
63842	G	228.	360.	75.9	284.1	56.1
63845	G	251.	392.	92.6	299.4	48.4
63848	NG	243.	256.	NA	NA	NA
63857	G	264.	328.	2.8	325.2	61.2
63865	G	257.	362.	87.7	274.3	17.3
63871	NG	249.	334.	NA	NA	NA
63876	G	264.	318.	68.6	249.4	-14.6
63882	NG	283.	282.	NA	NA	NA
63885	G	267.	377.	63.5	313.5	46.5
63890	G	259.	392.	79.8	312.2	53.2
63891	G	247.	418.	93.0	325.0	78.0
63893	G	266.	423.	88.8	334.2	68.2
63899	G	277.	491.	106.6	384.4	107.4
63900	G	242.	336.	3.2	332.8	90.8
63901	G	273.	436.	90.7	345.3	72.3
63916	G	270.	437.	81.3	355.7	85.7
63920	G	273.	279.	50.6	228.4	-44.6
63929	G	243.	417.	76.9	340.1	97.1
63931	G	268.	436.	94.9	341.1	73.1
63936	G	268.	491.	109.1	381.9	113.9
MEAN		259.	395.	76.0	318.5	59.5
S.D.		13.6	54.5	27.95	42.12	39.26
N		21	21	21	21	21

G = GRAVID, NG = NONGRAVID, NOT INCLUDED IN CALCULATION OF THE MEAN
NA = NOT APPLICABLE

TABLE 23
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL GRAVID UTERINE WTS. AND NET BODY WT. CHANGES [G]

DAM #	PREGNANCY STATUS	INITIAL BODY WT.	TERMINAL BODY WT.	GRAVID UTERINE WT.	NET BODY WT.	NET BODY WT. CHANGE
GROUP 4: 50 MG/KG/DAY						
63820	G	273.	442.	99.4	342.6	69.6
63821	G	272.	459.	105.6	353.4	81.4
63824	G	289.	454.	103.0	351.0	62.0
63825	G	262.	322.	2.6	319.4	57.4
63838	G	234.	366.	90.7	275.3	41.3
63846	G	269.	390.	85.4	304.6	35.6
63849	G	246.	405.	84.2	320.8	74.8
63850	G	256.	416.	88.4	327.6	71.6
63860	G	247.	300.	1.8	298.2	51.2
63863	G	264.	407.	98.9	308.1	44.1
63872	G	273.	422.	83.6	338.4	65.4
63879	G	251.	419.	97.0	322.0	71.0
63884	G	274.	410.	79.2	330.8	56.8
63894	G	256.	365.	27.7	337.3	81.3
63898	NG	252.	271.	NA	NA	NA
63905	G	237.	406.	95.2	310.8	73.8
63908	G	246.	403.	83.9	319.1	73.1
63922	G	279.	412.	49.7	362.3	83.3
63926	G	268.	411.	100.2	310.8	42.8
MEAN		261.	401.	76.5	324.0	63.1
S.D.		15.2	40.8	33.11	21.59	15.00
N		18	18	18	18	18

G = GRAVID, NG = NONGRAVID, NOT INCLUDED IN CALCULATION OF THE MEAN
NA = NOT APPLICABLE

TABLE 24
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 1: 0 MG/KG/DAY										
63816	G	23.	27.	25.	27.	28.	28.	29.	28.	29.
63817	G	22.	A	26.	32.	32.	30.	28.	28.	31.
63818	G	22.	24.	23.	22.	19.	21.	21.	25.	23.
63828	G	25.	28.	25.	26.	25.	28.	24.	26.	26.
63831	G	24.	A	26.	25.	24.	29.	23.	27.	24.
63832	G	27.	27.	27.	31.	30.	29.	31.	28.	28.
63836	G	20.	23.	25.	23.	25.	25.	28.	25.	24.
63839	G	14.	23.	24.	26.	22.	26.	26.	27.	28.
63841	G	28.	28.	26.	32.	31.	33.	29.	36.	33.
63852	G	20.	27.	25.	25.	29.	28.	29.	29.	23.
63867	G	25.	28.	25.	31.	28.	25.	27.	29.	28.
63873	G	16.	24.	25.	25.	27.	24.	18.	24.	23.
63878	G	17.	27.	28.	29.	31.	31.	29.	28.	29.
63880	G	19.	27.	26.	27.	30.	25.	28.	25.	27.
63881	G	19.	28.	24.	31.	27.	18.	25.	25.	26.
63886	G	25.	28.	24.	27.	27.	29.	30.	26.	28.
63887	G	26.	31.	31.	25.	35.	26.	29.	34.	26.
63895	G	23.	32.	31.	30.	37.	32.	33.	36.	29.
63910	G	23.	16.	A	25.	24.	25.	26.	25.	24.
63912	G	17.	25.	28.	22.	26.	26.	29.	31.	25.
63914	G	20.	26.	26.	28.	28.	28.	28.	29.	27.
63918	G	19.	28.	23.	22.	21.	23.	25.	21.	20.
63923	G	19.	28.	27.	26.	26.	25.	23.	27.	24.
63928	G	26.	18.	27.	30.	23.	29.	25.	30.	26.
63938	G	21.	A	23.	25.	23.	24.	26.	23.	26.
MEAN		22.	26.	26.	27.	27.	27.	27.	28.	26.
S.D.		3.7	3.7	2.1	3.2	4.2	3.4	3.3	3.7	2.9
N		25	22	24	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
A = ERRONEOUS WEIGHT

TABLE 24
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

	PREGNANCY STATUS	DAY 14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 1: 0 MG/KG/DAY										
63816	G	31.	30.	29.	34.	31.	29.	26.	28.	30.
63817	G	27.	30.	34.	38.	33.	34.	29.	30.	32.
63818	G	24.	26.	5.	19.	19.	23.	23.	20.	21.
63828	G	27.	26.	30.	28.	29.	26.	26.	26.	27.
63831	G	23.	23.	27.	26.	26.	23.	26.	25.	25.
63832	G	34.	30.	34.	30.	32.	30.	28.	30.	31.
63836	G	28.	30.	28.	30.	25.	28.	24.	26.	27.
63839	G	26.	27.	29.	28.	31.	29.	24.	25.	28.
63841	G	34.	34.	35.	35.	37.	33.	29.	31.	35.
63852	G	21.	29.	27.	33.	27.	29.	26.	29.	27.
63867	G	28.	31.	27.	27.	28.	25.	28.	27.	28.
63873	G	25.	27.	26.	27.	25.	25.	25.	23.	25.
63878	G	29.	27.	33.	31.	27.	26.	28.	30.	29.
63880	G	29.	32.	29.	32.	26.	31.	27.	28.	29.
63881	G	27.	27.	32.	29.	30.	27.	28.	23.	28.
63886	G	28.	36.	31.	31.	31.	28.	26.	29.	30.
63887	G	29.	27.	29.	29.	29.	26.	29.	30.	29.
63895	G	34.	35.	31.	34.	30.	30.	31.	34.	32.
63910	G	26.	25.	27.	29.	28.	25.	21.	25.	26.
63912	G	28.	30.	32.	32.	30.	29.	25.	27.	30.
63914	G	33.	34.	30.	33.	31.	29.	27.	28.	31.
63918	G	23.	24.	27.	20.	26.	23.	24.	23.	23.
63923	G	28.	28.	27.	32.	30.	28.	27.	25.	28.
63928	G	29.	27.	35.	32.	33.	30.	25.	26.	30.
63938	G	22.	29.	30.	32.	28.	25.	24.	24.	27.
MEAN		28.	29.	29.	30.	29.	28.	26.	27.	28.
S.D.		3.6	3.4	5.7	4.2	3.5	2.9	2.3	3.1	3.0
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 24

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

	PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 1: 0 MG/KG/DAY				
63816	G	29.	27.	SCHEDULED NECROPSY DAY 20
63817	G	31.	28.	SCHEDULED NECROPSY DAY 20
63818	G	21.	21.	SCHEDULED NECROPSY DAY 20
63828	G	27.	26.	SCHEDULED NECROPSY DAY 20
63831	G	25.	25.	SCHEDULED NECROPSY DAY 20
63832	G	30.	29.	SCHEDULED NECROPSY DAY 20
63836	G	26.	24.	SCHEDULED NECROPSY DAY 20
63839	G	27.	23.	SCHEDULED NECROPSY DAY 20
63841	G	33.	31.	SCHEDULED NECROPSY DAY 20
63852	G	27.	25.	SCHEDULED NECROPSY DAY 20
63867	G	28.	27.	SCHEDULED NECROPSY DAY 20
63873	G	25.	22.	SCHEDULED NECROPSY DAY 20
63878	G	29.	25.	SCHEDULED NECROPSY DAY 20
63880	G	28.	25.	SCHEDULED NECROPSY DAY 20
63881	G	27.	25.	SCHEDULED NECROPSY DAY 20
63886	G	29.	28.	SCHEDULED NECROPSY DAY 20
63887	G	29.	28.	SCHEDULED NECROPSY DAY 20
63895	G	32.	29.	SCHEDULED NECROPSY DAY 20
63910	G	25.	24.	SCHEDULED NECROPSY DAY 20
63912	G	28.	25.	SCHEDULED NECROPSY DAY 20
63914	G	29.	27.	SCHEDULED NECROPSY DAY 20
63918	G	23.	22.	SCHEDULED NECROPSY DAY 20
63923	G	27.	25.	SCHEDULED NECROPSY DAY 20
63928	G	28.	28.	SCHEDULED NECROPSY DAY 20
63938	G	26.	24.	SCHEDULED NECROPSY DAY 20
MEAN		28.	26.	
S.D.		2.6	2.5	
N		25	25	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 24
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 2: 10 MG/KG/DAY										
63823	G	35.	A	29.	26.	27.	21.	26.	26.	24.
63829	G	28.	34.	30.	30.	35.	31.	33.	35.	33.
63833	G	20.	25.	28.	26.	23.	27.	26.	27.	26.
63844	G	24.	28.	25.	26.	28.	29.	19.	24.	22.
63847	G	25.	A	25.	23.	22.	34.	29.	28.	25.
63854	G	25.	25.	22.	22.	19.	26.	25.	24.	24.
63859	G	22.	27.	31.	26.	31.	29.	29.	27.	31.
63861	G	25.	A	26.	22.	23.	27.	22.	27.	23.
63864	G	25.	27.	26.	26.	28.	26.	27.	27.	24.
63868	G	27.	A	26.	21.	25.	28.	28.	28.	27.
63869	G	19.	24.	25.	26.	28.	23.	30.	29.	27.
63874	G	17.	17.	21.	23.	16.	20.	23.	21.	22.
63877	G	23.	26.	26.	25.	28.	29.	30.	27.	29.
63903	G	21.	26.	24.	28.	28.	28.	28.	21.	26.
63904	G	25.	A	26.	25.	26.	27.	31.	31.	24.
63911	G	21.	28.	22.	30.	25.	28.	26.	28.	26.
63915	G	24.	28.	24.	31.	34.	28.	29.	31.	27.
63917	G	36.	33.	29.	29.	35.	30.	32.	33.	31.
63919	G	19.	25.	24.	22.	24.	23.	27.	25.	22.
63924	G	21.	26.	23.	22.	28.	27.	29.	26.	29.
63925	G	22.	22.	26.	18.	25.	27.	27.	29.	25.
63930	G	12.	24.	22.	24.	23.	24.	27.	15.	16.
63935	G	17.	22.	24.	18.	22.	22.	23.	25.	26.
63937	G	21.	28.	28.	28.	25.	31.	27.	30.	21.
63939	G	27.	27.	A	30.	32.	31.	33.	11.	2.
MEAN		23.	26.	26.	25.	26.	27.	27.	26.	24.
S.D.		5.2	3.7	2.7	3.6	4.7	3.4	3.4	5.1	5.9
N		25	20	24	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
A = ERRONEOUS WEIGHT

TABLE 24
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

	PREGNANCY STATUS	DAY 14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 2: 10 MG/KG/DAY										
63823	G	25.	23.	20.	21.	16.	13.	28.	25.	21.
63829	G	37.	39.	38.	36.	33.	32.	31.	33.	35.
63833	G	24.	30.	26.	27.	27.	26.	26.	25.	27.
63844	G	28.	27.	27.	27.	29.	27.	26.	25.	26.
63847	G	27.	27.	33.	31.	28.	25.	24.	28.	28.
63854	G	24.	28.	21.	30.	27.	27.	23.	23.	26.
63859	G	26.	35.	30.	34.	30.	30.	28.	30.	30.
63861	G	27.	22.	25.	28.	29.	23.	24.	24.	26.
63864	G	28.	28.	30.	30.	29.	31.	26.	27.	28.
63868	G	27.	28.	33.	31.	31.	29.	24.	27.	29.
63869	G	28.	32.	29.	29.	29.	26.	25.	27.	29.
63874	G	23.	28.	30.	27.	27.	26.	20.	20.	26.
63877	G	30.	33.	32.	29.	30.	28.	26.	29.	30.
63903	G	24.	27.	27.	28.	28.	25.	26.	28.	26.
63904	G	29.	28.	31.	31.	35.	28.	26.	28.	30.
63911	G	31.	31.	29.	27.	27.	29.	27.	26.	29.
63915	G	30.	32.	34.	32.	32.	28.	28.	30.	31.
63917	G	37.	36.	38.	35.	37.	36.	30.	32.	35.
63919	G	27.	27.	29.	31.	27.	30.	24.	25.	27.
63924	G	27.	30.	26.	32.	30.	31.	24.	28.	29.
63925	G	29.	30.	28.	28.	30.	32.	22.	26.	29.
63930	G	22.	25.	27.	27.	29.	23.	23.	25.	23.
63935	G	27.	26.	29.	23.	30.	24.	21.	22.	26.
63937	G	27.	28.	36.	32.	35.	29.	28.	28.	30.
63939	G	18.	28.	29.	37.	28.	34.	29.	32.	23.
MEAN		27.	29.	29.	30.	29.	28.	26.	27.	28.
S.D.		4.1	3.9	4.4	3.7	3.9	4.5	2.7	3.1	3.2
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 24
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 2: 10 MG/KG/DAY			
63823 G	23.	27.	SCHEDULED NECROPSY DAY 20
63829 G	34.	32.	SCHEDULED NECROPSY DAY 20
63833 G	26.	24.	SCHEDULED NECROPSY DAY 20
63844 G	26.	26.	SCHEDULED NECROPSY DAY 20
63847 G	27.	27.	SCHEDULED NECROPSY DAY 20
63854 G	25.	25.	SCHEDULED NECROPSY DAY 20
63859 G	30.	27.	SCHEDULED NECROPSY DAY 20
63861 G	25.	25.	SCHEDULED NECROPSY DAY 20
63864 G	28.	27.	SCHEDULED NECROPSY DAY 20
63868 G	28.	28.	SCHEDULED NECROPSY DAY 20
63869 G	28.	25.	SCHEDULED NECROPSY DAY 20
63874 G	23.	21.	SCHEDULED NECROPSY DAY 20
63877 G	29.	27.	SCHEDULED NECROPSY DAY 20
63903 G	26.	25.	SCHEDULED NECROPSY DAY 20
63904 G	29.	27.	SCHEDULED NECROPSY DAY 20
63911 G	28.	26.	SCHEDULED NECROPSY DAY 20
63915 G	30.	28.	SCHEDULED NECROPSY DAY 20
63917 G	34.	34.	SCHEDULED NECROPSY DAY 20
63919 G	26.	24.	SCHEDULED NECROPSY DAY 20
63924 G	28.	26.	SCHEDULED NECROPSY DAY 20
63925 G	27.	25.	SCHEDULED NECROPSY DAY 20
63930 G	23.	20.	SCHEDULED NECROPSY DAY 20
63935 G	24.	22.	SCHEDULED NECROPSY DAY 20
63937 G	29.	26.	SCHEDULED NECROPSY DAY 20
63939 G	26.	26.	SCHEDULED NECROPSY DAY 20
MEAN	27.	26.	
S.D.	2.9	2.9	
N	25	25	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 24

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 3: 35 MG/KG/DAY									
63822 G	29.	25.	27.	28.	31.	33.	38.	33.	32.
63826 G	26.	22.	16.	12.	22.	20.	26.	23.	28.
63835 G	19.	18.	13.	11.	8.	13.	17.	20.	21.
63840 G	29.	22.	26.	25.	25.	29.	28.	28.	27.
63842 G	21.	20.	20.	18.	20.	23.	21.	24.	25.
63845 G	13.	8.	9.	12.	17.	21.	23.	26.	26.
63848 NG	17.	10.	19.	19.	19.	12.	18.	20.	19.
63857 G	26.	27.	22.	10.	12.	12.	20.	25.	24.
63865 G	20.	22.	11.	18.	21.	21.	26.	A	5.
63871 NG	29.	30.	32.	33.	26.	30.	4.	8.	14.
63876 G	18.	26.	24.	26.	26.	22.	28.	26.	30.
63882 NG	24.	25.	27.	25.	3.	1.	3.	3.	5.
63885 G	17.	16.	14.	13.	17.	18.	18.	20.	23.
63890 G	17.	21.	25.	24.	25.	27.	28.	26.	27.
63891 G	20.	23.	24.	25.	26.	27.	30.	30.	30.
63893 G	30.	29.	21.	19.	16.	19.	23.	25.	21.
63899 G	36.	27.	32.	28.	28.	32.	36.	35.	31.
63900 G	28.	23.	12.	18.	10.	17.	19.	25.	23.
63901 G	29.	24.	12.	14.	20.	23.	34.	33.	26.
63916 G	29.	26.	25.	23.	21.	22.	27.	31.	30.
63920 G	20.	33.	10.	18.	19.	25.	24.	29.	28.
63929 G	17.	23.	26.	30.	24.	25.	30.	25.	25.
63931 G	18.	24.	28.	24.	25.	26.	27.	27.	29.
63932 G	26.	19.	20.	20.	17.	21.	26.	21.	26.
63936 G	26.	32.	31.	34.	33.	34.	34.	33.	28.
MEAN	23.	23.	20.	20.	21.	23.	27.	27.	26.
S.D.	5.9	5.4	7.1	6.8	6.4	5.8	5.7	4.4	5.5
N	22	22	22	22	22	22	22	21	22

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
A = ERRONEOUS WEIGHT

TABLE 24
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

	PREGNANCY STATUS	DAY 14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 3: 35 MG/KG/DAY										
63822	G	36.	33.	37.	39.	31.	36.	27.	34.	35.
63826	G	5.	10.	15.	18.	29.	28.	17.	23.	20.
63835	G	20.	24.	22.	25.	26.	23.	14.	13.	23.
63840	G	28.	27.	29.	29.	29.	27.	24.	27.	28.
63842	G	24.	22.	26.	28.	27.	A	19.	21.	25.
63845	G	27.	27.	26.	31.	29.	26.	10.	20.	27.
63848	NG	13.	18.	19.	20.	15.	18.	16.	16.	18.
63857	G	25.	25.	26.	27.	19.	23.	20.	15.	24.
63865	G	8.	9.	20.	25.	B	10.	17.	23.	13.
63871	NG	26.	28.	12.	26.	32.	27.	32.	20.	22.
63876	G	3.	4.	3.	5.	7.	12.	25.	25.	11.
63882	NG	9.	14.	17.	17.	19.	21.	26.	2.	13.
63885	G	21.	24.	25.	26.	26.	26.	14.	18.	24.
63890	G	25.	29.	31.	28.	29.	25.	23.	27.	28.
63891	G	30.	33.	27.	33.	21.	17.	24.	28.	28.
63893	G	A	36.	36.	25.	33.	42.	23.	19.	31.
63899	G	33.	41.	37.	A	A	35.	29.	32.	35.
63900	G	29.	27.	27.	25.	29.	28.	18.	15.	27.
63901	G	28.	34.	34.	35.	33.	29.	17.	26.	32.
63916	G	30.	32.	30.	31.	36.	34.	25.	23.	32.
63920	G	28.	3.	5.	11.	1.	1.	20.	23.	13.
63929	G	30.	29.	30.	28.	32.	30.	26.	26.	29.
63931	G	28.	27.	27.	28.	32.	29.	25.	26.	28.
63932	G	22.	27.	4.	0.	1.	2.	20.	21.	13.
63936	G	34.	36.	36.	A	B	32.	32.	34.	33.
MEAN		24.	25.	25.	25.	25.	25.	21.	24.	25.
S.D.		9.0	10.3	10.2	9.6	10.5	10.7	5.3	5.7	7.3
N		21	22	22	20	19	21	22	22	22

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
A = ERRONEOUS WEIGHT
B = WEIGHT NOT DETERMINED DUE TO FOOD SPILLAGE

TABLE 24

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

	PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 3: 35 MG/KG/DAY				
63822	G	33.	32.	SCHEDULED NECROPSY DAY 20
63826	G	20.	22.	SCHEDULED NECROPSY DAY 20
63835	G	19.	19.	SCHEDULED NECROPSY DAY 20
63840	G	27.	28.	SCHEDULED NECROPSY DAY 20
63842	G	23.	22.	SCHEDULED NECROPSY DAY 20
63845	G	22.	19.	SCHEDULED NECROPSY DAY 20
63848	NG	17.	17.	SCHEDULED NECROPSY DAY 20
63857	G	21.	23.	SCHEDULED NECROPSY DAY 20
63865	G	16.	18.	SCHEDULED NECROPSY DAY 20
63871	NG	23.	25.	SCHEDULED NECROPSY DAY 20
63876	G	17.	17.	SCHEDULED NECROPSY DAY 20
63882	NG	14.	17.	SCHEDULED NECROPSY DAY 20
63885	G	21.	19.	SCHEDULED NECROPSY DAY 20
63890	G	26.	24.	SCHEDULED NECROPSY DAY 20
63891	G	27.	25.	SCHEDULED NECROPSY DAY 20
63893	G	27.	27.	SCHEDULED NECROPSY DAY 20
63899	G	33.	34.	SCHEDULED NECROPSY DAY 20
63900	G	22.	24.	SCHEDULED NECROPSY DAY 20
63901	G	27.	28.	SCHEDULED NECROPSY DAY 20
63916	G	28.	29.	SCHEDULED NECROPSY DAY 20
63920	G	17.	18.	SCHEDULED NECROPSY DAY 20
63929	G	28.	24.	SCHEDULED NECROPSY DAY 20
63931	G	27.	25.	SCHEDULED NECROPSY DAY 20
63932	G	16.	19.	GRAVID, DIED DAY 20
63936	G	33.	31.	SCHEDULED NECROPSY DAY 20
MEAN		24.	24.	
S.D.		5.4	4.9	
N		22	22	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 24
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

DAMS FROM GROUP 4: 50 MG/KG/DAY

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
63820	G	18.	25.	18.	13.	19.	22.	28.	30.	30.
63821	G	20.	27.	26.	27.	28.	32.	33.	33.	28.
63824	G	21.	28.	9.	14.	21.	20.	33.	31.	36.
63825	G	18.	22.	14.	13.	13.	18.	22.	28.	22.
63827	NG	19.	25.	15.	11.	3.	NA	NA	NA	NA
63838	G	24.	15.	16.	17.	15.	23.	24.	24.	25.
63846	G	19.	26.	8.	12.	15.	24.	24.	28.	25.
63849	G	27.	23.	23.	24.	21.	23.	27.	21.	25.
63850	G	20.	27.	17.	16.	18.	26.	28.	30.	24.
63858	G	26.	A	21.	24.	22.	25.	27.	22.	A
63860	G	26.	20.	8.	12.	12.	17.	8.	6.	6.
63863	G	19.	22.	11.	13.	20.	19.	31.	23.	26.
63872	G	20.	25.	7.	7.	16.	17.	23.	35.	32.
63875	G	18.	20.	2.	3.	NA	NA	NA	NA	NA
63879	G	17.	24.	19.	8.	18.	24.	24.	31.	27.
63884	G	23.	20.	15.	16.	15.	17.	28.	28.	31.
63889	G	21.	19.	11.	NA	NA	NA	NA	NA	NA
63892	G	14.	15.	4.	4.	0.	NA	NA	NA	NA
63894	G	22.	22.	14.	18.	20.	22.	29.	28.	25.
63898	NG	21.	7.	17.	12.	13.	18.	21.	19.	30.
63905	G	24.	21.	26.	24.	27.	26.	29.	28.	27.
63908	G	16.	16.	9.	13.	10.	16.	19.	27.	26.
63922	G	40.	21.	16.	17.	24.	30.	26.	27.	26.
63926	G	24.	5.	10.	15.	17.	22.	27.	32.	29.
63933	G	18.	19.	5.	2.	NA	NA	NA	NA	NA
MEAN		22.	21.	13.	14.	18.	22.	26.	27.	26.
S.D.		5.3	5.2	6.7	6.8	6.2	4.4	5.6	6.3	6.0
N		23	22	23	22	20	19	19	19	18

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE
A = ERRONEOUS WEIGHT

TABLE 24
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

	PREGNANCY STATUS	DAY 14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 4: 50 MG/KG/DAY										
63820	G	33.	29.	33.	24.	32.	34.	19.	23.	31.
63821	G	28.	39.	35.	38.	41.	24.	27.	31.	33.
63824	G	36.	36.	32.	41.	21.	33.	17.	25.	33.
63825	G	26.	23.	22.	26.	21.	23.	16.	18.	24.
63827	NG	NA	NA	NA	NA	NA	NA	17.	NA	NA
63838	G	A	27.	39.	25.	27.	14.	16.	21.	26.
63846	G	22.	29.	29.	29.	30.	20.	15.	21.	27.
63849	G	36.	A	31.	26.	41.	A	23.	24.	30.
63850	G	27.	28.	27.	33.	30.	29.	20.	24.	29.
63858	G	2.	NA	NA	NA	NA	NA	23.	25.	NA
63860	G	12.	20.	29.	27.	31.	28.	13.	12.	20.
63863	G	35.	29.	31.	29.	36.	25.	15.	23.	29.
63872	G	35.	39.	37.	37.	33.	32.	13.	19.	35.
63875	G	NA	NA	NA	NA	NA	NA	8.	NA	NA
63879	G	27.	27.	35.	34.	36.	34.	17.	22.	31.
63884	G	32.	31.	38.	29.	34.	28.	17.	20.	31.
63889	G	NA	NA	NA	NA	NA	NA	15.	NA	NA
63892	G	NA	NA	NA	NA	NA	NA	8.	NA	NA
63894	G	27.	28.	27.	26.	30.	27.	18.	24.	27.
63898	NG	22.	23.	21.	18.	24.	21.	12.	17.	22.
63905	G	29.	29.	31.	31.	31.	30.	24.	27.	30.
63908	G	33.	36.	30.	37.	33.	33.	13.	15.	32.
63922	G	28.	32.	31.	30.	36.	27.	18.	27.	30.
63926	G	29.	33.	A	B	20.	24.	10.	22.	28.
63933	G	NA	NA	NA	NA	NA	NA	9.	NA	NA
MEAN		28.	30.	32.	31.	31.	27.	16.	22.	29.
S.D.		8.6	5.2	4.3	5.1	6.1	5.4	5.0	4.4	3.6
N		18	17	17	17	18	17	23	19	18

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE
A = ERRONEOUS WEIGHT
B = WEIGHT NOT DETERMINED DUE TO FOOD SPILLAGE

TABLE 24
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/ANIMAL/DAY]

	PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 4: 50 MG/KG/DAY				
63820	G	26.	24.	SCHEDULED NECROPSY DAY 20
63821	G	31.	28.	SCHEDULED NECROPSY DAY 20
63824	G	28.	26.	SCHEDULED NECROPSY DAY 20
63825	G	21.	20.	SCHEDULED NECROPSY DAY 20
63827	NG	NA	NA	NONGRAVID, DIED DAY 11
63838	G	22.	23.	SCHEDULED NECROPSY DAY 20
63846	G	23.	22.	SCHEDULED NECROPSY DAY 20
63849	G	27.	27.	SCHEDULED NECROPSY DAY 20
63850	G	26.	24.	SCHEDULED NECROPSY DAY 20
63858	G	NA	NA	GRAVID, DIED DAY 16
63860	G	17.	20.	SCHEDULED NECROPSY DAY 20
63863	G	25.	23.	SCHEDULED NECROPSY DAY 20
63872	G	27.	25.	SCHEDULED NECROPSY DAY 20
63875	G	NA	NA	GRAVID, DIED DAY 10
63879	G	26.	24.	SCHEDULED NECROPSY DAY 20
63884	G	26.	25.	SCHEDULED NECROPSY DAY 20
63889	G	NA	NA	GRAVID, DIED DAY 9
63892	G	NA	NA	GRAVID, DIED DAY 11
63894	G	25.	24.	SCHEDULED NECROPSY DAY 20
63898	NG	19.	20.	SCHEDULED NECROPSY DAY 20
63905	G	28.	27.	SCHEDULED NECROPSY DAY 20
63908	G	24.	22.	SCHEDULED NECROPSY DAY 20
63922	G	27.	30.	SCHEDULED NECROPSY DAY 20
63926	G	22.	23.	SCHEDULED NECROPSY DAY 20
63933	G	NA	NA	GRAVID, DIED DAY 10
MEAN		25.	24.	
S.D.		3.2	2.6	
N		18	18	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE

TABLE 25

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

PREGNANCY STATUS	DAY	0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 1: 0 MG/KG/DAY										
63816	G	77.	84.	78.	83.	85.	83.	84.	79.	81.
63817	G	76.	A	82.	101.	98.	90.	83.	81.	88.
63818	G	87.	88.	83.	79.	69.	76.	75.	87.	79.
63828	G	90.	92.	82.	85.	81.	89.	75.	80.	79.
63831	G	88.	A	88.	84.	79.	94.	73.	85.	75.
63832	G	92.	84.	84.	95.	90.	85.	88.	78.	77.
63836	G	75.	82.	88.	80.	86.	84.	90.	79.	75.
63839	G	50.	78.	80.	86.	73.	84.	82.	82.	84.
63841	G	95.	88.	81.	98.	93.	96.	83.	101.	89.
63852	G	70.	89.	81.	80.	91.	86.	87.	85.	66.
63867	G	89.	88.	78.	96.	86.	75.	79.	84.	80.
63873	G	59.	81.	83.	83.	89.	77.	57.	76.	71.
63878	G	61.	91.	93.	95.	99.	97.	89.	86.	89.
63880	G	66.	88.	83.	85.	94.	77.	84.	74.	79.
63881	G	70.	94.	80.	102.	87.	58.	79.	78.	80.
63886	G	82.	88.	74.	83.	82.	87.	87.	74.	78.
63887	G	93.	102.	101.	80.	109.	81.	90.	102.	77.
63895	G	80.	104.	96.	92.	111.	95.	96.	101.	80.
63910	G	88.	56.	A	86.	81.	83.	84.	80.	75.
63912	G	63.	84.	93.	73.	86.	85.	91.	95.	75.
63914	G	75.	88.	87.	93.	91.	89.	87.	89.	81.
63918	G	72.	99.	80.	76.	71.	78.	85.	70.	66.
63923	G	68.	94.	88.	83.	83.	78.	71.	82.	71.
63928	G	87.	56.	84.	92.	69.	86.	73.	86.	74.
63938	G	78.	A	79.	85.	77.	80.	86.	75.	83.
MEAN		77.	86.	84.	87.	86.	84.	82.	84.	78.
S.D.		12.0	11.7	6.3	7.8	10.9	8.3	8.2	8.6	6.0
N		25	22	24	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
A = ERRONEOUS WEIGHT

TABLE 25
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 1: 0 MG/KG/DAY										
63816	G	85.	80.	77.	86.	74.	67.	81.	83.	78.
63817	G	75.	81.	89.	95.	79.	78.	92.	90.	83.
63818	G	82.	87.	17.	66.	64.	74.	84.	72.	71.
63828	G	81.	76.	85.	75.	73.	63.	85.	83.	75.
63831	G	71.	70.	80.	75.	72.	61.	88.	81.	74.
63832	G	92.	79.	87.	73.	74.	67.	86.	88.	78.
63836	G	87.	91.	82.	85.	68.	73.	84.	86.	79.
63839	G	78.	81.	86.	79.	83.	76.	81.	80.	80.
63841	G	90.	89.	89.	84.	84.	71.	90.	91.	87.
63852	G	60.	81.	73.	85.	66.	68.	84.	89.	72.
63867	G	79.	86.	73.	70.	69.	60.	88.	81.	75.
63873	G	76.	80.	74.	74.	65.	63.	83.	74.	71.
63878	G	87.	79.	93.	82.	69.	65.	93.	94.	81.
63880	G	83.	89.	79.	83.	64.	72.	87.	86.	78.
63881	G	82.	81.	93.	80.	78.	67.	93.	74.	80.
63886	G	77.	96.	80.	78.	74.	63.	81.	86.	77.
63887	G	84.	77.	81.	79.	74.	63.	94.	93.	80.
63895	G	92.	92.	80.	85.	72.	68.	97.	100.	82.
63910	G	80.	75.	79.	81.	76.	64.	73.	83.	75.
63912	G	82.	85.	88.	85.	75.	68.	83.	87.	82.
63914	G	98.	97.	83.	86.	76.	68.	91.	89.	84.
63918	G	74.	74.	81.	59.	74.	62.	84.	78.	70.
63923	G	82.	79.	74.	84.	74.	65.	89.	79.	76.
63928	G	80.	72.	90.	79.	78.	67.	77.	77.	77.
63938	G	68.	87.	87.	88.	75.	64.	83.	80.	78.
MEAN		81.	83.	80.	80.	73.	67.	86.	84.	78.
S.D.		8.1	7.1	14.4	7.6	5.3	4.7	5.6	6.8	4.3
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 25

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 1: 0 MG/KG/DAY			
63816 G	80.	76.	SCHEDULED NECROPSY DAY 20
63817 G	86.	79.	SCHEDULED NECROPSY DAY 20
63818 G	73.	74.	SCHEDULED NECROPSY DAY 20
63828 G	80.	78.	SCHEDULED NECROPSY DAY 20
63831 G	77.	78.	SCHEDULED NECROPSY DAY 20
63832 G	81.	80.	SCHEDULED NECROPSY DAY 20
63836 G	81.	76.	SCHEDULED NECROPSY DAY 20
63839 G	82.	71.	SCHEDULED NECROPSY DAY 20
63841 G	89.	85.	SCHEDULED NECROPSY DAY 20
63852 G	77.	72.	SCHEDULED NECROPSY DAY 20
63867 G	79.	78.	SCHEDULED NECROPSY DAY 20
63873 G	75.	67.	SCHEDULED NECROPSY DAY 20
63878 G	86.	75.	SCHEDULED NECROPSY DAY 20
63880 G	80.	72.	SCHEDULED NECROPSY DAY 20
63881 G	81.	76.	SCHEDULED NECROPSY DAY 20
63886 G	80.	78.	SCHEDULED NECROPSY DAY 20
63887 G	85.	83.	SCHEDULED NECROPSY DAY 20
63895 G	88.	81.	SCHEDULED NECROPSY DAY 20
63910 G	77.	75.	SCHEDULED NECROPSY DAY 20
63912 G	82.	75.	SCHEDULED NECROPSY DAY 20
63914 G	85.	81.	SCHEDULED NECROPSY DAY 20
63918 G	73.	71.	SCHEDULED NECROPSY DAY 20
63923 G	78.	74.	SCHEDULED NECROPSY DAY 20
63928 G	77.	78.	SCHEDULED NECROPSY DAY 20
63938 G	80.	75.	SCHEDULED NECROPSY DAY 20
MEAN	80.	76.	
S.D.	4.3	4.1	
N	25	25	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 25
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 2: 10 MG/KG/DAY										
63823	G	127.	A	95.	83.	86.	66.	81.	79.	73.
63829	G	94.	106.	92.	91.	104.	90.	94.	97.	89.
63833	G	72.	85.	95.	86.	77.	90.	84.	85.	80.
63844	G	84.	92.	81.	83.	88.	89.	58.	73.	67.
63847	G	96.	A	87.	79.	75.	114.	95.	89.	77.
63854	G	92.	87.	76.	76.	66.	88.	82.	78.	76.
63859	G	75.	86.	97.	80.	95.	88.	85.	78.	88.
63861	G	92.	A	90.	75.	77.	89.	71.	86.	72.
63864	G	88.	88.	83.	83.	89.	81.	82.	80.	70.
63868	G	100.	A	87.	70.	83.	90.	89.	86.	81.
63869	G	69.	80.	82.	84.	89.	72.	91.	85.	77.
63874	G	68.	65.	80.	86.	60.	75.	84.	75.	77.
63877	G	93.	94.	92.	87.	97.	99.	98.	87.	91.
63903	G	76.	89.	82.	94.	93.	92.	89.	66.	81.
63904	G	89.	A	84.	80.	83.	84.	94.	91.	70.
63911	G	81.	97.	76.	102.	84.	92.	84.	89.	81.
63915	G	81.	85.	73.	93.	100.	81.	82.	87.	74.
63917	G	113.	92.	79.	79.	94.	79.	81.	82.	77.
63919	G	63.	80.	77.	70.	76.	72.	83.	75.	65.
63924	G	78.	90.	79.	76.	95.	90.	94.	82.	88.
63925	G	79.	74.	88.	61.	85.	89.	86.	91.	77.
63930	G	46.	85.	77.	83.	79.	80.	87.	49.	52.
63935	G	62.	73.	79.	60.	74.	72.	73.	79.	81.
63937	G	72.	92.	90.	88.	78.	95.	81.	88.	61.
63939	G	86.	82.	A	89.	93.	89.	92.	32.	6.
MEAN		83.	86.	84.	82.	85.	86.	85.	80.	73.
S.D.		16.8	9.1	6.9	9.7	10.6	10.1	8.6	13.8	16.6
N		25	20	24	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
A = ERRONEOUS WEIGHT

TABLE 25
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 2: 10 MG/KG/DAY										
63823	G	76.	69.	61.	64.	50.	42.	92.	79.	65.
63829	G	98.	101.	95.	86.	76.	71.	95.	96.	88.
63833	G	73.	90.	76.	77.	74.	68.	88.	83.	79.
63844	G	83.	78.	76.	72.	73.	65.	84.	77.	72.
63847	G	82.	80.	95.	85.	74.	63.	84.	94.	80.
63854	G	75.	85.	63.	88.	75.	71.	80.	78.	77.
63859	G	73.	95.	79.	86.	72.	68.	88.	90.	78.
63861	G	82.	65.	72.	78.	76.	57.	83.	79.	74.
63864	G	80.	79.	82.	78.	72.	72.	84.	84.	75.
63868	G	79.	80.	91.	82.	79.	70.	81.	87.	80.
63869	G	80.	88.	77.	74.	70.	60.	83.	84.	77.
63874	G	78.	92.	96.	82.	78.	71.	76.	74.	82.
63877	G	92.	99.	92.	82.	81.	71.	93.	98.	87.
63903	G	74.	82.	80.	78.	73.	63.	88.	91.	75.
63904	G	83.	79.	85.	81.	87.	66.	84.	87.	80.
63911	G	95.	92.	83.	74.	70.	71.	93.	86.	82.
63915	G	81.	84.	86.	77.	74.	62.	85.	87.	78.
63917	G	89.	84.	86.	76.	77.	71.	83.	84.	79.
63919	G	79.	77.	79.	81.	66.	69.	77.	78.	73.
63924	G	81.	87.	74.	88.	78.	76.	83.	93.	82.
63925	G	87.	87.	79.	76.	77.	78.	74.	86.	81.
63930	G	71.	79.	82.	78.	79.	60.	81.	83.	69.
63935	G	82.	77.	83.	63.	77.	59.	70.	72.	73.
63937	G	77.	77.	96.	82.	87.	68.	90.	86.	80.
63939	G	54.	81.	82.	100.	71.	82.	87.	91.	63.
MEAN		80.	83.	82.	80.	75.	67.	84.	85.	77.
S.D.		8.7	8.5	9.2	7.6	7.0	7.9	6.1	6.7	5.9
N		25	25	25	25	25	25	25	25	25

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 25
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 2: 10 MG/KG/DAY				
63823	G	72.	86.	SCHEDULED NECROPSY DAY 20
63829	G	91.	87.	SCHEDULED NECROPSY DAY 20
63833	G	80.	75.	SCHEDULED NECROPSY DAY 20
63844	G	76.	77.	SCHEDULED NECROPSY DAY 20
63847	G	83.	84.	SCHEDULED NECROPSY DAY 20
63854	G	79.	80.	SCHEDULED NECROPSY DAY 20
63859	G	84.	76.	SCHEDULED NECROPSY DAY 20
63861	G	76.	77.	SCHEDULED NECROPSY DAY 20
63864	G	80.	78.	SCHEDULED NECROPSY DAY 20
63868	G	83.	84.	SCHEDULED NECROPSY DAY 20
63869	G	80.	73.	SCHEDULED NECROPSY DAY 20
63874	G	78.	72.	SCHEDULED NECROPSY DAY 20
63877	G	90.	86.	SCHEDULED NECROPSY DAY 20
63903	G	79.	77.	SCHEDULED NECROPSY DAY 20
63904	G	83.	79.	SCHEDULED NECROPSY DAY 20
63911	G	85.	80.	SCHEDULED NECROPSY DAY 20
63915	G	80.	77.	SCHEDULED NECROPSY DAY 20
63917	G	82.	84.	SCHEDULED NECROPSY DAY 20
63919	G	75.	70.	SCHEDULED NECROPSY DAY 20
63924	G	85.	80.	SCHEDULED NECROPSY DAY 20
63925	G	81.	76.	SCHEDULED NECROPSY DAY 20
63930	G	73.	64.	SCHEDULED NECROPSY DAY 20
63935	G	72.	67.	SCHEDULED NECROPSY DAY 20
63937	G	82.	75.	SCHEDULED NECROPSY DAY 20
63939	G	73.	74.	SCHEDULED NECROPSY DAY 20
MEAN		80.	78.	
S.D.		5.0	5.8	
N		25	25	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 25

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 3: 35 MG/KG/DAY										
63822	G	98.	79.	85.	86.	95.	99.	109.	92.	87.
63826	G	94.	72.	54.	42.	76.	67.	84.	72.	86.
63835	G	77.	71.	52.	44.	33.	52.	65.	74.	75.
63840	G	107.	76.	89.	84.	83.	96.	91.	88.	84.
63842	G	86.	78.	78.	69.	78.	87.	77.	86.	87.
63845	G	49.	30.	36.	48.	65.	77.	81.	89.	87.
63848	NG	70.	41.	79.	77.	76.	49.	74.	80.	75.
63857	G	90.	86.	71.	33.	41.	41.	68.	83.	77.
63865	G	71.	72.	37.	62.	71.	69.	82.	A	16.
63871	NG	102.	94.	99.	100.	78.	91.	13.	27.	46.
63876	G	63.	85.	78.	84.	82.	68.	85.	77.	86.
63882	NG	78.	75.	81.	75.	9.	3.	11.	11.	19.
63885	G	60.	55.	49.	46.	60.	63.	62.	67.	75.
63890	G	62.	72.	85.	81.	84.	90.	91.	83.	85.
63891	G	72.	75.	78.	81.	83.	84.	90.	88.	86.
63893	G	103.	92.	67.	61.	52.	62.	73.	79.	65.
63899	G	118.	81.	95.	82.	82.	93.	102.	96.	83.
63900	G	103.	77.	41.	63.	36.	60.	65.	83.	74.
63901	G	98.	75.	39.	47.	65.	72.	103.	96.	74.
63916	G	98.	80.	77.	72.	66.	67.	80.	89.	84.
63920	G	68.	105.	33.	61.	63.	81.	75.	87.	82.
63929	G	63.	79.	88.	99.	79.	80.	93.	76.	76.
63931	G	63.	79.	92.	78.	80.	81.	83.	81.	85.
63932	G	96.	66.	69.	68.	58.	71.	86.	68.	83.
63936	G	86.	96.	92.	99.	95.	95.	92.	88.	73.
MEAN		83.	76.	68.	68.	69.	75.	84.	83.	78.
S.D.		18.9	14.6	21.0	18.7	17.5	15.0	12.6	8.3	15.1
N		22	22	22	22	22	22	22	21	22

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
A = ERRONEOUS WEIGHT

TABLE 25
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 3: 35 MG/KG/DAY										
63822	G	95.	86.	95.	97.	74.	82.	84.	101.	89.
63826	G	16.	33.	50.	58.	87.	77.	58.	77.	62.
63835	G	70.	82.	72.	79.	78.	65.	56.	51.	75.
63840	G	85.	80.	84.	81.	78.	69.	82.	89.	80.
63842	G	82.	75.	87.	89.	80.	A	74.	79.	81.
63845	G	88.	85.	80.	91.	81.	68.	39.	74.	82.
63848	NG	52.	73.	76.	79.	60.	72.	66.	65.	72.
63857	G	79.	78.	82.	84.	59.	70.	65.	51.	76.
63865	G	26.	30.	65.	77.	B	27.	57.	75.	40.
63871	NG	83.	86.	38.	82.	98.	82.	99.	62.	70.
63876	G	9.	13.	10.	16.	23.	39.	81.	78.	34.
63882	NG	35.	54.	65.	63.	69.	75.	78.	7.	49.
63885	G	67.	75.	77.	78.	74.	70.	49.	63.	73.
63890	G	77.	88.	91.	80.	79.	65.	78.	89.	82.
63891	G	84.	91.	73.	84.	51.	41.	78.	87.	75.
63893	G	A	103.	102.	69.	86.	103.	74.	61.	87.
63899	G	86.	103.	90.	A	A	73.	86.	92.	85.
63900	G	92.	85.	86.	78.	88.	84.	62.	53.	85.
63901	G	78.	91.	89.	87.	79.	68.	55.	82.	84.
63916	G	83.	87.	79.	80.	88.	79.	78.	70.	84.
63920	G	81.	9.	16.	36.	3.	4.	66.	74.	41.
63929	G	89.	85.	85.	76.	82.	74.	88.	83.	81.
63931	G	80.	75.	72.	71.	77.	67.	82.	81.	75.
63932	G	69.	82.	13.	0.	4.	7.	69.	71.	43.
63936	G	87.	90.	87.	A	B	67.	95.	95.	79.
MEAN		73.	74.	72.	71.	67.	62.	71.	76.	72.
S.D.		24.4	26.8	26.4	25.1	27.2	24.7	14.3	13.9	16.9
N		21	22	22	20	19	21	22	22	22

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
A = ERRONEOUS WEIGHT
B = WEIGHT NOT DETERMINED DUE TO FOOD SPILLAGE

TABLE 25

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 3: 35 MG/KG/DAY				
63822	G	90.	89.	SCHEDULED NECROPSY DAY 20
63826	G	64.	71.	SCHEDULED NECROPSY DAY 20
63835	G	67.	68.	SCHEDULED NECROPSY DAY 20
63840	G	83.	87.	SCHEDULED NECROPSY DAY 20
63842	G	80.	77.	SCHEDULED NECROPSY DAY 20
63845	G	73.	63.	SCHEDULED NECROPSY DAY 20
63848	NG	69.	69.	SCHEDULED NECROPSY DAY 20
63857	G	68.	75.	SCHEDULED NECROPSY DAY 20
63865	G	50.	58.	SCHEDULED NECROPSY DAY 20
63871	NG	72.	79.	SCHEDULED NECROPSY DAY 20
63876	G	54.	54.	SCHEDULED NECROPSY DAY 20
63882	NG	49.	59.	SCHEDULED NECROPSY DAY 20
63885	G	68.	62.	SCHEDULED NECROPSY DAY 20
63890	G	80.	75.	SCHEDULED NECROPSY DAY 20
63891	G	77.	73.	SCHEDULED NECROPSY DAY 20
63893	G	80.	81.	SCHEDULED NECROPSY DAY 20
63899	G	86.	90.	SCHEDULED NECROPSY DAY 20
63900	G	72.	79.	SCHEDULED NECROPSY DAY 20
63901	G	76.	80.	SCHEDULED NECROPSY DAY 20
63916	G	78.	82.	SCHEDULED NECROPSY DAY 20
63920	G	54.	58.	SCHEDULED NECROPSY DAY 20
63929	G	83.	73.	SCHEDULED NECROPSY DAY 20
63931	G	77.	73.	SCHEDULED NECROPSY DAY 20
63932	G	54.	64.	GRAVID, DIED DAY 20
63936	G	85.	81.	SCHEDULED NECROPSY DAY 20
MEAN		73.	73.	
S.D.		11.5	10.2	
N		22	22	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN

TABLE 25
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 0- 6	6- 7	7- 8	8- 9	9-10	10-11	11-12	12-13	13-14
DAMS FROM GROUP 4: 50 MG/KG/DAY										
63820	G	63.	83.	60.	45.	65.	72.	89.	92.	89.
63821	G	70.	89.	84.	86.	87.	96.	96.	94.	78.
63824	G	68.	85.	29.	46.	67.	63.	99.	89.	100.
63825	G	65.	75.	49.	47.	47.	64.	76.	93.	71.
63827	NG	76.	94.	58.	43.	12.	NA	NA	NA	NA
63838	G	96.	57.	61.	64.	56.	83.	84.	82.	84.
63846	G	67.	87.	28.	43.	53.	82.	79.	91.	79.
63849	G	100.	78.	77.	79.	68.	74.	86.	66.	77.
63850	G	73.	92.	58.	55.	61.	86.	88.	91.	72.
63858	G	91.	A	71.	79.	71.	80.	85.	68.	A
63860	G	97.	69.	28.	44.	44.	62.	30.	23.	24.
63863	G	68.	75.	38.	46.	69.	64.	100.	72.	80.
63872	G	68.	80.	24.	25.	56.	58.	77.	113.	98.
63875	G	67.	68.	7.	11.	NA	NA	NA	NA	NA
63879	G	62.	81.	65.	28.	64.	82.	79.	99.	84.
63884	G	78.	64.	50.	55.	52.	58.	91.	87.	95.
63889	G	77.	66.	38.	NA	NA	NA	NA	NA	NA
63892	G	50.	51.	14.	15.	0.	NA	NA	NA	NA
63894	G	80.	76.	49.	63.	68.	72.	93.	88.	77.
63898	NG	83.	29.	71.	49.	53.	72.	82.	74.	117.
63905	G	93.	76.	93.	85.	94.	88.	95.	90.	86.
63908	G	62.	58.	34.	50.	38.	60.	69.	93.	86.
63922	G	132.	65.	50.	54.	74.	89.	76.	78.	74.
63926	G	84.	17.	37.	55.	60.	75.	88.	100.	89.
63933	G	67.	66.	18.	8.	NA	NA	NA	NA	NA
MEAN		77.	71.	46.	49.	60.	74.	83.	85.	80.
S.D.		17.8	16.2	22.7	22.3	19.4	11.7	15.4	18.7	16.4
N		23	22	23	22	20	19	19	19	18

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE
A = ERRONEOUS WEIGHT

TABLE 25
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 14-15	15-16	16-17	17-18	18-19	19-20	6- 9	9-12	12-20
DAMS FROM GROUP 4: 50 MG/KG/DAY										
63820	G	96.	82.	90.	63.	80.	79.	64.	75.	84.
63821	G	78.	105.	89.	92.	93.	52.	87.	93.	84.
63824	G	97.	95.	82.	102.	50.	75.	54.	77.	85.
63825	G	83.	74.	71.	84.	67.	71.	56.	64.	77.
63827	NG	NA	NA	NA	NA	NA	NA	65.	NA	NA
63838	G	A	88.	122.	75.	77.	39.	61.	76.	81.
63846	G	70.	90.	86.	81.	80.	52.	52.	72.	79.
63849	G	107.	A	87.	72.	109.	A	77.	77.	85.
63850	G	81.	82.	78.	92.	79.	71.	68.	78.	82.
63858	G	6.	NA	NA	NA	NA	NA	76.	80.	NA
63860	G	50.	84.	115.	98.	106.	94.	46.	44.	75.
63863	G	105.	85.	88.	78.	92.	62.	52.	77.	82.
63872	G	103.	112.	103.	99.	84.	77.	44.	65.	97.
63875	G	NA	NA	NA	NA	NA	NA	29.	NA	NA
63879	G	83.	82.	102.	93.	93.	84.	59.	75.	89.
63884	G	97.	93.	109.	79.	87.	69.	56.	67.	88.
63889	G	NA	NA	NA	NA	NA	NA	NA	NA	NA
63892	G	NA	NA	NA	NA	NA	NA	28.	NA	NA
63894	G	83.	85.	81.	77.	88.	76.	62.	79.	81.
63898	NG	84.	86.	79.	68.	90.	77.	49.	68.	83.
63905	G	91.	88.	91.	87.	82.	76.	86.	92.	87.
63908	G	105.	111.	90.	106.	89.	84.	49.	56.	95.
63922	G	79.	88.	84.	80.	92.	67.	56.	81.	81.
63926	G	88.	97.	A	B	51.	59.	36.	75.	79.
63933	G	NA	NA	NA	NA	NA	NA	33.	NA	NA
MEAN		83.	91.	92.	86.	83.	70.	56.	74.	84.
S.D.		24.0	10.5	13.6	11.7	15.5	13.7	16.5	11.3	5.7
N		18	17	17	17	18	17	22	19	18

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE
A = ERRONEOUS WEIGHT
B = WEIGHT NOT DETERMINED DUE TO FOOD SPILLAGE

TABLE 25
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FOOD CONSUMPTION DURING GESTATION [G/KG/DAY]

	PREGNANCY STATUS	DAY 6-20	0-20	
DAMS FROM GROUP 4: 50 MG/KG/DAY				
63820	G	76.	71.	SCHEDULED NECROPSY DAY 20
63821	G	85.	78.	SCHEDULED NECROPSY DAY 20
63824	G	78.	73.	SCHEDULED NECROPSY DAY 20
63825	G	70.	67.	SCHEDULED NECROPSY DAY 20
63827	NG	NA	NA	NONGRAVID, DIED DAY 11
63838	G	73.	78.	SCHEDULED NECROPSY DAY 20
63846	G	72.	69.	SCHEDULED NECROPSY DAY 20
63849	G	81.	83.	SCHEDULED NECROPSY DAY 20
63850	G	79.	73.	SCHEDULED NECROPSY DAY 20
63858	G	NA	NA	GRAVID, DIED DAY 16
63860	G	63.	74.	SCHEDULED NECROPSY DAY 20
63863	G	76.	71.	SCHEDULED NECROPSY DAY 20
63872	G	81.	76.	SCHEDULED NECROPSY DAY 20
63875	G	NA	NA	GRAVID, DIED DAY 10
63879	G	80.	75.	SCHEDULED NECROPSY DAY 20
63884	G	78.	76.	SCHEDULED NECROPSY DAY 20
63889	G	NA	NA	GRAVID, DIED DAY 9
63892	G	NA	NA	GRAVID, DIED DAY 11
63894	G	79.	76.	SCHEDULED NECROPSY DAY 20
63898	NG	74.	78.	SCHEDULED NECROPSY DAY 20
63905	G	88.	86.	SCHEDULED NECROPSY DAY 20
63908	G	78.	72.	SCHEDULED NECROPSY DAY 20
63922	G	77.	86.	SCHEDULED NECROPSY DAY 20
63926	G	67.	71.	SCHEDULED NECROPSY DAY 20
63933	G	NA	NA	GRAVID, DIED DAY 10
MEAN		77.	75.	
S.D.		6.1	5.4	
N		18	18	

G = GRAVID NG = NONGRAVID - WEIGHT(S) NOT INCLUDED IN CALCULATION OF MEAN
NA = NOT APPLICABLE

TABLE 26
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL MATERNAL MACROSCOPIC FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	MATERNAL GROSS OBSERVATION
63816	NO SIGNIFICANT CHANGES OBSERVED
63817	NO SIGNIFICANT CHANGES OBSERVED
63818	NO SIGNIFICANT CHANGES OBSERVED
63828	NO SIGNIFICANT CHANGES OBSERVED
63831	NO SIGNIFICANT CHANGES OBSERVED
63832	NO SIGNIFICANT CHANGES OBSERVED
63836	NO SIGNIFICANT CHANGES OBSERVED
63839	NO SIGNIFICANT CHANGES OBSERVED
63841	NO SIGNIFICANT CHANGES OBSERVED
63852	NO SIGNIFICANT CHANGES OBSERVED
63867	NO SIGNIFICANT CHANGES OBSERVED
63873	NO SIGNIFICANT CHANGES OBSERVED
63878	NO SIGNIFICANT CHANGES OBSERVED
63880	NO SIGNIFICANT CHANGES OBSERVED
63881	NO SIGNIFICANT CHANGES OBSERVED
63886	NO SIGNIFICANT CHANGES OBSERVED
63887	NO SIGNIFICANT CHANGES OBSERVED
63895	NO SIGNIFICANT CHANGES OBSERVED
63910	NO SIGNIFICANT CHANGES OBSERVED
63912	NO SIGNIFICANT CHANGES OBSERVED
63914	NO SIGNIFICANT CHANGES OBSERVED
63918	MAMMARY GLAND: MASS 20 X 18 X 15 MM, MULTICOLORED, RIGHT LATERAL THORACIC, MASS #1
63923	NO SIGNIFICANT CHANGES OBSERVED
63928	NO SIGNIFICANT CHANGES OBSERVED
63938	NO SIGNIFICANT CHANGES OBSERVED

TABLE 26
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL MATERNAL MACROSCOPIC FINDINGS

DAMS FROM GROUP 2: 10 MG/KG/DAY	MATERNAL GROSS OBSERVATION
63823	UTERUS: CONTENTS, DARK RED BOTH HORNS
63829	NO SIGNIFICANT CHANGES OBSERVED
63833	NO SIGNIFICANT CHANGES OBSERVED
63844	NO SIGNIFICANT CHANGES OBSERVED
63847	NO SIGNIFICANT CHANGES OBSERVED
63854	NO SIGNIFICANT CHANGES OBSERVED
63859	PLACENTAE: FUSED SITES #15 AND #16
63861	NO SIGNIFICANT CHANGES OBSERVED
63864	NO SIGNIFICANT CHANGES OBSERVED
63868	NO SIGNIFICANT CHANGES OBSERVED
63869	NO SIGNIFICANT CHANGES OBSERVED
63874	NO SIGNIFICANT CHANGES OBSERVED
63877	PLACENTAE: FUSED SITES #2 AND #3
63903	NO SIGNIFICANT CHANGES OBSERVED
63904	NO SIGNIFICANT CHANGES OBSERVED
63911	NO SIGNIFICANT CHANGES OBSERVED
63915	LIVER: AREA(S), YELLOW FEW, IRREGULARLY SHAPED, ALL LOBES
63917	NO SIGNIFICANT CHANGES OBSERVED
63919	NO SIGNIFICANT CHANGES OBSERVED
63924	NO SIGNIFICANT CHANGES OBSERVED
63925	NO SIGNIFICANT CHANGES OBSERVED
63930	NO SIGNIFICANT CHANGES OBSERVED
63935	NO SIGNIFICANT CHANGES OBSERVED
63937	NO SIGNIFICANT CHANGES OBSERVED
63939	THYROID GLANDS: MASS 10 X 10 X 5 MM, TAN, RIGHT, FIRM, MASS #1

TABLE 26
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL MATERNAL MACROSCOPIC FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	MATERNAL GROSS OBSERVATION
63822	NO SIGNIFICANT CHANGES OBSERVED
63826	NO SIGNIFICANT CHANGES OBSERVED
63835	NO SIGNIFICANT CHANGES OBSERVED
63840	NO SIGNIFICANT CHANGES OBSERVED
63842	SKIN: MATTING, RED
	NASAL; OCULAR, RIGHT
63845	NO SIGNIFICANT CHANGES OBSERVED
63848	NONGRAVID -- AMMONIUM SULFIDE NEGATIVE
63857	LIVER: AREA(S), YELLOW
	MULTIPLE, IRREGULARLY SHAPED, ALL LOBES
	SPLEEN: ENLARGED
	55 X 10 X 3 MM
63865	SKIN: MATTING, YELLOW
	ENTIRE VENTRAL SURFACE
	LIVER: AREA(S), YELLOW
	FEW, IRREGULARLY SHAPED, ALL LOBES
63871	VAGINA: CONTENTS, WHITE FLUID
	NONGRAVID -- AMMONIUM SULFIDE NEGATIVE
63876	PERICARDIUM: THICKENED
	PERICARDIUM: ADHESION(S)
	ATTACHED TO HEART AND STERNUM
	HEART: DISCOLORATION, WHITE
	VENTRICLE, BILATERAL
	LIVER: AREA(S), YELLOW
	FEW, IRREGULARLY SHAPED, RIGHT AND CAUDATE LOBES
63882	LIVER: AREA(S), WHITE
	MULTIPLE, IRREGULARLY SHAPED, ALL LOBES
	PERICARDIUM: THICKENED
	NONGRAVID -- AMMONIUM SULFIDE NEGATIVE
	LIVER: ADHESIONS
	LEFT LOBE ATTACHED TO DIAPHRAGM; CAUDATE LOBE ATTACHED TO DUODENUM AND RIGHT LOBE OF LIVER
63885	LIVER: AREA(S), WHITE

TABLE 26
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL MATERNAL MACROSCOPIC FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	MATERNAL GROSS OBSERVATION
63885(CONTINUED)	FEW, IRREGULARLY SHAPED, LEFT LOBE
63890	NO SIGNIFICANT CHANGES OBSERVED
63891	LIVER: AREA(S), WHITE
	MULTIPLE, IRREGULARLY SHAPED, ALL LOBES
63893	LIVER: MOTTLED
	ALL LOBES
63899	LIVER: AREA(S), WHITE
	MULTIPLE, IRREGULARLY SHAPED, LEFT LOBE
63900	LIVER: MISSHAPEN
	ALL LOBES
	LIVER: AREA(S), WHITE
	MULTIPLE, IRREGULARLY SHAPED, ALL LOBES
63901	NO SIGNIFICANT CHANGES OBSERVED
63916	NO SIGNIFICANT CHANGES OBSERVED
63920	SKIN: MATTING, YELLOW
	ENTIRE VENTRAL SURFACE
	LIVER: AREA(S), WHITE
	MULTIPLE, IRREGULARLY SHAPED, ALL LOBES
63929	NO SIGNIFICANT CHANGES OBSERVED
63931	LIVER: AREA(S), YELLOW
	ONE, 5 X 3 MM, CAUDATE LOBE
63932	LIVER: AREA(S), YELLOW
	FEW, IRREGULARLY SHAPED, ALL LOBES
	LIVER: AREA(S), WHITE
	FEW, IRREGULARLY SHAPED, ALL LOBES
	DIED GESTATION DAY 20
	UTERUS: LEFT- 7 EARLY RESORPTIONS; RIGHT- 9 EARLY RESORPTIONS
	OVARIES: CORPORA LUTEA- 8, LEFT; 9, RIGHT
63936	NO SIGNIFICANT CHANGES OBSERVED

TABLE 26
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL MATERNAL MACROSCOPIC FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	MATERNAL GROSS OBSERVATION
63820	LIVER: AREA(S), WHITE FEW, IRREGULARLY SHAPED, CAUDATE LOBE
63821	LIVER: AREA(S), WHITE FEW, IRREGULARLY SHAPED, ALL LOBES
63824	NO SIGNIFICANT CHANGES OBSERVED
63825	LIVER: AREA(S), WHITE IRREGULARLY SHAPED, ALL LOBES SPLEEN: ENLARGED 56 X 12 X 2 MM
63827	SKIN: MATTING, YELLOW VENTRAL ABDOMINAL; UROGENITAL SKIN: MATTING, RED NASAL; BUCCAL DIED GESTATION DAY 11 UTERUS: NONGRAVID- AMMONIUM SULFIDE NEGATIVE
63838	LIVER: AREA(S), WHITE MULTIPLE, IRREGULARLY SHAPED, ALL LOBES
63846	LIVER: AREA(S), YELLOW FEW, IRREGULARLY SHAPED, ALL LOBES
63849	LIVER: AREA(S), WHITE FEW, IRREGULARLY SHAPED, LEFT LOBE
63850	NO SIGNIFICANT CHANGES OBSERVED
63858	DIED GESTATION DAY 16 UTERUS: LEFT- 8 NORMALLY DEVELOPING IMPLANTATION SITES; RIGHT- 10 NORMALLY DEVELOPING IMPLANTATION SITES OVARIES: CORPORA LUTEA- 8, LEFT; 10, RIGHT
63860	LIVER: AREA(S), YELLOW FEW, IRREGULARLY SHAPED, CAUDATE LOBE
63863	LIVER: AREA(S), YELLOW ONE, IRREGULARLY SHAPED, LEFT AND CAUDATE LOBES
63872	LIVER: ADHESIONS LEFT LOBE ATTACHED TO STOMACH
63875	SKIN: MATTING, YELLOW

TABLE 26
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL MATERNAL MACROSCOPIC FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	MATERNAL GROSS OBSERVATION
63875(CONTINUED)	VENTRAL ABDOMINAL
	STOMACH: DISTENDED
	STOMACH: CONTENTS, DARK RED
	STOMACH: AREA(S), DARK RED
	FEW, IRREGULARLY SHAPED, ENTIRE LINING
	DIED GESTATION DAY 10
	UTERUS: LEFT- 4 NORMALLY DEVELOPING IMPLANTATIONS; RIGHT- 13 NORMALLY DEVELOPING IMPLANTATIONS
	OVARIES: CORPORA LUTEA- 5, LEFT; 13, RIGHT
63879	NO SIGNIFICANT CHANGES OBSERVED
63884	NO SIGNIFICANT CHANGES OBSERVED
63889	DIED GESTATION DAY 9
	UTERUS: LEFT- 8 NORMALLY DEVELOPING IMPLANTATIONS: RIGHT- 11 NORMALLY DEVELOPING IMPLANTATIONS
	OVARIES: CORPORA LUTEA- 8, LEFT; 11, RIGHT
63892	SKIN: MATTING, RED
	NASAL; BUCCAL; FORELIMB, BILATERAL
	SKIN: MATTING, YELLOW
	UROGENITAL
	SKIN: MATTING, WHITE
	BUCCAL
	STOMACH: DISTENDED
	STOMACH: CONTENTS, DARK RED
	DIED GESTATION DAY 11
	UTERUS: LEFT- 6 NORMALLY DEVELOPING IMPLANTATIONS; RIGHT- 11 NORMALLY DEVELOPING IMPLANTATIONS
	OVARIES: CORPORA LUTEA- 8, LEFT; 12, RIGHT
63894	LUNGS: DISCOLORATION, DARK RED
	ALL LOBES
63898	NONGRAVID -- AMMONIUM SULFIDE NEGATIVE
63905	NO SIGNIFICANT CHANGES OBSERVED
63908	LIVER: AREA(S), YELLOW
	SEVERAL, IRREGULARLY SHAPED, ALL LOBES

TABLE 26
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL MATERNAL MACROSCOPIC FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	MATERNAL GROSS OBSERVATION
63922	LIVER: MISSHAPEN CAUDATE LOBE LIVER: AREA(S), YELLOW RIGHT LOBE
63926	LIVER: AREA(S), YELLOW ONE, 8 X 2 MM, LEFT LOBE
63933	SKIN: MATTING, YELLOW VENTRAL ABDOMINAL; UROGENITAL STOMACH: DISTENDED STOMACH: CONTENTS, DARK RED DIED GESTATION DAY 10 UTERUS: LEFT- 10 NORMALLY DEVELOPING IMPLANTATIONS; RIGHT- 7 NORMALLY DEVELOPING IMPLANTATIONS OVARIES: CORPORA LUTEA- 10, LEFT; 7, RIGHT

TABLE 27

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL ORGAN WEIGHTS [G]

FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	PREGNANCY STATUS	LIVER
63816	G	18.86
63817	G	20.59
63818	G	14.68
63828	G	18.21
63831	G	16.14
63832	G	20.72
63836	G	16.25
63839	G	18.50
63841	G	21.92
63852	G	18.90
63867	G	17.57
63873	G	16.89
63878	G	18.57
63880	G	19.27
63881	G	17.11
63886	G	18.77
63887	G	18.16
63895	G	18.73
63910	G	19.10
63912	G	19.00
63914	G	18.69
63918	G	16.16
63923	G	19.22
63928	G	21.25
63938	G	16.23
MEAN		18.38
S.D.		1.730
N		25

G = GRAVID NG = NONGRAVID - WEIGHTS NOT INCLUDED IN THE CALCULATION OF THE MEAN

TABLE 27
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL ORGAN WEIGHTS [G]

FEMALE GROUP: 10 MG/KG/DAY

ANIMAL	PREGNANCY STATUS	LIVER
63823	G	12.72
63829	G	19.73
63833	G	16.86
63844	G	19.06
63847	G	16.92
63854	G	17.02
63859	G	19.03
63861	G	16.35
63864	G	19.60
63868	G	18.26
63869	G	20.25
63874	G	16.34
63877	G	18.97
63903	G	18.44
63904	G	18.78
63911	G	17.28
63915	G	20.36
63917	G	22.84
63919	G	18.34
63924	G	19.07
63925	G	18.31
63930	G	16.28
63935	G	17.75
63937	G	18.91
63939	G	20.68
MEAN		18.33
S.D.		1.943
N		25

G = GRAVID NG = NONGRAVID - WEIGHTS NOT INCLUDED IN THE CALCULATION OF THE MEAN

TABLE 27
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL ORGAN WEIGHTS [G]

FEMALE GROUP: 35 MG/KG/DAY

ANIMAL	PREGNANCY STATUS	LIVER
63822	G	21.07
63826	G	20.02
63835	G	17.65
63840	G	16.92
63842	G	17.69
63845	G	19.74
63848	NG	10.51
63857	G	18.82
63865	G	19.67
63871	NG	19.72
63876	G	16.59
63882	NG	18.37
63885	G	18.68
63890	G	16.93
63891	G	19.66
63893	G	22.18
63899	G	21.24
63900	G	19.67
63901	G	23.16
63916	G	22.11
63920	G	14.09
63929	G	18.32
63931	G	19.52
63936	G	23.20
MEAN		19.38
S.D.		2.312
N		21

G = GRAVID NG = NONGRAVID - WEIGHTS NOT INCLUDED IN THE CALCULATION OF THE MEAN

TABLE 27
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL ORGAN WEIGHTS [G]

FEMALE GROUP: 50 MG/KG/DAY

ANIMAL	PREGNANCY STATUS	LIVER
63820	G	21.18
63821	G	23.44
63824	G	24.02
63825	G	18.74
63838	G	15.83
63846	G	19.68
63849	G	20.97
63850	G	20.90
63860	G	19.68
63863	G	22.62
63872	G	22.54
63879	G	21.63
63884	G	20.30
63894	G	19.16
63898	NG	14.29
63905	G	17.93
63908	G	20.19
63922	G	20.39
63926	G	20.08
MEAN		20.52
S.D.		1.982
N		18

G = GRAVID NG = NONGRAVID - WEIGHTS NOT INCLUDED IN THE CALCULATION OF THE MEAN

TABLE 28
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL DATA AT SCHEDULED NECROPSY

DAMS FROM GROUP 1: 0 MG/KG/DAY

			VIABLE FETUSES			DEAD FETUSES			EARLY RESORPTIONS			LATE RESORPTIONS			IMPLANTATION SITES			CORPORA LUTEA		
	SEX																			
DAM#	M	F	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT OVARY	RIGHT OVARY	TOTAL
63816	10	3	5	8	13	0	0	0	2	1	3	0	0	0	7	9	16	8	9	17
63817	9	8	10	7	17	0	0	0	0	0	0	0	0	0	10	7	17	11	7	18
63818	4	1	1	4	5	0	0	0	0	0	0	0	0	0	1	4	5	6	7	13
63828	12	7	11	8	19	0	0	0	0	0	0	0	0	0	11	8	19	12	8	20
63831	6	9	10	5	15	0	0	0	0	1	1	0	0	0	10	6	16	10	6	16
63832	9	6	5	10	15	0	0	0	1	1	2	0	0	0	6	11	17	6	11	17
63836	10	4	4	10	14	0	0	0	2	1	3	0	0	0	6	11	17	6	11	17
63839	2	5	3	4	7	0	0	0	5	8	13	0	0	0	8	12	20	8	14	22
63841	8	10	10	8	18	0	0	0	1	0	1	0	0	0	11	8	19	12	8	20
63852	8	9	7	10	17	0	0	0	0	0	0	0	0	0	7	10	17	7	10	17
63867	7	7	7	7	14	0	0	0	1	1	2	0	0	0	8	8	16	8	9	17
63873	8	9	8	9	17	0	0	0	0	0	0	0	0	0	8	9	17	10	12	22
63878	5	10	9	6	15	0	0	0	2	0	2	0	0	0	11	6	17	11	9	20
63880	10	8	6	12	18	0	0	0	0	0	0	0	0	0	6	12	18	7	12	19
63881	7	7	6	8	14	0	0	0	0	1	1	0	0	0	6	9	15	7	9	16
63886	3	13	9	7	16	0	0	0	0	1	1	0	0	0	9	8	17	9	8	17
63887	5	12	8	9	17	0	0	0	0	0	0	0	0	0	8	9	17	8	9	17
63895	9	7	7	9	16	0	0	0	0	1	1	0	0	0	7	10	17	7	10	17
63910	10	4	8	6	14	0	0	0	0	0	0	0	0	0	8	6	14	9	7	16
63912	6	13	9	10	19	0	0	0	0	0	0	0	0	0	9	10	19	9	10	19
63914	11	7	10	8	18	0	0	0	0	0	0	0	0	0	10	8	18	10	8	18
63918	8	6	8	6	14	0	0	0	0	0	0	0	0	0	8	6	14	8	6	14
63923	9	11	9	11	20	0	0	0	0	0	0	0	0	0	9	11	20	9	11	20
63928	11	7	10	8	18	0	0	0	0	1	1	0	0	0	10	9	19	10	10	20
63938	6	11	10	7	17	0	0	0	0	0	0	0	0	0	10	7	17	10	7	17
TOTAL	193	194	190	197	387	0	0	0	14	17	31	0	0	0	204	214	418	218	228	446
MEAN	7.7	7.8	7.6	7.9	15.5	0.0	0.0	0.0	0.6	0.7	1.2	0.0	0.0	0.0	8.2	8.6	16.7	8.7	9.1	17.8
S.D.	2.59	3.05	2.52	2.05	3.43	0.00	0.00	0.00	1.16	1.60	2.63	0.00	0.00	0.00	2.21	2.06	2.91	1.79	2.01	2.19
N =	25																			

TABLE 28
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL DATA AT SCHEDULED NECROPSY

DAMS FROM GROUP 2: 10 MG/KG/DAY

			VIABLE FETUSES			DEAD FETUSES			EARLY RESORPTIONS			LATE RESORPTIONS			IMPLANTATION SITES			CORPORA LUTEA		
	SEX																			
DAM#	M	F	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT OVARY	RIGHT OVARY	TOTAL
63823	0	0	0	0	0	0	0	0	5	3	8	0	0	0	5	3	8	9	7	16
63829	12	6	8	10	18	0	0	0	0	1	1	0	0	0	8	11	19	8	11	19
63833	5	7	6	6	12	0	0	0	1	0	1	0	0	0	7	6	13	8	10	18
63844	10	7	7	10	17	0	0	0	0	2	2	0	0	0	7	12	19	7	12	19
63847	5	11	9	7	16	0	0	0	0	1	1	0	0	0	9	8	17	9	10	19
63854	6	9	9	6	15	0	0	0	1	2	3	0	0	0	10	8	18	10	9	19
63859	9	9	4	14	18	0	0	0	0	0	0	0	0	0	4	14	18	4	14	18
63861	11	6	7	10	17	0	0	0	0	1	1	0	0	0	7	11	18	7	11	18
63864	13	5	8	10	18	0	0	0	0	1	1	0	0	0	8	11	19	8	11	19
63868	6	12	11	7	18	0	0	0	0	0	0	0	0	0	11	7	18	14	7	21
63869	9	10	8	11	19	0	0	0	0	0	0	0	0	0	8	11	19	10	12	22
63874	8	8	9	7	16	0	0	0	0	0	0	0	0	0	9	7	16	9	8	17
63877	7	7	5	9	14	0	0	0	0	0	0	0	0	0	5	9	14	7	9	16
63903	9	8	10	7	17	0	0	0	1	0	1	0	0	0	11	7	18	11	7	18
63904	5	11	12	4	16	0	0	0	0	0	0	1	0	1	13	4	17	15	4	19
63911	11	8	8	11	19	0	0	0	0	0	0	0	0	0	8	11	19	8	11	19
63915	14	5	10	9	19	0	0	0	0	1	1	0	0	0	10	10	20	10	10	20
63917	5	16	9	12	21	0	0	0	1	1	2	0	0	0	10	13	23	11	14	25
63919	11	7	9	9	18	0	0	0	0	1	1	0	0	0	9	10	19	9	10	19
63924	7	10	9	8	17	0	0	0	0	0	0	0	0	0	9	8	17	10	8	18
63925	11	7	14	4	18	0	0	0	0	0	0	0	0	0	14	4	18	14	4	18
63930	6	7	7	6	13	0	0	0	1	0	1	0	0	0	8	6	14	9	6	15
63935	8	9	6	11	17	0	0	0	0	0	0	0	0	0	6	11	17	6	11	17
63937	9	10	6	13	19	0	0	0	0	0	0	0	0	0	6	13	19	6	13	19
63939	6	8	3	11	14	0	0	0	0	1	1	0	0	0	3	12	15	4	13	17
TOTAL	203	203	194	212	406	0	0	0	10	15	25	1	0	1	205	227	432	223	242	465
MEAN	8.1	8.1	7.8	8.5	16.2	0.0	0.0	0.0	0.4	0.6	1.0	0.0	0.0	0.0	8.2	9.1	17.3	8.9	9.7	18.6
S.D.	3.15	2.95	2.91	3.15	3.97	0.00	0.00	0.00	1.04	0.82	1.66	0.20	0.00	0.20	2.61	3.03	2.87	2.75	2.78	2.02
N =	25																			

TABLE 28
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL DATA AT SCHEDULED NECROPSY

DAMS FROM GROUP 3: 35 MG/KG/DAY

			VIABLE FETUSES			DEAD FETUSES			EARLY RESORPTIONS			LATE RESORPTIONS			IMPLANTATION SITES			CORPORA LUTEA		
	SEX																			
DAM#	M	F	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT HORN	RIGHT HORN	TOTAL	LEFT OVARY	RIGHT OVARY	TOTAL
63822	5	6	4	7	11	0	0	0	2	1	3	0	0	0	6	8	14	6	8	14
63826	9	9	12	6	18	0	0	0	1	0	1	0	0	0	13	6	19	13	7	20
63835	9	7	8	8	16	0	0	0	0	1	1	0	0	0	8	9	17	9	10	19
63840	10	5	6	9	15	0	0	0	0	0	0	0	0	0	6	9	15	8	9	17
63842	5	9	11	3	14	0	0	0	0	0	0	0	0	0	11	3	14	11	4	15
63845	9	7	9	7	16	0	0	0	0	0	0	0	0	0	9	7	16	10	7	17
63848	NONGRAVID																			
63857	0	0	0	0	0	0	0	0	6	11	17	0	0	0	6	11	17	9	14	23
63865	14	5	8	11	19	0	0	0	0	0	0	0	0	0	8	11	19	8	12	20
63871	NONGRAVID																			
63876	4	14	7	11	18	0	0	0	1	0	1	0	0	0	8	11	19	9	11	20
63882	NONGRAVID																			
63885	6	6	3	9	12	0	0	0	1	0	1	0	0	0	4	9	13	5	10	15
63890	6	8	6	8	14	0	0	0	0	1	1	0	0	0	6	9	15	6	10	16
63891	7	10	11	6	17	0	0	0	0	0	0	0	0	0	11	6	17	11	7	18
63893	8	8	8	8	16	0	0	0	1	0	1	0	0	0	9	8	17	9	8	17
63899	8	11	8	11	19	0	0	0	0	2	2	0	0	0	8	13	21	10	14	24
63900	0	0	0	0	0	0	0	0	5	12	17	0	0	0	5	12	17	5	14	19
63901	9	7	9	7	16	0	0	0	1	2	3	0	0	0	10	9	19	10	10	20
63916	9	4	8	5	13	0	0	0	0	1	1	0	0	0	8	6	14	9	9	18
63920	6	5	6	5	11	0	0	0	0	0	0	6	1	7	12	6	18	12	6	18
63929	9	6	5	10	15	0	0	0	0	0	0	0	0	0	5	10	15	5	10	15
63931	8	10	7	11	18	0	0	0	2	0	2	0	0	0	9	11	20	11	12	23
63932	GRAVID, DIED DAY 20																			
63936	4	14	6	12	18	0	0	0	0	0	0	0	0	0	6	12	18	6	13	19
TOTAL	145	151	142	154	296	0	0	0	20	31	51	6	1	7	168	186	354	182	205	387
MEAN	6.9	7.2	6.8	7.3	14.1	0.0	0.0	0.0	1.0	1.5	2.4	0.3	0.0	0.3	8.0	8.9	16.9	8.7	9.8	18.4
S.D.	3.25	3.63	3.16	3.40	5.27	0.00	0.00	0.00	1.66	3.40	4.94	1.31	0.22	1.53	2.45	2.54	2.22	2.39	2.77	2.75
N =	21																			

TABLE 28
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL DATA AT SCHEDULED NECROPSY

DAMS FROM GROUP 4: 50 MG/KG/DAY

			VIABLE FETUSES			DEAD FETUSES			EARLY RESORPTIONS			LATE RESORPTIONS			IMPLANTATION SITES			CORPORA LUTEA		
	SEX		LEFT	RIGHT		LEFT	RIGHT		LEFT	RIGHT		LEFT	RIGHT		LEFT	RIGHT		LEFT	RIGHT	
DAM#	M	F	HORN	HORN	TOTAL	HORN	HORN	TOTAL	HORN	HORN	TOTAL	HORN	HORN	TOTAL	HORN	HORN	TOTAL	OVARY	OVARY	TOTAL
63820	10	7	6	11	17	0	0	0	0	0	0	0	0	0	6	11	17	6	12	18
63821	10	8	9	9	18	0	0	0	0	0	0	0	0	0	9	9	18	9	9	18
63824	9	10	9	10	19	0	0	0	1	0	1	0	0	0	10	10	20	10	10	20
63825	0	0	0	0	0	0	0	0	8	8	16	0	0	0	8	8	16	8	8	16
63827	NONGRAVID, DIED DAY 11																			
63838	6	10	9	7	16	0	0	0	0	0	0	0	0	0	9	7	16	9	7	16
63846	10	6	10	6	16	0	0	0	0	0	0	0	0	0	10	6	16	10	6	16
63849	9	6	5	10	15	0	0	0	0	0	0	0	0	0	5	10	15	7	12	19
63850	6	9	6	9	15	0	0	0	1	0	1	0	0	0	7	9	16	8	10	18
63858	GRAVID, DIED DAY 16																			
63860	0	0	0	0	0	0	0	0	12	7	19	0	0	0	12	7	19	12	7	19
63863	6	12	8	10	18	0	0	0	2	0	2	0	0	0	10	10	20	11	12	23
63872	6	7	10	3	13	0	0	0	2	0	2	0	0	0	12	3	15	15	5	20
63875	GRAVID, DIED DAY 10																			
63879	7	9	5	11	16	0	0	0	0	2	2	0	0	0	5	13	18	7	14	21
63884	10	5	8	7	15	0	0	0	1	1	2	0	0	0	9	8	17	11	11	22
63889	GRAVID, DIED DAY 9																			
63892	GRAVID, DIED DAY 11																			
63894	0	4	3	1	4	0	0	0	0	0	0	0	0	0	3	1	4	9	9	18
63898	NONGRAVID																			
63905	5	12	6	11	17	0	0	0	0	0	0	0	0	0	6	11	17	7	11	18
63908	7	8	8	7	15	0	0	0	0	0	0	0	0	0	8	7	15	8	7	15
63922	6	2	1	7	8	0	0	0	0	0	0	0	0	0	1	7	8	11	8	19
63926	11	8	9	10	19	0	0	0	0	0	0	0	0	0	9	10	19	9	10	19
63933	GRAVID, DIED DAY 10																			
TOTAL	118	123	112	129	241	0	0	0	27	18	45	0	0	0	139	147	286	167	168	335
MEAN	6.6	6.8	6.2	7.2	13.4	0.0	0.0	0.0	1.5	1.0	2.5	0.0	0.0	0.0	7.7	8.2	15.9	9.3	9.3	18.6
S.D.	3.54	3.57	3.32	3.78	6.13	0.00	0.00	0.00	3.24	2.43	5.54	0.00	0.00	0.00	2.95	2.90	4.00	2.19	2.43	2.12
N =	18																			

TABLE 29
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL DATA AT SCHEDULED NECROPSY [% PER LITTER]

DAMS FROM GROUP 1: 0 MG/KG/DAY

DAM #	CORPORA LUTEA	IMPLANTATION SITES	FETUSES VIABLE	FETUSES DEAD	RESORPTIONS EARLY	RESORPTIONS LATE	RESORPTIONS TOTAL	PRE-IMPLANTATION LOSS	POST-IMPLANTATION LOSS	MALES	FEMALES
	#	#	%	%	%	%	%	%	%	%	%
63816	17.0	16.0	81.3	0.0	18.8	0.0	18.8	5.9	18.8	76.9	23.1
63817	18.0	17.0	100.0	0.0	0.0	0.0	0.0	5.6	0.0	52.9	47.1
63818	13.0	5.0	100.0	0.0	0.0	0.0	0.0	61.5	0.0	80.0	20.0
63828	20.0	19.0	100.0	0.0	0.0	0.0	0.0	5.0	0.0	63.2	36.8
63831	16.0	16.0	93.8	0.0	6.3	0.0	6.3	0.0	6.3	40.0	60.0
63832	17.0	17.0	88.2	0.0	11.8	0.0	11.8	0.0	11.8	60.0	40.0
63836	17.0	17.0	82.4	0.0	17.6	0.0	17.6	0.0	17.6	71.4	28.6
63839	22.0	20.0	35.0	0.0	65.0	0.0	65.0	9.1	65.0	28.6	71.4
63841	20.0	19.0	94.7	0.0	5.3	0.0	5.3	5.0	5.3	44.4	55.6
63852	17.0	17.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	47.1	52.9
63867	17.0	16.0	87.5	0.0	12.5	0.0	12.5	5.9	12.5	50.0	50.0
63873	22.0	17.0	100.0	0.0	0.0	0.0	0.0	22.7	0.0	47.1	52.9
63878	20.0	17.0	88.2	0.0	11.8	0.0	11.8	15.0	11.8	33.3	66.7
63880	19.0	18.0	100.0	0.0	0.0	0.0	0.0	5.3	0.0	55.6	44.4
63881	16.0	15.0	93.3	0.0	6.7	0.0	6.7	6.3	6.7	50.0	50.0
63886	17.0	17.0	94.1	0.0	5.9	0.0	5.9	0.0	5.9	18.8	81.3
63887	17.0	17.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	70.6
63895	17.0	17.0	94.1	0.0	5.9	0.0	5.9	0.0	5.9	56.3	43.8
63910	16.0	14.0	100.0	0.0	0.0	0.0	0.0	12.5	0.0	71.4	28.6
63912	19.0	19.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	31.6	68.4
63914	18.0	18.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	61.1	38.9
63918	14.0	14.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	42.9
63923	20.0	20.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	45.0	55.0
63928	20.0	19.0	94.7	0.0	5.3	0.0	5.3	5.0	5.3	61.1	38.9
63938	17.0	17.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	64.7
MEAN	17.8	16.7	93.1	0.0	6.9	0.0	6.9	6.6	6.9	50.7	49.3
S.D.	2.19	2.91	13.44	0.00	13.44	0.00	13.44	12.78	13.44	15.87	15.87
N	25	25	25	25	25	25	25	25	25	25	25

TABLE 29
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL DATA AT SCHEDULED NECROPSY [% PER LITTER]

DAMS FROM GROUP 2: 10 MG/KG/DAY

DAM #	CORPORA LUTEA	IMPLANTATION SITES	FETUSES VIABLE	FETUSES DEAD	RESORPTIONS EARLY	RESORPTIONS LATE	RESORPTIONS TOTAL	PRE-IMPLANTATION LOSS	POST-IMPLANTATION LOSS	MALES	FEMALES
	#	#	%	%	%	%	%	%	%	%	%
63823	16.0	8.0	0.0	0.0	100.0	0.0	100.0	50.0	100.0	0.0	0.0
63829	19.0	19.0	94.7	0.0	5.3	0.0	5.3	0.0	5.3	66.7	33.3
63833	18.0	13.0	92.3	0.0	7.7	0.0	7.7	27.8	7.7	41.7	58.3
63844	19.0	19.0	89.5	0.0	10.5	0.0	10.5	0.0	10.5	58.8	41.2
63847	19.0	17.0	94.1	0.0	5.9	0.0	5.9	10.5	5.9	31.3	68.8
63854	19.0	18.0	83.3	0.0	16.7	0.0	16.7	5.3	16.7	40.0	60.0
63859	18.0	18.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0
63861	18.0	18.0	94.4	0.0	5.6	0.0	5.6	0.0	5.6	64.7	35.3
63864	19.0	19.0	94.7	0.0	5.3	0.0	5.3	0.0	5.3	72.2	27.8
63868	21.0	18.0	100.0	0.0	0.0	0.0	0.0	14.3	0.0	33.3	66.7
63869	22.0	19.0	100.0	0.0	0.0	0.0	0.0	13.6	0.0	47.4	52.6
63874	17.0	16.0	100.0	0.0	0.0	0.0	0.0	5.9	0.0	50.0	50.0
63877	16.0	14.0	100.0	0.0	0.0	0.0	0.0	12.5	0.0	50.0	50.0
63903	18.0	18.0	94.4	0.0	5.6	0.0	5.6	0.0	5.6	52.9	47.1
63904	19.0	17.0	94.1	0.0	0.0	5.9	5.9	10.5	5.9	31.3	68.8
63911	19.0	19.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	57.9	42.1
63915	20.0	20.0	95.0	0.0	5.0	0.0	5.0	0.0	5.0	73.7	26.3
63917	25.0	23.0	91.3	0.0	8.7	0.0	8.7	8.0	8.7	23.8	76.2
63919	19.0	19.0	94.7	0.0	5.3	0.0	5.3	0.0	5.3	61.1	38.9
63924	18.0	17.0	100.0	0.0	0.0	0.0	0.0	5.6	0.0	41.2	58.8
63925	18.0	18.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	61.1	38.9
63930	15.0	14.0	92.9	0.0	7.1	0.0	7.1	6.7	7.1	46.2	53.8
63935	17.0	17.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	47.1	52.9
63937	19.0	19.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	47.4	52.6
63939	17.0	15.0	93.3	0.0	6.7	0.0	6.7	11.8	6.7	42.9	57.1
MEAN	18.6	17.3	91.9	0.0	7.8	0.2	8.1	7.3	8.1	49.7	50.3
S.D.	2.02	2.87	19.62	0.00	19.68	1.18	19.62	11.27	19.62	13.10	13.10
N	25	25	25	25	25	25	25	25	25	24	24

TABLE 29
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL DATA AT SCHEDULED NECROPSY [% PER LITTER]

DAMS FROM GROUP 3: 35 MG/KG/DAY

DAM #	CORPORA LUTEA	IMPLANTATION SITES	FETUSES VIABLE	FETUSES DEAD	RESORPTIONS EARLY	RESORPTIONS LATE	RESORPTIONS TOTAL	PRE-IMPLANTATION LOSS	POST-IMPLANTATION LOSS	MALES	FEMALES
	#	#	%	%	%	%	%	%	%	%	%
63822	14.0	14.0	78.6	0.0	21.4	0.0	21.4	0.0	21.4	45.5	54.5
63826	20.0	19.0	94.7	0.0	5.3	0.0	5.3	5.0	5.3	50.0	50.0
63835	19.0	17.0	94.1	0.0	5.9	0.0	5.9	10.5	5.9	56.3	43.8
63840	17.0	15.0	100.0	0.0	0.0	0.0	0.0	11.8	0.0	66.7	33.3
63842	15.0	14.0	100.0	0.0	0.0	0.0	0.0	6.7	0.0	35.7	64.3
63845	17.0	16.0	100.0	0.0	0.0	0.0	0.0	5.9	0.0	56.3	43.8
63857	23.0	17.0	0.0	0.0	100.0	0.0	100.0	26.1	100.0	0.0	0.0
63865	20.0	19.0	100.0	0.0	0.0	0.0	0.0	5.0	0.0	73.7	26.3
63876	20.0	19.0	94.7	0.0	5.3	0.0	5.3	5.0	5.3	22.2	77.8
63885	15.0	13.0	92.3	0.0	7.7	0.0	7.7	13.3	7.7	50.0	50.0
63890	16.0	15.0	93.3	0.0	6.7	0.0	6.7	6.3	6.7	42.9	57.1
63891	18.0	17.0	100.0	0.0	0.0	0.0	0.0	5.6	0.0	41.2	58.8
63893	17.0	17.0	94.1	0.0	5.9	0.0	5.9	0.0	5.9	50.0	50.0
63899	24.0	21.0	90.5	0.0	9.5	0.0	9.5	12.5	9.5	42.1	57.9
63900	19.0	17.0	0.0	0.0	100.0	0.0	100.0	10.5	100.0	0.0	0.0
63901	20.0	19.0	84.2	0.0	15.8	0.0	15.8	5.0	15.8	56.3	43.8
63916	18.0	14.0	92.9	0.0	7.1	0.0	7.1	22.2	7.1	69.2	30.8
63920	18.0	18.0	61.1	0.0	0.0	38.9	38.9	0.0	38.9	54.5	45.5
63929	15.0	15.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	40.0
63931	23.0	20.0	90.0	0.0	10.0	0.0	10.0	13.0	10.0	44.4	55.6
63936	19.0	18.0	100.0	0.0	0.0	0.0	0.0	5.3	0.0	22.2	77.8
MEAN	18.4	16.9	83.8	0.0	14.3	1.9	16.2	8.1	16.2	49.4	50.6
S.D.	2.75	2.22	29.33	0.00	29.05	8.49	29.33	6.87	29.33	13.80	13.80
N	21	21	21	21	21	21	21	21	21	19	19

TABLE 29
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL DATA AT SCHEDULED NECROPSY [% PER LITTER]

DAMS FROM GROUP 4: 50 MG/KG/DAY

DAM #	CORPORA LUTEA	IMPLANTATION SITES	FETUSES VIABLE	FETUSES DEAD	RESORPTIONS EARLY	RESORPTIONS LATE	RESORPTIONS TOTAL	PRE-IMPLANTATION LOSS	POST-IMPLANTATION LOSS	MALES	FEMALES
	#	#	%	%	%	%	%	%	%	%	%
63820	18.0	17.0	100.0	0.0	0.0	0.0	0.0	5.6	0.0	58.8	41.2
63821	18.0	18.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	55.6	44.4
63824	20.0	20.0	95.0	0.0	5.0	0.0	5.0	0.0	5.0	47.4	52.6
63825	16.0	16.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0
63838	16.0	16.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	62.5
63846	16.0	16.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	37.5
63849	19.0	15.0	100.0	0.0	0.0	0.0	0.0	21.1	0.0	60.0	40.0
63850	18.0	16.0	93.8	0.0	6.3	0.0	6.3	11.1	6.3	40.0	60.0
63860	19.0	19.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0
63863	23.0	20.0	90.0	0.0	10.0	0.0	10.0	13.0	10.0	33.3	66.7
63872	20.0	15.0	86.7	0.0	13.3	0.0	13.3	25.0	13.3	46.2	53.8
63879	21.0	18.0	88.9	0.0	11.1	0.0	11.1	14.3	11.1	43.8	56.3
63884	22.0	17.0	88.2	0.0	11.8	0.0	11.8	22.7	11.8	66.7	33.3
63894	18.0	4.0	100.0	0.0	0.0	0.0	0.0	77.8	0.0	0.0	100.0
63905	18.0	17.0	100.0	0.0	0.0	0.0	0.0	5.6	0.0	29.4	70.6
63908	15.0	15.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	46.7	53.3
63922	19.0	8.0	100.0	0.0	0.0	0.0	0.0	57.9	0.0	75.0	25.0
63926	19.0	19.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	57.9	42.1
MEAN	18.6	15.9	85.7	0.0	14.3	0.0	14.3	14.1	14.3	47.5	52.5
S.D.	2.12	4.00	31.55	0.00	31.55	0.00	31.55	21.64	31.55	17.82	17.82
N	18	18	18	18	18	18	18	18	18	16	16

TABLE 30
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL WEIGHTS [G]

FETUS #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DAM # MEAN	GROUP 1: 0 MG/KG/DAY																						
63816 3.7	4.0	3.5	3.8	3.6	E	3.8	E /	3.5	3.6	E	3.7	3.8	3.6	3.5	3.7	3.5							
63817 3.6	3.4	3.3	3.2	3.2	3.5	3.7	3.9	3.7	3.7	3.6/	3.7	3.6	3.8	3.9	3.6	3.8	3.5						
63818 3.6	3.8/	3.8	3.3	3.5	3.6																		
63828 3.6	3.3	3.3	3.4	3.6	3.4	3.9	3.8	3.0	3.5	4.1	4.0/	3.9	3.8	3.7	3.8	3.9	3.7	3.6	3.4				
63831 3.7	3.6	3.9	3.8	3.5	3.6	3.8	3.8	3.4	3.5	3.9/	3.7	3.8	3.8	E	3.7	3.7							
63832 3.7	3.4	3.4	E	3.9	3.9	3.9/	4.0	3.7	4.0	4.0	3.5	3.9	3.7	3.8	3.6	E	3.5						
63836 3.9	E	E	3.5	3.9	4.1	4.1/	4.2	E	4.0	3.7	4.0	4.1	3.9	3.8	3.7	3.8	3.8						
63839 3.7	3.6	3.9	E	E	3.5	E	E	E /	E	3.4	3.8	E	4.0	E	E	E	E	3.9	E	E			
63841 3.8	4.1	3.9	4.0	3.5	3.6	3.6	4.0	3.9	3.6	E	4.0/	3.4	4.0	4.1	4.0	3.9	4.1	3.6	3.7				
63852 3.7	4.0	3.3	3.4	3.7	4.0	3.8	3.7/	3.6	3.8	3.4	3.6	4.0	3.6	3.7	3.7	3.6	3.5						
63867 3.6	3.4	3.5	3.6	3.8	E	3.9	3.6	3.5/	3.9	E	4.2	3.9	3.6	3.3	4.0	2.5							
63873 3.4	2.9	3.3	3.3	3.6	3.3	3.8	3.6	3.6/	3.3	3.6	3.6	3.5	3.7	3.4	3.4	3.4	3.0						
63878 3.1	E	3.0	3.0	2.8	3.0	3.1	3.2	E	3.4	3.2	3.3/	3.3	3.0	3.4	3.4	3.0	3.1						
63880 3.4	3.7	3.3	3.3	4.1	3.7	3.4/	3.5	3.5	3.5	3.2	3.8	3.2	3.5	3.5	3.0	2.8	3.3	2.9					
63881 3.7	4.1	3.6	3.6	2.2	4.0	3.9/	4.1	E	3.6	4.0	3.4	3.6	3.8	3.7	3.7								
63886 3.7	2.9	3.7	3.8	4.1	3.7	4.0	3.4	3.5	3.7/	3.7	E	3.5	3.8	3.7	3.7	3.6	3.6						
63887 3.7	3.5	3.4	3.6	3.7	4.2	3.7	4.0	4.0/	3.8	3.4	3.6	3.7	4.1	3.3	3.8	3.9	3.6						
63895 3.8	3.8	3.7	3.9	3.8	3.9	3.8	3.9/	4.0	4.0	3.8	3.8	4.1	3.8	3.5	E	3.7	3.8						
63910 3.6	3.2	3.6	3.6	3.4	3.5	3.9	3.6	4.0/	3.8	3.7	3.4	3.6	3.5	3.4									
63912 3.5	3.2	3.3	3.7	3.5	3.3	3.3	3.5	3.3	3.8/	3.5	3.5	3.6	3.6	3.7	3.4	3.3	3.3	3.5	3.4				
63914 4.1	4.1	4.1	4.1	3.9	4.6	3.8	4.2	3.9	3.8	4.5/	4.3	4.1	4.2	4.0	4.4	4.2	4.1	4.0					
63918 3.7	3.8	3.9	3.9	3.8	3.8	3.7	3.6	3.8/	3.9	4.2	3.1	4.2	2.1	3.8									
63923 3.6	3.3	3.7	3.5	3.7	3.6	3.4	3.8	3.6	3.6/	3.9	3.6	3.3	3.7	3.5	3.4	3.9	4.1	3.9	3.7	3.3			
63928 3.7	3.9	3.5	3.6	3.8	3.3	3.7	3.7	3.9	4.1	3.6/	3.7	4.1	3.5	3.5	3.7	3.5	3.8	3.9	E				
63938 3.6	3.3	3.7	3.3	3.4	3.5	3.7	3.4	3.5	3.4	3.6/	3.8	4.0	3.7	4.0	3.4	3.5	3.6						

MEAN 3.6
S.D. 0.18
N 25

E = EARLY RESORPTION L = LATE RESORPTION D = DEAD FETUS '/' DENOTES POSITION OF CERVIX

TABLE 30

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FETAL WEIGHTS [G]

FETUS #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DAM #	MEAN	GROUP 2: 10 MG/KG/DAY																						
63823	0.0	E	E	E	E	E /	E	E	E															
63829	3.5	3.6	3.6	3.7	3.6	3.3	3.7	3.8	3.6/	3.6	3.4	E	3.5	3.4	3.4	3.7	3.6	3.3	3.5	2.0				
63833	3.9	3.7	3.9	3.8	3.8	E	3.9	4.1/	4.1	3.8	3.9	4.0	3.6	3.8										
63844	3.8	3.8	4.4	4.0	4.4	4.4	4.2	4.3/	4.3	3.8	3.2	3.2	3.9	3.5	3.4	3.4	E	4.0	3.2	E				
63847	3.6	3.8	3.6	3.7	3.9	3.8	3.5	3.0	3.7	3.8/	3.5	3.7	3.4	E	3.7	3.1	3.4	3.7						
63854	3.8	3.3	3.2	3.8	3.7	E	4.0	4.2	3.8	4.0	3.9/	3.8	E	4.3	4.0	4.0	E	3.8	3.5					
63859	3.7	3.5	3.9	3.9	4.0/	3.7	3.7	3.9	3.8	3.6	3.7	3.8	3.7	3.8	3.8	3.1	2.9	3.8	3.6					
63861	3.9	3.8	4.1	3.7	3.9	3.8	4.0	4.1/	4.1	3.6	3.8	3.7	E	3.8	4.2	3.5	4.2	4.0	3.9					
63864	3.5	3.4	3.4	3.5	3.5	3.7	3.5	3.5	3.8/	3.2	3.2	3.7	3.6	E	3.6	3.8	3.5	3.7	3.5	3.5				
63868	3.5	3.5	3.5	3.4	3.5	3.6	3.7	3.2	3.4	3.5	3.4	3.3/	3.7	3.6	3.5	3.5	3.5	3.3	3.5					
63869	3.5	3.5	3.4	3.3	3.6	3.4	3.4	3.7	3.7/	3.4	3.4	3.8	3.5	3.4	3.5	3.4	3.4	3.3	3.4	3.2				
63874	3.9	3.8	3.5	3.9	4.0	4.1	3.9	3.7	4.0	3.8/	4.0	3.9	3.7	3.8	3.9	4.0	3.8							
63877	3.8	3.4	3.9	3.9	3.9	3.7/	3.6	3.8	3.8	3.9	3.6	4.0	3.9	3.5	3.6									
63903	3.7	E	3.7	3.8	3.5	3.4	3.4	3.8	3.8	3.5	3.8	3.7/	3.9	3.9	3.8	3.7	4.0	3.7	3.6					
63904	3.5	3.6	3.6	3.6	3.4	3.1	3.4	3.7	3.2	3.3	3.2	3.5	3.4	L /	3.5	3.7	3.6	3.8						
63911	3.7	3.7	3.3	4.1	4.0	3.7	3.3	3.7	3.9/	3.8	3.7	3.5	3.7	4.0	4.2	3.8	4.1	2.7	3.7	3.7				
63915	3.6	3.0	4.0	3.6	3.0	3.9	3.9	4.0	3.6	3.4	3.0/	3.5	3.6	E	3.7	3.8	4.2	3.6	3.2	3.5	3.3			
63917	3.4	3.5	3.6	3.5	3.4	3.5	3.8	E	3.7	3.6	3.8/	3.6	3.3	3.2	3.4	3.4	3.5	3.0	3.6	3.2	3.2	3.2	3.3	E
63919	3.7	3.7	3.7	3.7	3.5	3.7	3.8	4.1	3.8	4.3/	E	3.7	3.6	3.8	3.8	2.8	4.0	3.7	4.0	3.4				
63924	3.8	3.6	3.4	3.6	3.8	3.5	3.9	3.9	3.9	4.2/	4.0	3.8	4.0	3.8	3.8	3.9	3.9	3.8						
63925	3.7	3.3	3.8	3.7	3.4	2.4	3.4	3.9	4.0	3.7	4.0	3.8	3.5	3.8	3.6/	3.9	3.9	4.0	3.7					
63930	3.4	3.3	3.7	3.4	E	3.4	3.3	3.5	3.4/	3.5	3.2	3.6	3.5	3.4	3.0									
63935	3.6	3.2	3.8	3.9	3.9	3.1	3.6/	3.6	3.4	3.8	3.4	4.1	3.9	3.6	3.6	3.5	3.8	3.5						
63937	3.5	3.5	3.5	3.5	3.7	3.6	3.3/	3.3	3.3	3.5	3.6	3.5	3.2	3.6	3.7	3.3	3.6	3.7	3.5	3.2				
63939	3.4	3.5	3.5	3.8/	3.4	3.4	3.4	3.4	3.6	3.4	3.2	3.0	3.4	3.4	3.4	E								
MEAN	3.6																							
S.D.	0.16																							
N	24																							

E = EARLY RESORPTION L = LATE RESORPTION D = DEAD FETUS '/' DENOTES POSITION OF CERVIX

TABLE 30
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL WEIGHTS [G]

FETUS #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DAM #	MEAN	GROUP 3: 35 MG/KG/DAY																						
63822	3.8	4.1	3.5	3.8	E	E	3.9/	4.1	3.6	E	4.0	3.8	3.8	3.6	3.2									
63826	3.2	2.9	2.8	E	3.1	3.0	3.1	3.3	2.9	3.0	3.0	3.1	3.2	3.8/	3.1	3.5	3.5	3.2	3.2	3.2				
63835	3.7	3.6	3.3	4.0	3.4	3.7	3.9	3.0	4.0/	4.0	4.0	3.7	3.7	4.0	E	3.9	3.7	3.4						
63840	3.7	3.8	3.5	3.9	3.7	3.6	3.9/	3.8	3.7	3.9	3.7	3.7	3.9	3.6	3.4	3.2								
63842	3.6	3.2	3.3	3.5	3.1	3.6	3.6	3.7	3.7	3.8	3.3	3.4/	3.9	4.2	3.8									
63845	3.7	3.6	3.8	3.3	3.9	2.8	3.7	3.8	3.9	3.4/	3.7	3.6	3.7	3.8	3.9	3.8	3.8							
63857	0.0	E	E	E	E	E	E /	E	E	E	E	E	E	E	E	E	E	E						
63865	3.0	3.1	3.0	2.9	3.0	3.0	2.9	3.1	3.2/	3.0	2.9	3.1	3.2	3.0	2.8	3.0	2.9	3.0	2.9	2.8				
63876	2.7	2.9	2.7	2.9	2.9	E	2.7	2.7	3.0/	2.9	2.7	2.5	2.8	2.8	2.8	2.8	2.6	2.9	1.5	2.4				
63885	3.3	3.6	E	3.8	3.4/	3.0	2.7	3.3	3.1	3.7	3.5	2.8	3.3	3.4										
63890	3.8	3.4	3.8	3.9	3.9	3.8	3.8/	E	3.8	3.9	3.9	3.7	4.0	4.2	3.4	3.8								
63891	3.5	3.4	3.6	3.5	3.9	3.2	3.3	3.8	3.8	3.5	3.6	3.6/	3.8	3.4	2.8	3.6	3.5	3.6						
63893	3.5	3.2	3.3	3.7	3.8	3.2	3.3	3.5	E	3.3/	3.7	3.3	4.0	3.7	3.6	3.7	3.6	3.6						
63899	3.8	3.7	3.5	3.9	3.5	3.9	3.8	3.6	3.9/	3.8	4.0	3.9	4.0	4.0	3.9	3.9	3.8	4.1	3.0	3.8	E	E		
63900	0.0	E	E	E	E	E /	E	E	E	E	E	E	E	E	E	E	E	E						
63901	3.6	3.6	3.6	3.5	3.6	3.2	E	3.6	3.6	3.6	3.7/	3.8	3.4	3.3	3.6	3.6	3.7	E	E	3.4				
63916	4.0	3.7	3.7	3.9	4.0	3.9	4.3	4.0	4.2/	4.2	4.0	4.1	E	3.8	3.8									
63920	1.7	1.9	1.7	1.6	L	1.8	L	L	1.4	2.0	L	L	L /	L	1.6	1.5	1.8	1.6	1.8					
63929	3.4	3.5	3.3	3.4	3.4	3.8/	3.6	3.5	3.5	3.5	3.4	3.3	3.2	3.3	3.3	3.2								
63931	3.5	E	E	3.5	3.3	3.6	3.8	3.6	3.7	3.7/	3.7	3.5	3.3	3.3	3.6	3.5	3.4	3.6	3.3	3.7	3.4			
63936	4.0	3.9	4.2	3.9	3.8	4.2	4.3/	4.3	4.1	4.1	4.1	3.8	4.0	3.7	3.6	3.8	3.7	4.1	3.6					
MEAN	3.4																							
S.D.	0.53																							
N	19																							

E = EARLY RESORPTION L = LATE RESORPTION D = DEAD FETUS '/' DENOTES POSITION OF CERVIX

TABLE 30

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FETAL WEIGHTS [G]

FETUS #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DAM #	MEAN	GROUP 4: 50 MG/KG/DAY																						
63820	3.7	3.7	3.6	3.6	3.6	3.7	4.0/	3.8	3.6	3.9	3.8	4.0	3.7	3.9	3.6	3.6	3.2	3.4						
63821	3.6	3.5	3.7	3.5	3.6	3.9	3.7	3.5	3.7	3.6/	3.8	3.3	3.4	3.8	3.4	3.5	3.4	3.4	3.5					
63824	3.5	3.3	4.1	3.5	3.8	1.7	3.8	E	3.2	3.4	3.9/	3.9	3.7	3.6	3.7	3.9	2.9	3.5	3.6	3.8	3.4			
63825	0.0	E	E	E	E	E	E	E	E /	E	E	E	E	E	E	E	E							
63838	3.7	3.8	3.8	4.0	3.6	3.6	3.8	3.4	3.8	3.5/	3.6	3.8	3.7	3.9	2.7	4.0	3.6							
63846	3.4	3.0	3.3	3.4	3.1	3.3	3.4	3.4	3.3	3.4	4.0/	3.5	3.3	3.7	3.6	3.2	3.3							
63849	3.8	3.7	4.0	4.1	3.9	4.0/	4.0	3.9	4.0	3.8	3.8	3.6	3.6	3.6	3.5	3.1								
63850	3.7	3.7	3.4	E	3.8	3.8	3.4	3.9/	4.2	3.9	3.3	3.9	3.4	3.5	3.6	3.6	3.8							
63860	0.0	E	E	E	E	E	E	E	E	E	E	E	E /	E	E	E	E	E	E	E				
63863	3.7	3.6	4.0	E	3.4	3.9	3.7	3.8	4.0	E	3.9/	4.2	4.1	3.3	3.5	3.6	3.6	3.9	3.6	3.8	3.1			
63872	3.9	3.9	E	3.9	4.0	E	4.1	3.9	4.0	4.2	4.1	4.0	3.8/	3.4	4.1	3.7								
63879	3.8	3.8	3.9	4.0	3.8	4.1/	E	4.0	4.1	4.0	4.1	3.7	3.7	E	3.6	3.4	3.6	3.8	3.8					
63884	3.4	3.5	3.1	E	3.3	3.1	3.9	3.6	3.1	3.5/	E	3.2	3.5	3.4	3.5	3.6	3.8	3.4						
63894	4.3	4.2	4.4	4.3/	4.3																			
63905	3.6	3.6	3.8	4.0	3.5	3.8	3.9/	3.7	3.5	3.8	3.6	3.5	3.5	3.8	3.2	3.9	3.5	3.3						
63908	3.5	3.6	3.6	3.8	3.5	3.2	3.4	3.7	3.5/	3.5	3.8	3.6	3.7	3.4	3.5	3.3								
63922	3.9	3.8/	4.2	3.9	3.1	4.1	3.8	3.9	4.3															
63926	3.3	2.8	3.4	3.3	3.1	3.2	3.2	3.1	3.5	3.4/	3.3	3.1	3.3	3.5	3.6	3.5	3.6	3.7	3.3	3.2				
MEAN	3.7																							
S.D.	0.24																							
N	16																							

E = EARLY RESORPTION L = LATE RESORPTION D = DEAD FETUS '/' DENOTES POSITION OF CERVIX

PFWTv4.14
12/15/2004

TABLE 31

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63816	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16		
	A A A A E A E/ A A E A A A A A A		
	SEX: M F M M - M - M M - F M M M M F		
EXTERNAL	5	EARLY RESORPTION	
EXTERNAL	7	EARLY RESORPTION	
EXTERNAL	10	EARLY RESORPTION	
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,6,8,9,11,12,13,14,15,16		
VISCERAL	1,2,3,4,6,8,9,11,12,13,14,15,16		
SKELETAL	1,2,3,4,6,8,9,11,13,14,15		
63817	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		
	A A A A A A A A A A/ A A A A A A A		
	SEX: M F F F M F M M M F M F F M M M F		
SKELETAL	3	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
SKELETAL	1,2,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
63818	1 2 3 4 5		
	A/ A A A A		
	SEX: F M M M M		

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63818 (CONTINUED)			
SKELETAL	3	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	4	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5		
VISCERAL	1,2,3,4,5		
SKELETAL	1,2,5		

63828

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	A	A	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A
SEX:	F	F	M	M	F	M	M	F	M	M	F	M	M	F	F	M	M	M	M

SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
SKELETAL	1,2,3,4,5,8,10,11,12,14,15,16,17,18,19		

63831

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	A	A	A	A	A	A	A	A	A	A/	A	A	A	E	A	A
SEX:	F	M	F	F	F	F	M	M	F	M	M	F	M	-	F	F

SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		V CERVICAL CENTRUM #1 OSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY		FETUS #		GRADE
63831 (CONTINUED)				
	SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
			V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
			V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
	EXTERNAL	14	EARLY RESORPTION	
	SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,15,16		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,15,16		
	SKELETAL	2,3,5,7,8,10,12,15		

63832		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		A	A	E	A	A	A/	A	A	A	A	A	A	A	A	A	E	A
	SEX:	F	F	-	F	M	M	M	M	M	F	F	M	M	M	M	-	F

SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
EXTERNAL	3	EARLY RESORPTION	
SKELETAL	14	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	16	EARLY RESORPTION	
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,4,5,6,7,8,9,10,11,12,13,14,15,17		
VISCERAL	1,2,4,5,6,7,8,9,10,11,12,13,14,15,17		
SKELETAL	1,4,5,6,7,8,9,10,11,12,13,15,17		

63836		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		E	E	A	A	A	A/	A	E	A	A	A	A	A	A	A	A	A
	SEX:	-	-	F	F	M	M	M	-	F	M	M	M	M	M	F	M	M

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63836 (CONTINUED)			
EXTERNAL	1	EARLY RESORPTION	
EXTERNAL	2	EARLY RESORPTION	
SKELETAL	6	V HYOID UNOSSIFIED	P
EXTERNAL	8	EARLY RESORPTION	
SKELETAL	9	V HYOID UNOSSIFIED	P
SKELETAL	15	V HYOID UNOSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	3,4,5,6,7,9,10,11,12,13,14,15,16,17		
VISCERAL	3,4,5,6,7,9,10,11,12,13,14,15,16,17		
SKELETAL	3,4,5,7,10,11,12,13,14,16,17		

63839

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	A	A	E	E	A	E	E	E/	E	A	A	E	A	E	E	E	E	A	E	E
SEX:	F	M	-	-	F	-	-	-	-	F	F	-	M	-	-	-	-	F	-	-

SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	3	EARLY RESORPTION	
EXTERNAL	4	EARLY RESORPTION	
EXTERNAL	6	EARLY RESORPTION	
EXTERNAL	7	EARLY RESORPTION	
EXTERNAL	8	EARLY RESORPTION	
EXTERNAL	9	EARLY RESORPTION	
EXTERNAL	12	EARLY RESORPTION	
EXTERNAL	14	EARLY RESORPTION	
EXTERNAL	15	EARLY RESORPTION	
EXTERNAL	16	EARLY RESORPTION	
EXTERNAL	17	EARLY RESORPTION	
SKELETAL	18	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	19	EARLY RESORPTION	
EXTERNAL	20	EARLY RESORPTION	

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY

63839 (CONTINUED)

	FETUS #	GRADE
	NO REMARKABLE OBSERVATIONS	
EXTERNAL	1,2,5,10,11,13,18	
VISCERAL	1,2,5,10,11,13,18	
SKELETAL	2,5,10,11,13	

63841

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	A	A	A	A	A	A	A	A	A	E	A/	A	A	A	A	A	A	A	A
SEX:	M	F	M	F	F	F	M	M	F	-	F	F	M	M	M	F	M	F	F

			GRADE
SKELETAL	1	V HYOID UNOSSIFIED	P
SKELETAL	2	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	3	V HYOID UNOSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
VISCERAL	5	V MAJOR BLOOD VESSEL VARIATION RETROESOPHAGEAL RIGHT SUBCLAVIAN: RIGHT SUBCLAVIAN COURSES RETROESOPHAGEAL AND JOINS AORTIC ARCH ADJACENT TO DUCTUS ARTERIOSUS (NO BRACHIOCEPHALIC TRUNK)	P
SKELETAL		V HYOID UNOSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	7	V HYOID UNOSSIFIED	P
SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	9	V HYOID UNOSSIFIED	P
EXTERNAL	10	EARLY RESORPTION	
SKELETAL	12	V HYOID UNOSSIFIED	P
		V 14TH RUDIMENTARY RIB(S)	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63841 (CONTINUED)			
		LEFT	
SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5 AND #6	
SKELETAL	14	V HYOID UNOSSIFIED	P
		V 14TH RUDIMENTARY RIB(S)	P
		BILATERAL	
		V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	16	V HYOID UNOSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#6	
SKELETAL	17	V 14TH RUDIMENTARY RIB(S)	P
		LEFT	
SKELETAL	18	V HYOID UNOSSIFIED	P
		V 14TH RUDIMENTARY RIB(S)	P
		BILATERAL	
SKELETAL	19	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5	
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19		
VISCERAL	1,2,3,4,6,7,8,9,11,12,13,14,15,16,17,18,19		
SKELETAL	6,11,15		

63852

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	A	A
SEX:	M	F	F	F	M	M	F	M	F	M	F	M	F	M	F	M	F

	NO REMARKABLE OBSERVATIONS
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17
SKELETAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31

A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63867			
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	
		A A A A E A A A/ A E A A A A A A	
	SEX:	F M F M - M M F F - M M F F M F	
EXTERNAL	5	EARLY RESORPTION	
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	10	EARLY RESORPTION	
SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
		V 14TH RUDIMENTARY RIB(S) BILATERAL	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,6,7,8,9,11,12,13,14,15,16		
VISCERAL	1,2,3,4,6,7,8,9,11,12,13,14,15,16		
SKELETAL	1,2,3,4,7,8,9,12,13,14,15		
63873			
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	
		A A A A A A A A/ A A A A A A A A A	
	SEX:	F F M F F M M M F M M M F F F M F	
SKELETAL	1	V HYOID UNOSSIFIED	P
		V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	5	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63873 (CONTINUED)			
		#5	
SKELETAL		V HYOID UNOSSIFIED	P
SKELETAL	11	V HYOID UNOSSIFIED	P
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5	
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	15	V HYOID UNOSSIFIED	P
SKELETAL	17	V 14TH RUDIMENTARY RIB(S)	P
		RIGHT	
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
SKELETAL	4,6,7,8,10,14,16		

63878

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	E	A	A	A	A	A	A	E	A	A	A/	A	A	A	A	A	A
SEX:	-	M	F	F	F	F	F	-	M	M	F	M	F	F	M	F	F

EXTERNAL	1	EARLY RESORPTION	
SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5 AND #6	
SKELETAL	3	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5	
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5	
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5 AND #6	
SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5	
EXTERNAL	8	EARLY RESORPTION	

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63878 (CONTINUED)			
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	10	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	2,3,4,5,6,7,9,10,11,12,13,14,15,16,17		
VISCERAL	2,3,4,5,6,7,9,10,11,12,13,14,15,16,17		
SKELETAL	6,11,12,13,14,15,16,17		
63880	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18		
	A A A A A A/ A A A A A A A A A A A A		
SEX:	M F F M M M F F M F M F M F M F M M		
SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	3	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	4	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	8	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	9	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63880 (CONTINUED)			
	#5		
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
SKELETAL	2,5,7,10,11,13,14,15,17		
63881	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		
	A A A A A A/ A E A A A A A A A		
SEX:	M M M M F M F - F M F F F F M		
SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	4	V ENTIRE STERNUM UNOSSIFIED	P
		V PUBIS UNOSSIFIED BILATERAL	P
		V REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES CERVICAL #4 THROUGH #7, BILATERAL	1
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	8	EARLY RESORPTION	
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	14	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	15	V 14TH RUDIMENTARY RIB(S) LEFT	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,9,10,11,12,13,14,15		
VISCERAL	1,2,3,4,5,6,7,9,10,11,12,13,14,15		
SKELETAL	1,2,5,9,10,11,13		

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63886			
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	
		A A A A A A A A A/ A E A A A A A	
	SEX:	F F F M F M F F F F - F F M F F F	
SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	4	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	10	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	11	EARLY RESORPTION	
SKELETAL	12	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	15	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	17	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17		
SKELETAL	3,5,7,9,14,16		
63887			
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	
		A A A A A A A A/ A A A A A A A A A	
	SEX:	F M F F M F M F F F F F M F M F F	
SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	3	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63887 (CONTINUED)			
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	10	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	15	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
SKELETAL	2,5,7,9,11,12,13,17		
63895	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		
	A A A A A A A/ A A A A A A A E A A		
SEX:	M F M M M F F F F M F M M F - M M		
SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	3	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63895 (CONTINUED)			
SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
EXTERNAL	15	EARLY RESORPTION #5	
SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	17	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,17		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,17		
SKELETAL	4,5,6,7,8,10,11,12		

63910	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	A	A	A	A	A	A	A	A/	A	A	A	A	A	A
SEX:	M	M	M	F	M	M	M	M	F	M	F	F	M	M

SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
SKELETAL	1,2,3,6,7,8,10,12,13,14		

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31

A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 1: 0 MG/KG/DAY

63912

FETUS #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	A	A
SEX:	F	F	F	F	M	M	F	F	F	M	F	F	M	M	F	F	F	F	M

			GRADE
SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	5	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	15	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	17	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	19	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
SKELETAL	1,2,4,10,11,12,13,14,16		

63914

FETUS #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	A	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A
SEX:	M	M	F	F	M	F	F	F	F	M	M	F	M	M	M	M	M	M

			GRADE
SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	4	V CERVICAL CENTRUM #1 OSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
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SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63914 (CONTINUED)			
SKELETAL	5	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	12	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	16	V CERVICAL CENTRUM #1 OSSIFIED	P
		V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	17	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
SKELETAL	6,8,10,14,15,18		

63918	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	A	A	A	A	A	A	A	A/	A	A	A	A	A	A
SEX:	M	F	M	M	F	F	M	M	F	M	F	M	F	M

SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
		V STERNEBRA(E) #1,#2,#3 AND/OR #4 UNOSSIFIED #2 THROUGH #4	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
SKELETAL	1,2,3,4,5,6,7,8,9,10,11,12,14		

63923	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	A	A	A
SEX:	F	M	F	F	F	F	M	M	F	M	F	F	M	F	F	M	M	M	M	F

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DAMS FROM GROUP 1: 0 MG/KG/DAY		FETUS #		GRADE
63923 (CONTINUED)				
	SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
			V REDUCED OSSIFICATION OF THE 13TH RIB(S) RIGHT	1
	SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	5	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	15	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20		
	SKELETAL	2,4,6,7,8,9,10,11,12,13,14,16,17,18,19,20		

63928		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		A	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	E	
	SEX:	M	F	F	M	M	M	F	M	M	F	M	M	F	M	M	F	F	M	-	
	SKELETAL		2																		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P
	SKELETAL		3																		V CERVICAL CENTRUM #1 OSSIFIED — P
																					V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P
	SKELETAL		4																		V CERVICAL CENTRUM #1 OSSIFIED — P
	SKELETAL		8																		V CERVICAL CENTRUM #1 OSSIFIED — P
	SKELETAL		10																		V CERVICAL CENTRUM #1 OSSIFIED — P
	SKELETAL		12																		V CERVICAL CENTRUM #1 OSSIFIED — P
	SKELETAL		13																		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P
	SKELETAL		16																		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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DAMS FROM GROUP 1: 0 MG/KG/DAY	FETUS #		GRADE
63928 (CONTINUED)			
SKELETAL	18	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	19	EARLY RESORPTION	
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
SKELETAL	1,5,6,7,9,11,14,15,17		

63938

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	A	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A
SEX:	F	M	F	F	F	M	F	F	F	F	F	M	F	M	F	M	M

SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	10	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	12	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	16	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
SKELETAL	1,2,4,5,8,11,14,15,17		

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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TABLE 31

A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63823			
	1	2	3	4	5	6	7	8											
	E	E	E	E	E/	E	E	E											
SEX:	-	-	-	-	-	-	-	-											
EXTERNAL		1			EARLY RESORPTION														
EXTERNAL		2			EARLY RESORPTION														
EXTERNAL		3			EARLY RESORPTION														
EXTERNAL		4			EARLY RESORPTION														
EXTERNAL		5			EARLY RESORPTION														
EXTERNAL		6			EARLY RESORPTION														
EXTERNAL		7			EARLY RESORPTION														
EXTERNAL		8			EARLY RESORPTION														
63829																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	A	A	A	A	A	A	A	A/	A	A	E	A	A	A	A	A	A	A	A
SEX:	F	F	M	M	F	M	M	M	M	M	-	M	F	M	F	M	M	M	F
SKELETAL		1			V CERVICAL CENTRUM #1 OSSIFIED														P
SKELETAL		5			V CERVICAL CENTRUM #1 OSSIFIED														P
SKELETAL		6			V 14TH RUDIMENTARY RIB(S) BILATERAL														P
SKELETAL		7			V CERVICAL CENTRUM #1 OSSIFIED														P
					V 14TH RUDIMENTARY RIB(S) LEFT														P
SKELETAL		8			V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5														P
					V CERVICAL CENTRUM #1 OSSIFIED														P
SKELETAL		9			V CERVICAL CENTRUM #1 OSSIFIED														P
SKELETAL		10			V CERVICAL CENTRUM #1 OSSIFIED														P

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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DAMS FROM GROUP 2: 10 MG/KG/DAY		FETUS #		GRADE
63829 (CONTINUED)				
	EXTERNAL	11	EARLY RESORPTION	
	SKELETAL	13	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
	SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	15	V CERVICAL CENTRUM #1 OSSIFIED	P
			V 14TH RUDIMENTARY RIB(S) LEFT	P
	SKELETAL	17	V 14TH RUDIMENTARY RIB(S) LEFT	P
	SKELETAL	19	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
			V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
			V STERNEBRA(E) #1,#2,#3 AND/OR #4 UNOSSIFIED #2 AND #4	P
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19		
	SKELETAL	2,3,4,12,16,18		
63833		1 2 3 4 5 6 7 8 9 10 11 12 13		
		A A A A E A A/ A A A A A A		
	SEX:	M M F F - F M M F M F F F		
	SKELETAL	1	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
	SKELETAL	2	V 14TH RUDIMENTARY RIB(S) LEFT	P
	SKELETAL	3	V 14TH RUDIMENTARY RIB(S)	P

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DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63833 (CONTINUED)			
		BILATERAL	
EXTERNAL	5	EARLY RESORPTION	
SKELETAL	7	V 14TH RUDIMENTARY RIB(S)	P
		BILATERAL	
SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED	P
		V 14TH RUDIMENTARY RIB(S)	P
		BILATERAL	
SKELETAL	10	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	11	V 14TH RUDIMENTARY RIB(S)	P
		RIGHT	
SKELETAL	12	V 14TH RUDIMENTARY RIB(S)	P
		BILATERAL	
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,6,7,8,9,10,11,12,13		
VISCERAL	1,2,3,4,6,7,8,9,10,11,12,13		
SKELETAL	4,6,9,13		

63844

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	E	A	A	E
SEX:	F	M	M	M	M	M	M	F	F	M	F	F	F	M	M	-	M	F	-

SKELETAL	5	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5	
SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5	
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P
		#5	
SKELETAL	10	V CERVICAL CENTRUM #1 OSSIFIED	P

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63844 (CONTINUED)			
VISCERAL	11	V MAJOR BLOOD VESSEL VARIATION RIGHT SUBCLAVIAN AND RIGHT CAROTID ARISE INDEPENDENTLY FROM THE AORTIC ARCH (NO BRACHIOCEPHALIC TRUNK)	P
SKELETAL		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
EXTERNAL	16	EARLY RESORPTION	
SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
EXTERNAL	19	EARLY RESORPTION	
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,18		
VISCERAL	1,2,3,4,5,6,7,8,9,10,12,13,14,15,17,18		
SKELETAL	1,2,3,4,6,7,15,17		
63847	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		
	A A A A A A A A A/ A A A E A A A A		
SEX:	M F M F F F F F M F M F - M F F F		
SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	4	V CERVICAL CENTRUM #1 OSSIFIED	P

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DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63847 (CONTINUED)			
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
EXTERNAL	13	EARLY RESORPTION	
SKELETAL	17	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17		
SKELETAL	5,8,9,10,11,12,14,15,16		
63854	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18		
	A A A A E A A A A A/ A E A A A E A A		
SEX:	F M M F - F M F M M F - M F F - F F		
SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		V STERNEBRA(E) MALALIGNED(SLIGHT OR MODERATE) #3 AND #4	2
		V CERVICAL CENTRUM #1 OSSIFIED	P
		V UNCO-OSSIFIED VERTEBRAL CENTRA THORACIC CENTRA #8 THROUGH #10	P
SKELETAL	4	V 14TH RUDIMENTARY RIB(S) LEFT	P
EXTERNAL	5	EARLY RESORPTION	
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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DAMS FROM GROUP 2: 10 MG/KG/DAY		FETUS #		GRADE
63854 (CONTINUED)				
	SKELETAL	11	V 14TH RUDIMENTARY RIB(S) RIGHT	P
	EXTERNAL	12	EARLY RESORPTION	
	SKELETAL	15	V CERVICAL CENTRUM #1 OSSIFIED	P
	EXTERNAL	16	EARLY RESORPTION	
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,6,7,8,9,10,11,13,14,15,17,18		
	VISCERAL	1,2,3,4,6,7,8,9,10,11,13,14,15,17,18		
	SKELETAL	3,7,8,9,10,13,14,17,18		

63859

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	A	A	A	A/	A	A	A	A	A	A	A	A	A	A	A	A	A	A
SEX:	M	M	F	F	F	M	M	F	M	F	F	M	M	M	F	F	M	F

	SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
	EXTERNAL	16	M OMPHALOCELE SEVERAL LOOPS OF INTESTINE PROTRUDE THROUGH AN OPENING IN THE UMBILICUS, REMNANTS OF A MEMBRANOUS SAC	
	VISCERAL		CONFIRMATION OF OMPHALOCELE	P
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,18		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,18		
	SKELETAL	1,2,3,4,5,7,10,12,13,14,15,16,17,18		

63861

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	A	A	A	A	A	A	A/	A	A	A	A	E	A	A	A	A	A	A
SEX:	M	M	M	F	F	F	M	M	F	M	M	-	F	M	F	M	M	M

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63861 (CONTINUED)			
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	12	EARLY RESORPTION	
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	14	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	16	V CERVICAL CENTRUM #1 OSSIFIED	P
		V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	17	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,13,14,15,16,17,18		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,13,14,15,16,17,18		
SKELETAL	1,3,4,5,6,7,9,10,11,15,18		

63864	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	A	A	A	A	A	A	A	A/	A	A	A	A	E	A	A	A	A	A	A
SEX:	M	F	M	M	M	F	M	M	F	F	M	M	-	M	M	F	M	M	M

VISCERAL	8	V RENAL PAPILLA(E) NOT DEVELOPED AND/OR DISTENDED URETER(S) KIDNEY, BILATERAL (WOO AND HOAR GRADE O); URETER, SLIGHT, BILATERAL	P
EXTERNAL	9	M VERTEBRAL AGENESIS FILAMENTOUS TAIL; 4 MM IN LENGTH	
VISCERAL		CONFIRMATION OF VERTEBRAL AGENESIS	P
SKELETAL		CONFIRMATION OF VERTEBRAL AGENESIS ALL VERTEBRAE POSTERIOR TO LUMBAR VERTEBRA #1 ABSENT	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	10	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63864 (CONTINUED)			
SKELETAL	10	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	12	V HYOID UNOSSIFIED	P
EXTERNAL	13	EARLY RESORPTION	
SKELETAL	19	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,10,11,12,14,15,16,17,18,19		
VISCERAL	1,2,3,4,5,6,7,10,11,12,14,15,16,17,18,19		
SKELETAL	1,2,3,4,5,6,7,8,11,14,15,16,17,18		

63868

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	A	A	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A
SEX:	F	F	F	M	M	F	F	F	F	F	M	F	M	F	F	M	M	F

SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	15	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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DAMS FROM GROUP  2:  10 MG/KG/DAY     FETUS #                                                                                  GRADE
63868   (CONTINUED)
                                                  #5
                SKELETAL                    17    V CERVICAL CENTRUM #1 OSSIFIED                                                  P
                                      NO REMARKABLE OBSERVATIONS
                EXTERNAL                1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18
                VISCERAL                1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18
                SKELETAL                3,4,5,8,10,12,16,18

63869                                   1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19
                                        A  A  A  A  A  A  A  A/ A  A  A  A  A  A  A  A  A  A  A
                                  SEX:  M  F  F  M  M  M  M  F  M  F  F  F  F  F  F  M  M  M  F

                SKELETAL                     1    V CERVICAL CENTRUM #1 OSSIFIED                                                  P
                SKELETAL                     4    V 14TH RUDIMENTARY RIB(S)                                                       P
                                                     LEFT
                SKELETAL                     5    V CERVICAL CENTRUM #1 OSSIFIED                                                  P
                SKELETAL                     7    V 14TH RUDIMENTARY RIB(S)                                                       P
                                                     BILATERAL
                SKELETAL                     8    V CERVICAL CENTRUM #1 OSSIFIED                                                  P
                SKELETAL                     9    V CERVICAL CENTRUM #1 OSSIFIED                                                  P
                SKELETAL                    11    V CERVICAL CENTRUM #1 OSSIFIED                                                  P
                SKELETAL                    12    V 14TH RUDIMENTARY RIB(S)                                                       P
                                                     LEFT
                SKELETAL                    13    V CERVICAL CENTRUM #1 OSSIFIED                                                  P
                                      NO REMARKABLE OBSERVATIONS
                EXTERNAL                1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19
                VISCERAL                1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19
                SKELETAL                2,3,6,10,14,15,16,17,18,19

63874                                   1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16
                                        A  A  A  A  A  A  A  A  A/ A  A  A  A  A  A  A
                                  SEX:  M  F  M  M  M  F  F  M  F  F  F  F  M  F  M  M
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A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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TABLE 31

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 27

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63874 (CONTINUED)			
SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16		
SKELETAL	1,2,3,4,5,6,7,9,10,11,12,13,14,15,16		
63877	1 2 3 4 5 6 7 8 9 10 11 12 13 14		
	A A A A A/ A A A A A A A A A		
SEX:	M F F M F F M M M F M M F F		
SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) MALALIGNED(SLIGHT OR MODERATE) #4 AND #5	1
SKELETAL	4	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	5	V HYOID UNOSSIFIED	P
SKELETAL	7	V HYOID UNOSSIFIED	P
		V REDUCED OSSIFICATION OF THE SKULL PARIETAL, BILATERAL	1
SKELETAL	8	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	10	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	11	V 14TH RUDIMENTARY RIB(S) LEFT	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
SKELETAL	3,6,12,13,14		
63903	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18		
	E A A A A A A A A A A/ A A A A A A A		
SEX:	- F M F M M M M F F F M M M F M F F		

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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DAMS FROM GROUP  2:  10 MG/KG/DAY     FETUS #                                                                                GRADE
63903    (CONTINUED)
                EXTERNAL                    1      EARLY RESORPTION
                SKELETAL                   11    V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED                                       P
                                                    #5
                                      NO REMARKABLE OBSERVATIONS
                EXTERNAL                2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18
                VISCERAL                2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18
                SKELETAL                2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18

63904                                   1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17
                                        A  A  A  A  A  A  A  A  A  A  A  A  L/ A  A  A  A
                                  SEX:  F  F  M  M  F  F  M  F  F  F  F  F  -  F  M  F  M

                SKELETAL                    2    V CERVICAL CENTRUM #1 OSSIFIED                                               P
                SKELETAL                    6    V CERVICAL CENTRUM #1 OSSIFIED                                               P
                SKELETAL                    8    V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED                                       P
                                                    #5
                SKELETAL                    9    V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED                                       P
                                                    #5
                SKELETAL                   10    V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED                                       P
                                                    #5
                EXTERNAL                   13      LATE RESORPTION
                                                      CROWN-RUMP LENGTH: 2.0 CM, MUMMIFIED
                                      NO REMARKABLE OBSERVATIONS
                EXTERNAL                1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17
                VISCERAL                1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17
                SKELETAL                1,3,4,5,7,11,12,14,15,16,17

63911                                   1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19
                                        A  A  A  A  A  A  A  A/ A  A  A  A  A  A  A  A  A  A  A
                                  SEX:  M  F  M  M  M  M  M  M  M  F  F  M  F  M  F  F  F  M  F
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A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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TABLE 31

A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63911 (CONTINUED)			
SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V HYOID UNOSSIFIED	P
SKELETAL	17	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
SKELETAL	1,2,4,5,6,7,8,9,10,11,12,14,15,16,18,19		

63915

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	A	A	A	A	A	A	A	A	A	A/	A	A	E	A	A	A	A	A	A	A
SEX:	M	M	F	F	M	M	M	F	M	F	M	M	-	M	M	M	M	F	M	M

SKELETAL	2	V 7TH CERVICAL RIB(S) PINPOINT, RIGHT	P
SKELETAL	4	V 7TH CERVICAL RIB(S) INTERMEDIATE, BILATERAL	P
		V STERNEBRA(E) MALALIGNED(SLIGHT OR MODERATE) #3 AND #4	1
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
		V 14TH RUDIMENTARY RIB(S) RIGHT	P
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 30

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63915 (CONTINUED)			
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	10	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
EXTERNAL	13	EARLY RESORPTION	
SKELETAL	14	V 7TH CERVICAL RIB(S) PINPOINT, RIGHT	P
SKELETAL	15	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	17	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	18	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	20	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17,18,19,20		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17,18,19,20		
SKELETAL	1,3,8,12,16,19		

63917

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	A	A	A	A	A	A	E	A	A	A/	A	A	A	A	A	A	A	A	A	A	A	A	E
SEX:	F	F	F	F	F	M	-	M	M	F	F	F	F	F	F	F	F	M	F	M	F	F	-

SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
EXTERNAL	7	EARLY RESORPTION	
SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31

PROJECT NO.:WIL-14038 A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS PAGE 31

SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63917 (CONTINUED)			
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	17	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
		V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	19	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	20	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
EXTERNAL	23	EARLY RESORPTION	
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22		
VISCERAL	1,2,3,4,5,6,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22		
SKELETAL	1,2,6,9,10,11,13,14,15,21,22		

63919

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	A	A	A	A	A	A	A	A	A/	E	A	A	A	A	A	A	A	A	A
SEX:	M	F	F	F	F	M	M	F	M	-	M	M	M	M	F	M	M	M	F

SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED
EXTERNAL	10	EARLY RESORPTION
SKELETAL	11	V 14TH RUDIMENTARY RIB(S) RIGHT
SKELETAL	15	V 14TH RUDIMENTARY RIB(S) BILATERAL

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 2: 10 MG/KG/DAY		FETUS #		GRADE
63919 (CONTINUED)				
	SKELETAL	15	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
			V BIPARTITE VERTEBRAL CENTRA CARTILAGE BANDS OF THORACIC CENTRUM #11 NOT JOINED	P
	NO REMARKABLE OBSERVATIONS			
	EXTERNAL	1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19		
	VISCERAL	1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19		
	SKELETAL	2,3,4,5,6,7,8,9,12,13,14,16,17,18,19		

63924

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A
SEX:	F	M	F	F	F	F	M	M	F	F	F	M	F	F	M	M	M

	SKELETAL	2	V 14TH RUDIMENTARY RIB(S) RIGHT	P
	SKELETAL	4	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	16	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	17	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS			
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
	SKELETAL	1,3,5,6,7,8,9,10,11,12,13,15		

63925

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	A	A	A	A	A	A	A	A	A	A	A	A	A	A/	A	A	A	A
SEX:	F	M	M	F	F	F	M	M	M	M	M	F	M	F	F	M	M	M

	SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63925 (CONTINUED)			
SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
SKELETAL	1,2,3,4,6,7,8,9,10,11,12,13,14,15,16,17		
63930	1 2 3 4 5 6 7 8 9 10 11 12 13 14		
	A A A E A A A A/ A A A A A A		
SEX:	M M M - M F M F F F M F F F		
SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	4	EARLY RESORPTION	
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
		V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	10	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	12	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	14	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,5,6,7,8,9,10,11,12,13,14		
VISCERAL	1,2,3,5,6,7,8,9,10,11,12,13,14		
SKELETAL	3,5		

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 2: 10 MG/KG/DAY	FETUS #		GRADE
63935	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		
	A A A A A A/ A A A A A A A A A A A		
	SEX: M F F M M F F M F F F M F F M M M		
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	14	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
SKELETAL	1,2,3,4,6,7,8,9,10,12,15,16,17		
63937	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19		
	A A A A A A/ A A A A A A A A A A A A A		
	SEX: F M F M M F F F M M M F M M F F F M F		
SKELETAL	8	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	16	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	18	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
SKELETAL	1,2,3,4,5,6,7,9,10,11,12,13,14,15,17,19		
63939	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		
	A A A/ A A A A A A A A A A A E		
	SEX: M F M F M F F M F F F M F M -		

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 2: 10 MG/KG/DAY		FETUS #		GRADE
63939 (CONTINUED)				
	SKELETAL	4	V 7TH CERVICAL RIB(S) PINPOINT, LEFT	P
	SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
			V HYOID UNOSSIFIED	P
	SKELETAL	10	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	EXTERNAL	15	EARLY RESORPTION	
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
	SKELETAL	1,2,3,6,7,8,9,11,12,13,14		

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63822	1 2 3 4 5 6 7 8 9 10 11 12 13 14		
	A A A E E A/ A A E A A A A A		
	SEX: M F M - - F M F - M F M F F		
SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
EXTERNAL	4	EARLY RESORPTION	
EXTERNAL	5	EARLY RESORPTION	
SKELETAL	8	V 7TH CERVICAL RIB(S) INTERMEDIATE, LEFT	P
EXTERNAL	9	EARLY RESORPTION	
SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,6,7,8,10,11,12,13,14		
VISCERAL	1,2,3,6,7,8,10,11,12,13,14		
SKELETAL	1,3,6,7,10,12		
63826	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19		
	A A E A A A A A A A A A A/ A A A A A		
	SEX: F F - F F M M F F F M M M F M M M M F		
EXTERNAL	3	EARLY RESORPTION	

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63826 (CONTINUED)			
		NO REMARKABLE OBSERVATIONS	
EXTERNAL		1,2,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	
VISCERAL		1,2,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	
SKELETAL		1,2,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	
63835		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	
		A A A A A A A A/ A A A A A E A A A	
	SEX:	F M M F F M M F M F F M M - M M F	
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	12	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
EXTERNAL	14	EARLY RESORPTION	
SKELETAL	16	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
		NO REMARKABLE OBSERVATIONS	
EXTERNAL		1,2,3,4,5,6,7,8,9,10,11,12,13,15,16,17	
VISCERAL		1,2,3,4,5,6,7,8,9,10,11,12,13,15,16,17	
SKELETAL		1,2,3,4,5,6,8,10,13,15,17	
63840		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	
		A A A A A A/ A A A A A A A A A	
	SEX:	M M M M M F M F M M F M M F F	
SKELETAL	2	V HYOID UNOSSIFIED	P
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		V HYOID UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 3: 35 MG/KG/DAY		FETUS #		GRADE
63840 (CONTINUED)				
	SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
			V HYOID UNOSSIFIED	P
	SKELETAL	15	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15		
	SKELETAL	1,3,5,6,7,9,10,11,12,13		
63842		1 2 3 4 5 6 7 8 9 10 11 12 13 14		
		A A A A A A A A A A A/ A A A		
	SEX:	F F M F M F M F M F F F M F		
	SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	14	V 25 PRESACRAL VERTEBRAE	P
			V REDUCED OSSIFICATION OF THE 13TH RIB(S) RIGHT	2
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14		
	SKELETAL	1,2,3,4,5,6,7,8,9,10,12,13		
63845		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16		
		A A A A A A A A A/ A A A A A A A		
	SEX:	M M F M F F M M M M F F F M F M		
	SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 3: 35 MG/KG/DAY		FETUS #		GRADE
63845 (CONTINUED)				
	VISCERAL	2	RENAL PAPILLA(E) NOT FULLY DEVELOPED (WOO AND HOAR GRADE 1) LEFT	P
	SKELETAL	3	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	4	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
			V 14TH RUDIMENTARY RIB(S) LEFT	P
	SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
			V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16		
	VISCERAL	1,3,4,5,6,7,8,9,10,11,12,13,14,15,16		
	SKELETAL	2,6,10,11,12,15,16		

63857		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		E	E	E	E	E	E/	E	E	E	E	E	E	E	E	E	E	E
	SEX:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EXTERNAL	1	EARLY RESORPTION															
	EXTERNAL	2	EARLY RESORPTION															

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63857 (CONTINUED)			
EXTERNAL	3	EARLY RESORPTION	
EXTERNAL	4	EARLY RESORPTION	
EXTERNAL	5	EARLY RESORPTION	
EXTERNAL	6	EARLY RESORPTION	
EXTERNAL	7	EARLY RESORPTION	
EXTERNAL	8	EARLY RESORPTION	
EXTERNAL	9	EARLY RESORPTION	
EXTERNAL	10	EARLY RESORPTION	
EXTERNAL	11	EARLY RESORPTION	
EXTERNAL	12	EARLY RESORPTION	
EXTERNAL	13	EARLY RESORPTION	
EXTERNAL	14	EARLY RESORPTION	
EXTERNAL	15	EARLY RESORPTION	
EXTERNAL	16	EARLY RESORPTION	
EXTERNAL	17	EARLY RESORPTION	

63865		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	A	A	A	
	SEX:	M	M	F	M	M	M	F	M	M	M	M	M	M	M	F	F	M	F	M	
SKELETAL			3		V	STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5															P
SKELETAL			7		V	STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5															P
					V	CERVICAL CENTRUM #1 OSSIFIED															P
SKELETAL			11		V	CERVICAL CENTRUM #1 OSSIFIED															P
		NO REMARKABLE OBSERVATIONS																			
EXTERNAL		1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19																			
VISCERAL		1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19																			
SKELETAL		1,2,4,5,6,8,9,10,12,13,14,15,16,17,18,19																			

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63876			
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19		
	SEX: A A A A E A A A/ A A A A A A A A A A A		
	F F F F - F F F F F F F F M M M F F M		
SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	3	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
EXTERNAL	5	EARLY RESORPTION	
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	10	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63876 (CONTINUED)			
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	15	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	17	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
		V STERNEBRA(E) #1,#2,#3 AND/OR #4 UNOSSIFIED #2 AND #4	P
		V PUBIS UNOSSIFIED LEFT	P
SKELETAL	19	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
		V PUBIS UNOSSIFIED BILATERAL	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
VISCERAL	1,2,3,4,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
SKELETAL			

63885

	1	2	3	4	5	6	7	8	9	10	11	12	13
	A	E	A	A/	A	A	A	A	A	A	A	A	A
SEX:	M	-	M	F	F	F	F	F	M	M	M	F	M

SKELETAL	1	V 14TH RUDIMENTARY RIB(S) LEFT	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63885 (CONTINUED)			
SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED	P
EXTERNAL	2	EARLY RESORPTION	
SKELETAL	5	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	8	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	9	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	12	V 14TH RUDIMENTARY RIB(S) RIGHT	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	13	V STERNEBRA(E) MALALIGNED(SLIGHT OR MODERATE) #3 AND #4	2
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,3,4,5,6,7,8,9,10,11,12,13		
VISCERAL	1,3,4,5,6,7,8,9,10,11,12,13		
SKELETAL	3,4,7,10,11		

63890

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	A	A	A	A	A	A/	E	A	A	A	A	A	A	A	A
SEX:	F	F	M	F	F	M	-	F	M	F	M	F	M	F	M

SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63890 (CONTINUED)			
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
EXTERNAL	7	EARLY RESORPTION	
SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,8,9,10,11,12,13,14,15		
VISCERAL	1,2,3,4,5,6,8,9,10,11,12,13,14,15		
SKELETAL	2,3,4,6,8,9,10,11,12,15		
63891	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		
	A A A A A A A A A A A/ A A A A A A		
SEX:	F M F M F F F M F F F M M M F F M		
SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
VISCERAL	6	RENAL PAPILLA(E) NOT FULLY DEVELOPED (WOO AND HOAR GRADE 1) BILATERAL	P
SKELETAL	7	V HYOID UNOSSIFIED	P
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	13	V HYOID UNOSSIFIED	P
SKELETAL	14	V UNCO-OSSIFIED VERTEBRAL CENTRA THORACIC CENTRA #9 THROUGH #11	P
		V STERNEBRA(E) #1,#2,#3 AND/OR #4 UNOSSIFIED #1	P
VISCERAL	15	RENAL PAPILLA(E) NOT FULLY DEVELOPED (WOO AND HOAR GRADE 1) BILATERAL	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63891 (CONTINUED)			
SKELETAL	15	V REDUCED OSSIFICATION OF THE 13TH RIB(S) RIGHT	2
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
VISCERAL	17	RENAL PAPILLA(E) NOT FULLY DEVELOPED (WOO AND HOAR GRADE 1) RIGHT	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,7,8,9,10,11,12,13,14,16		
SKELETAL	2,3,4,5,6,8,10,11,12,16,17		

63893	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	A	A	A	A	A	A	A	E	A/	A	A	A	A	A	A	A	A
SEX:	F	F	F	F	M	F	M	-	F	M	F	M	M	F	M	M	M

SKELETAL	1	V 14TH RUDIMENTARY RIB(S) RIGHT	P
SKELETAL	2	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	7	V 14TH RUDIMENTARY RIB(S) LEFT	P
EXTERNAL	8	EARLY RESORPTION	
SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
		V 14TH RUDIMENTARY RIB(S) RIGHT	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63893 (CONTINUED)			
SKELETAL	14	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	15	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	16	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	17	V 14TH RUDIMENTARY RIB(S) LEFT	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,9,10,11,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,9,10,11,12,13,14,15,16,17		
SKELETAL	3,5,6,9,10,12,13		

63899		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
		A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	A	A	A	E	E	
	SEX:	F	F	M	F	F	M	F	M	F	M	F	M	F	M	M	F	F	F	M	-	-	

SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	17	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63899 (CONTINUED)			
		#5	
EXTERNAL	20	EARLY RESORPTION	
EXTERNAL	21	EARLY RESORPTION	
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
SKELETAL	1,2,3,6,10,11,12,13,14,15,16,19		

63900

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	E	E	E	E	E/	E	E	E	E	E	E	E	E	E	E	E	E
SEX:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

EXTERNAL	1	EARLY RESORPTION
EXTERNAL	2	EARLY RESORPTION
EXTERNAL	3	EARLY RESORPTION
EXTERNAL	4	EARLY RESORPTION
EXTERNAL	5	EARLY RESORPTION
EXTERNAL	6	EARLY RESORPTION
EXTERNAL	7	EARLY RESORPTION
EXTERNAL	8	EARLY RESORPTION
EXTERNAL	9	EARLY RESORPTION
EXTERNAL	10	EARLY RESORPTION
EXTERNAL	11	EARLY RESORPTION
EXTERNAL	12	EARLY RESORPTION
EXTERNAL	13	EARLY RESORPTION
EXTERNAL	14	EARLY RESORPTION
EXTERNAL	15	EARLY RESORPTION
EXTERNAL	16	EARLY RESORPTION
EXTERNAL	17	EARLY RESORPTION

63901

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	A	A	A	A	A	E	A	A	A	A/	A	A	A	A	A	A	E	E	A
SEX:	M	M	F	F	F	-	M	M	M	M	M	F	F	F	F	M	-	-	M

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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DAMS FROM GROUP 3: 35 MG/KG/DAY		FETUS #		GRADE
63901 (CONTINUED)				
	EXTERNAL	6	EARLY RESORPTION	
	SKELETAL	14	V HYOID UNOSSIFIED	P
	EXTERNAL	17	EARLY RESORPTION	
	EXTERNAL	18	EARLY RESORPTION	
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,7,8,9,10,11,12,13,14,15,16,19		
	VISCERAL	1,2,3,4,5,7,8,9,10,11,12,13,14,15,16,19		
	SKELETAL	1,2,3,4,5,7,8,9,10,11,12,13,15,16,19		
63916		1 2 3 4 5 6 7 8 9 10 11 12 13 14		
		A A A A A A A A/ A A A E A A		
	SEX:	F F M M M M M M M F M - F M		
	SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	EXTERNAL	12	EARLY RESORPTION	
	SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,13,14		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,11,13,14		
	SKELETAL	1,2,3,4,6,7,8,9,10,11,13		
63920		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18		
		A A A L A L L A A L L L/ L A A A A A		
	SEX:	M M F - F - - F M - - - - M F M M F		
	SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
			V REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES	1

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
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TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63920 (CONTINUED)			
		CERVICAL, #3 THROUGH #7, BILATERAL	
VISCERAL	2	THYROID GLAND(S)- DISCOLORATION, DARK RED RIGHT	P
SKELETAL		V STERNEBRA(E) #1,#2,#3 AND/OR #4 UNOSSIFIED #2	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
		V REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES CERVICAL, #4 THROUGH #6, BILATERAL	1
SKELETAL	3	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
		V REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES CERVICAL, #4 THROUGH #7, BILATERAL	1
EXTERNAL	4	LATE RESORPTION CROWN-RUMP LENGTH: 2.5 CM, SEVERE AUTOLYSIS, NO APPARENT MALFORMATIONS	
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
EXTERNAL	6	LATE RESORPTION CROWN-RUMP LENGTH: 2.5 CM, SEVERE AUTOLYSIS, NO APPARENT MALFORMATIONS	
EXTERNAL	7	LATE RESORPTION CROWN-RUMP LENGTH: 2.6 CM, SEVERE AUTOLYSIS, NO APPARENT MALFORMATIONS	
SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
		V REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES CERVICAL, #3 THROUGH #7, BILATERAL	1
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
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TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY		FETUS #		GRADE
63920 (CONTINUED)				
	SKELETAL	9	V REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES CERVICAL, #4 THROUGH #6, BILATERAL, #7, LEFT	1
	EXTERNAL	10	LATE RESORPTION CROWN-RUMP LENGTH: 2.5 CM, SEVERE AUTOLYSIS, NO APPARENT MALFORMATIONS	
	EXTERNAL	11	LATE RESORPTION CROWN-RUMP LENGTH: 2.6 CM, SEVERE AUTOLYSIS, NO APPARENT MALFORMATIONS	
	EXTERNAL	12	LATE RESORPTION CROWN-RUMP LENGTH: 2.7 CM, SEVERE AUTOLYSIS, NO APPARENT MALFORMATIONS	
	EXTERNAL	13	LATE RESORPTION CROWN-RUMP LENGTH: 2.7 CM, SEVERE AUTOLYSIS, NO APPARENT MALFORMATIONS	
	SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
			V REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES CERVICAL, #3 THROUGH #7, BILATERAL	1
	SKELETAL	15	M VERTEBRAL AGENESIS ALL VERTEBRAE POSTERIOR TO SACRAL VERTEBRA #2 ABSENT	P
	SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
			V PUBIS UNOSSIFIED LEFT	P
	SKELETAL	17	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
			V REDUCED OSSIFICATION OF THE VERTEBRAL ARCHES CERVICAL, #4 THROUGH #7, BILATERAL	1
			V PUBIS UNOSSIFIED BILATERAL	P

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TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63920 (CONTINUED)			
SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,5,8,9,14,15,16,17,18		
VISCERAL	1,3,5,8,9,14,15,16,17,18		
SKELETAL			

63929

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	A	A	A	A	A/	A	A	A	A	A	A	A	A	A	A
SEX:	M	F	M	F	M	M	M	M	F	F	M	F	M	F	M

SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		V 7TH CERVICAL RIB(S) INTERMEDIATE, RIGHT	P
SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	15	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P

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OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #																				GRADE
63929 (CONTINUED)																					
	NO REMARKABLE OBSERVATIONS																				
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15																				
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15																				
SKELETAL	1,3,4,5,10,13,14																				
63931	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
	E	E	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	A	A	A	
SEX:	-	-	F	F	F	F	F	F	F	M	M	M	F	M	F	M	F	M	M	M	
EXTERNAL	1	EARLY RESORPTION																			
EXTERNAL	2	EARLY RESORPTION																			
SKELETAL	5	V CERVICAL CENTRUM #1 OSSIFIED																			P
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED																			P
SKELETAL	8	V CERVICAL CENTRUM #1 OSSIFIED																			P
SKELETAL	10	V CERVICAL CENTRUM #1 OSSIFIED																			P
SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED																			P
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5																			P
SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5																			P
SKELETAL	15	V CERVICAL CENTRUM #1 OSSIFIED																			P
SKELETAL	16	V CERVICAL CENTRUM #1 OSSIFIED																			P
SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5																			P
	NO REMARKABLE OBSERVATIONS																				
EXTERNAL	3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20																				
VISCERAL	3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20																				
SKELETAL	3,4,6,9,14,17,19,20																				
63936	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	A	A	A	A			
SEX:	F	M	F	M	F	F	M	M	F	F	F	F	F	F	F	F	F	F			

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 3: 35 MG/KG/DAY	FETUS #		GRADE
63936 (CONTINUED)			
SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	4	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	12	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	14	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	16	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	18	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
SKELETAL	1,2,5,7,8,9,10,15,17		

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY FETUS # GRADE

63820

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		A	A	A	A	A	A/	A	A	A	A	A	A	A	A	A	A	A
	SEX:	M	F	F	F	M	M	M	M	M	M	M	M	M	F	F	F	F

SKELETAL	1	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	3	V 14TH RUDIMENTARY RIB(S) RIGHT	P
SKELETAL	5	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	8	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
SKELETAL	4,7,9,10,11,12,13,15,16,17		

63821

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
		A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A	A	A
	SEX:	M	M	M	F	M	F	F	M	M	M	F	F	M	M	F	F	F	M

SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	FETUS #		GRADE
63821 (CONTINUED)			
SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
SKELETAL	15	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	17	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18		
SKELETAL	2,3,4,5,6,8,9,10,12,13,16,18		

63824

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	A	A	A	A	A	A	E	A	A	A/	A	A	A	A	A	A	A	A	A	A
SEX:	F	M	F	M	M	M	-	F	F	F	M	M	F	F	M	F	F	F	M	M

SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	5	V STERNEBRA(E) #1,#2,#3 AND/OR #4 UNOSSIFIED #1, #2 AND #4	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
		V REDUCED OSSIFICATION OF THE 13TH RIB(S) BILATERAL	2
EXTERNAL	7	EARLY RESORPTION	
SKELETAL	14	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	17	V HYOID UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	FETUS #	GRADE
63824 (CONTINUED)		
	NO REMARKABLE OBSERVATIONS	
EXTERNAL	1,2,3,4,5,6,8,9,10,11,12,13,14,15,16,17,18,19,20	
VISCERAL	1,2,3,4,5,6,8,9,10,11,12,13,14,15,16,17,18,19,20	
SKELETAL	1,3,4,6,8,9,10,11,12,13,15,18,19,20	

63825

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	E	E	E	E	E	E	E	E/	E	E	E	E	E	E	E	E
SEX:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

EXTERNAL	1	EARLY RESORPTION
EXTERNAL	2	EARLY RESORPTION
EXTERNAL	3	EARLY RESORPTION
EXTERNAL	4	EARLY RESORPTION
EXTERNAL	5	EARLY RESORPTION
EXTERNAL	6	EARLY RESORPTION
EXTERNAL	7	EARLY RESORPTION
EXTERNAL	8	EARLY RESORPTION
EXTERNAL	9	EARLY RESORPTION
EXTERNAL	10	EARLY RESORPTION
EXTERNAL	11	EARLY RESORPTION
EXTERNAL	12	EARLY RESORPTION
EXTERNAL	13	EARLY RESORPTION
EXTERNAL	14	EARLY RESORPTION
EXTERNAL	15	EARLY RESORPTION
EXTERNAL	16	EARLY RESORPTION

63838

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A	A
SEX:	M	F	M	F	F	F	F	F	F	F	F	M	M	M	F	M

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	FETUS #		GRADE
63838 (CONTINUED)			
SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	10	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16		
SKELETAL	1,3,4,5,11,12,13,15,16		

63846	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	A	A	A	A	A	A	A	A	A	A/	A	A	A	A	A	A
SEX:	F	F	M	M	F	M	M	F	M	M	M	F	M	M	F	M

SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	3	V HYOID UNOSSIFIED	P
		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	4	V HYOID UNOSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 4: 50 MG/KG/DAY	FETUS #		GRADE
63846 (CONTINUED)			
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	8	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16		
SKELETAL	5,6,7,9,10,12,13,15		
63849	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		
	A A A A A/ A A A A A A A A A A		
SEX:	M M M F F F M M F M M F M F M		
SKELETAL	1	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	3	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	5	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	6	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	7	V CERVICAL CENTRUM #1 OSSIFIED	P
		V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	9	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	11	V CERVICAL CENTRUM #1 OSSIFIED	P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	FETUS #		GRADE
63849 (CONTINUED)			
SKELETAL	12	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	13	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	14	V 14TH RUDIMENTARY RIB(S) LEFT	P
		V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15		
SKELETAL	4,8,10,15		

63850

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	A	A	E	A	A	A	A/	A	A	A	A	A	A	A	A	A
SEX:	F	F	-	F	M	F	M	M	F	M	M	F	F	F	F	M

SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P
EXTERNAL	3	EARLY RESORPTION
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P
SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P
SKELETAL	10	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P
SKELETAL	15	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 — P

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31

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SPONSOR:LYONDELL CHEMICAL INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY FETUS # GRADE

63850 (CONTINUED)

NO REMARKABLE OBSERVATIONS

EXTERNAL	1,2,4,5,6,7,8,9,10,11,12,13,14,15,16
VISCERAL	1,2,4,5,6,7,8,9,10,11,12,13,14,15,16
SKELETAL	1,8,9,11,12,13,14,16

63860

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	E	E	E	E	E	E	E	E	E	E	E	E/	E	E	E	E	E	E	E
SEX:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

EXTERNAL	1	EARLY RESORPTION
EXTERNAL	2	EARLY RESORPTION
EXTERNAL	3	EARLY RESORPTION
EXTERNAL	4	EARLY RESORPTION
EXTERNAL	5	EARLY RESORPTION
EXTERNAL	6	EARLY RESORPTION
EXTERNAL	7	EARLY RESORPTION
EXTERNAL	8	EARLY RESORPTION
EXTERNAL	9	EARLY RESORPTION
EXTERNAL	10	EARLY RESORPTION
EXTERNAL	11	EARLY RESORPTION
EXTERNAL	12	EARLY RESORPTION
EXTERNAL	13	EARLY RESORPTION
EXTERNAL	14	EARLY RESORPTION
EXTERNAL	15	EARLY RESORPTION
EXTERNAL	16	EARLY RESORPTION
EXTERNAL	17	EARLY RESORPTION
EXTERNAL	18	EARLY RESORPTION
EXTERNAL	19	EARLY RESORPTION

63863

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	A	A	E	A	A	A	A	A	E	A/	A	A	A	A	A	A	A	A	A	A
SEX:	F	M	-	F	F	F	F	M	-	M	M	M	F	F	M	F	F	F	F	F

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY		FETUS #		GRADE
63863 (CONTINUED)				
	SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	EXTERNAL	3	EARLY RESORPTION	
	SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	EXTERNAL	9	EARLY RESORPTION	
	SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	16	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	18	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
			V 7TH CERVICAL RIB(S) PINPOINT, LEFT	P
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,4,5,6,7,8,10,11,12,13,14,15,16,17,18,19,20		
	VISCERAL	1,2,4,5,6,7,8,10,11,12,13,14,15,16,17,18,19,20		
	SKELETAL	4,5,8,10,11,12,14,15,17,19,20		

63872		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		A	E	A	A	E	A	A	A	A	A	A	A/	A	A	A
	SEX:	F	-	F	F	-	F	F	M	M	M	M	F	F	M	M
	SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5													P
	EXTERNAL	2	EARLY RESORPTION													

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31

A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	FETUS #		GRADE
63872 (CONTINUED)			
EXTERNAL	5	EARLY RESORPTION	
SKELETAL	6	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
		V REDUCED OSSIFICATION OF THE 13TH RIB(S) BILATERAL	1
SKELETAL	7	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	13	V 7TH CERVICAL RIB(S) PINPOINT, RIGHT	P
SKELETAL	14	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,3,4,6,7,8,9,10,11,12,13,14,15		
VISCERAL	1,3,4,6,7,8,9,10,11,12,13,14,15		
SKELETAL	3,4,8,9,10,11,12,15		

63879

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	A	A	A	A	A/	E	A	A	A	A	A	A	E	A	A	A	A	A
SEX:	F	M	M	F	F	-	F	M	M	F	F	F	-	F	M	F	M	M

SKELETAL	1	V 14TH RUDIMENTARY RIB(S) LEFT	P
SKELETAL	5	V 14TH RUDIMENTARY RIB(S) LEFT	P
EXTERNAL	6	EARLY RESORPTION	
SKELETAL	9	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
SKELETAL	10	V 14TH RUDIMENTARY RIB(S) BILATERAL	P
EXTERNAL	13	EARLY RESORPTION	

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS


```
DAMS FROM GROUP  4:  50 MG/KG/DAY     FETUS #                                                                    GRADE
63879   (CONTINUED)
            SKELETAL                     15    V 14TH RUDIMENTARY RIB(S)                                            P
                                                  LEFT
            SKELETAL                     18    V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED                               P
                                                  #6
                                              V 14TH RUDIMENTARY RIB(S)                                            P
                                                  BILATERAL
                                 NO REMARKABLE OBSERVATIONS
            EXTERNAL                   1,2,3,4,5,7,8,9,10,11,12,14,15,16,17,18
            VISCERAL                   1,2,3,4,5,7,8,9,10,11,12,14,15,16,17,18
            SKELETAL                   2,3,4,7,8,11,12,14,16,17

63884                                  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17
                                       A  A  E  A  A  A  A  A  A/ E  A  A  A  A  A  A  A
                                 SEX:  M  M  -  M  F  F  M  M  M  -  F  F  M  M  M  F  M

            SKELETAL                      2    V 14TH RUDIMENTARY RIB(S)                                            P
                                                  LEFT
            EXTERNAL                      3      EARLY RESORPTION
            SKELETAL                      5    V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED                               P
                                                  #5
            SKELETAL                      8    V 14TH RUDIMENTARY RIB(S)                                            P
                                                  BILATERAL
            EXTERNAL                     10      EARLY RESORPTION
            SKELETAL                     11    V 14TH RUDIMENTARY RIB(S)                                            P
                                                  LEFT
                                 NO REMARKABLE OBSERVATIONS
            EXTERNAL                   1,2,4,5,6,7,8,9,11,12,13,14,15,16,17
            VISCERAL                   1,2,4,5,6,7,8,9,11,12,13,14,15,16,17
            SKELETAL                   1,4,6,7,9,12,13,14,15,16,17

63894                                  1  2  3  4
                                       A  A  A/ A
                                 SEX:  F  F  F  F
```

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	FETUS #		GRADE
63894 (CONTINUED)			
SKELETAL	2	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4		
VISCERAL	1,2,3,4		
SKELETAL	1,3,4		
63905	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		
	A A A A A A/ A A A A A A A A A A A		
SEX:	F M M F F M F F M F F F M F F F F		
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
VISCERAL	8	V MAJOR BLOOD VESSEL VARIATION RIGHT CAROTID AND RIGHT SUBCLAVIAN ARISE INDEPENDENTLY FROM THE AORTIC ARCH (NO BRACHIOCEPHALIC TRUNK)	P
SKELETAL		V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	13	V CERVICAL CENTRUM #1 OSSIFIED	P
SKELETAL	15	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17		
VISCERAL	1,2,3,4,5,6,7,9,10,11,12,13,14,15,16,17		
SKELETAL	1,2,3,5,6,7,9,10,11,14,16,17		
63908	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		
	A A A A A A A A/ A A A A A A A		
SEX:	M M M F M M F M F F F F F M F		

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

TABLE 31
A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
INDIVIDUAL FETAL EXTERNAL, VISCERAL AND SKELETAL FINDINGS

DAMS FROM GROUP 4: 50 MG/KG/DAY	FETUS #		GRADE
63908 (CONTINUED)			
SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	4	V HYOID UNOSSIFIED	P
SKELETAL	5	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15		
VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15		
SKELETAL	1,3,6,7,8,10,13,14,15		
63922	1 2 3 4 5 6 7 8		
	A/ A A A A A A A		
SEX:	M M M F M M F M		
SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
SKELETAL	5	V CERVICAL CENTRUM #1 OSSIFIED	P
	NO REMARKABLE OBSERVATIONS		
EXTERNAL	1,2,3,4,5,6,7,8		
VISCERAL	1,2,3,4,5,6,7,8		
SKELETAL	1,2,3,6,7,8		
63926	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19		
	A A A A A A A A A/ A A A A A A A A A		
SEX:	M M M F M F F M F F F F F M M M M M M		

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

DAMS FROM GROUP 4: 50 MG/KG/DAY		FETUS #		GRADE
63926 (CONTINUED)				
	SKELETAL	1	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5 AND #6	P
	SKELETAL	2	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #6	P
	SKELETAL	4	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	7	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	8	V 14TH RUDIMENTARY RIB(S) LEFT	P
	SKELETAL	9	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	10	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	11	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	12	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	13	V STERNEBRA(E) #5 AND/OR #6 UNOSSIFIED #5	P
	SKELETAL	14	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	15	V 14TH RUDIMENTARY RIB(S) RIGHT	P
	SKELETAL	16	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	17	V CERVICAL CENTRUM #1 OSSIFIED	P
	SKELETAL	18	V CERVICAL CENTRUM #1 OSSIFIED	P
		NO REMARKABLE OBSERVATIONS		
	EXTERNAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
	VISCERAL	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19		
	SKELETAL	3,5,6,19		

A = VIABLE FETUS, E = EARLY RESORPTION, L = LATE RESORPTION, D = DEAD FETUS, "/" DENOTES CERVIX POSITION
OBSERVATION CODE: M = MALFORMATION, V = VARIATION GRADE CODE: 1 = SLIGHT, 2 = MODERATE, 3 = MARKED, P = PRESENT
SEX CODE: M = MALE, F = FEMALE, - = NOT APPLICABLE

APPENDIX A

Certificate Of Analysis (Sponsor-Provided Data)

SIGMA-ALDRICH

3050 Spruce Street
Saint Louis, Missouri 63105 USA
Telephone (800) 521-8956 • (314) 771-5765
Fax (800) 325-5052 • (314) 77-5757
Visit Us At www.sigma-aldrich.com

Certificate of Analysis

WIL RESEARCH LABATORIES INC
DONALD STUMP
1407 GEORGE ROAD
ASHLAND OH 448059281

PO NBR: 5000295598

PRODUCT NUMBER: 453021-1L

LOT NUMBER: 20906MB

PRODUCT NAME: ALLYL ALCOHOL, 98.5+%

FORMULA: C3H6O

FORMULA WEIGHT: 58.08

APPEARANCE	COLORLESS LIQUID
REFRACTIVE INDEX AT 20 DEG C	1.413
INFRARED SPECTRUM	CONFORMS TO STRUCTURE.
GAS LIQUID CHROMATOGRAPHY	99.38 %
COLOR TEST	<10 APHA
VENDOR INFORMATION	ARCO LOT: CX30609214
VENDOR INFORMATION	PRODUCT OF ARCO CHEMICAL COMPANY
QUALITY CONTROL ACCEPTANCE DATE	OCTOBER; 2003

ALDRICH CHEMICAL COMPANY
RONNIE MARTIN
MAY 20, 2004

We are Committed to the success of our Customers, Employees and Shareholders through leadership in Life Science, High Technology and Service.

APPENDIX B

Analyses Of Test Article Purity And Dosing Formulations
(WIL Research Laboratories, LLC)

A PRENATAL DEVELOPMENTAL TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

Analyses Of Test Article Purity And Dosing Formulations

Analytical Chemistry Department

WIL Research Laboratories, LLC

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1. INTRODUCTION

This report provides a detailed description of a method using gas chromatography (GC) with headspace sampling and flame ionization detection (FID) to determine the concentration of allyl alcohol formulated as solutions in deionized (DI) water. The validity of the assay procedure was established in a previous study (Stump, 2004) through a careful evaluation of the assay specificity/selectivity, calibration reproducibility, precision, accuracy and ruggedness. Also in that study, allyl alcohol stability in 0.20 and 10.0 mg/mL aqueous formulations was evaluated and found to be acceptable for 10 days at room temperature. In this study, quantitation was performed using calibration standards of allyl alcohol in DI water at concentrations ranging from 0.20 to 20.0 mg/mL. Precision and accuracy were verified with the analysis of quality control (QC) samples of allyl alcohol in DI water at concentrations of 2.0 and 8.0 mg/mL. Formulations used for dosing were analyzed, and the test article concentrations met the acceptance criteria.

Samples of test article were analyzed to determine the test article purity by gas chromatography with flame ionization detection (GC/FID). End-of-use samples of the test article (collected after completion of the dosing period) were analyzed to assess purity and compared to the purity of test article prior to the start of dosing in the previously conducted dose range-finding study (Stump, 2004). The test article sample that was analyzed was greater than 99.4% pure, indicating that the test article purity did not significantly change over the course of these two studies.

2. EXPERIMENTAL

2.1. GAS CHROMATOGRAPHY (FORMULATION ASSAY)

Instrument:	Hewlett Packard 5890A (Series II) gas chromatograph equipped with an FID detector, a HP Headspace analyzer and ChemStation data system, or equivalent
Column:	J&W Scientific DB-Wax , 30 m × 0.53 mm ID (1-µm film thickness)
Temperature :	75°C, ramp at 25°C/minute to 180°C , hold 10 minutes
Carrier gas:	Helium flow at 3.4 mL/minute (EPC constant flow on)
Injector temperature:	225°C
Injection volume:	Split flow 30 mL/minute
Detector:	FID at 250°C
Retention time:	Approximately 3.2 minutes
Run time:	4 minutes

2.2. HEADSPACE PARAMETERS

Zone temp	Oven	80°C
	Loop	180°C
	Transfer Line	180°C
Event Times	GC cycle time	6.0 minutes
	Vial EQ time	5.0 minutes
	Pressurization time	0.20 minutes
	Loop fill time	0.20 minutes
	Loop EQ time	0.05 minutes
	Inject time	0.20 minutes

2.3. PREPARATION OF CALIBRATION SOLUTIONS (FORMULATION ASSAY)

The calibration solutions were prepared by transferring the appropriate amount of allyl alcohol into a 20-mL scintillation vial containing an appropriate volume of DI water to yield solutions ranging from 0.2 mg/mL to 20 mg/mL. The contents of each vial were vortex mixed for approximately 10 seconds.

2.4. PREPARATION OF QUALITY CONTROL SAMPLES (FORMULATION ASSAY)

The QC solutions were prepared by transferring the appropriate amount of allyl alcohol into a 20-mL scintillation vial containing an appropriate volume of DI water to yield solutions at 2.0 mg/mL and 8.0 mg/mL. The contents of each vial were vortex mixed for approximately 10 seconds.

2.5. PROCESSING OF SAMPLES (FORMULATION ASSAY)

Calibration, QC and formulation samples were prepared for analysis by transferring 2.0 mL of the prepared solution into headspace vials and tightly crimping.

2.6. CALIBRATION AND QUANTITATION (FORMULATION ASSAY)

A calibration curve was constructed for each set of analyses. The allyl alcohol peak area (y) and the theoretical concentrations of the calibration standards (x) were fit with a least-squares regression analysis to the ln-quadratic function:

$$\ln(y) = a \times [\ln(x)]^2 + b \times \ln(x) + c.$$

Concentrations were back-calculated from the results of the regression analysis using a PC spreadsheet program (Microsoft® Excel). The concentration data were transferred to another Excel spreadsheet, where appropriate summary statistics, *i.e.*, mean, standard deviation (SD), relative standard deviation (RSD) and percent relative error (% RE) were calculated and presented in tabular form.

2.7. GAS CHROMATOGRAPHY (PURITY ASSAY)

Instrument:	Hewlett Packard 6890A (series II) gas chromatograph equipped with a flame ionization detector (FID), an HP7673 autosampler and an HP ChemStation data system, or equivalent system
Column:	J & W Scientific DB-wax, 30 m × 0.53 mm ID megabore, 1.0-µm film thickness
Temperature Program:	50°C for 0 minute, ramp at 5°C/minute to 110°C, hold 0.0 minute, ramp at 50°C/minute to 225°C, hold 0.0 minute
Carrier gas:	Helium at 7.0 mL/minute
Injector temperature:	250°C
Injection volume:	1 µL split (67:1)
Detector:	FID at 250°C
Retention time:	Approximately 6.0 to 6.2 minutes

2.8. PREPARATION OF SAMPLES FOR PURITY ANALYSIS (PURITY ASSAY)

Samples (5 mL) of test article were received from the WIL Formulations Laboratory for determination of test article purity by GC/FID. A sample (approximately 1 mL) was transferred into an amber autosampler vial. The vial was capped and triplicate 1-µL aliquots were injected for GC/FID analysis. The peak area percent results of the second and third injections were reported.

3. RESULTS AND DISCUSSION (FORMULATION ASSAY)

The validity of the assay procedure was established in a previous study (Stump, 2004) through a careful study of the assays specificity/selectivity, ruggedness, calibration reproducibility, precision and accuracy.

Under the described chromatographic conditions, the retention time of allyl alcohol was approximately 3.2 minutes. Figures 1, 2, 3 and 4 are typical chromatograms of a calibration standard, a processed QC sample, a processed formulation sample and a processed control formulation sample, respectively. The total analysis time required for each run was approximately 4 minutes.

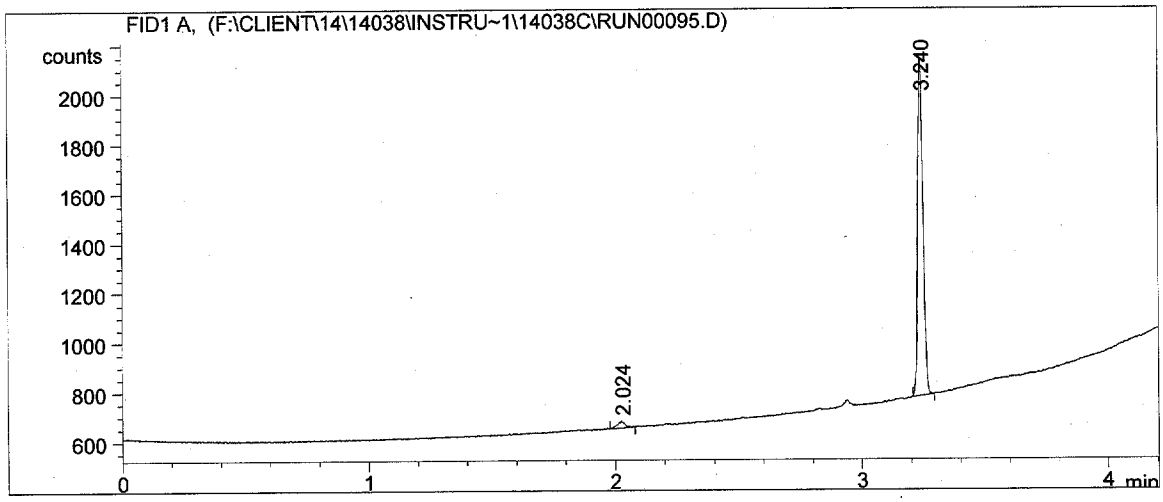

Figure 1: Representative Chromatogram Of A 0.211 mg Allyl Alcohol/mL Calibration Standard

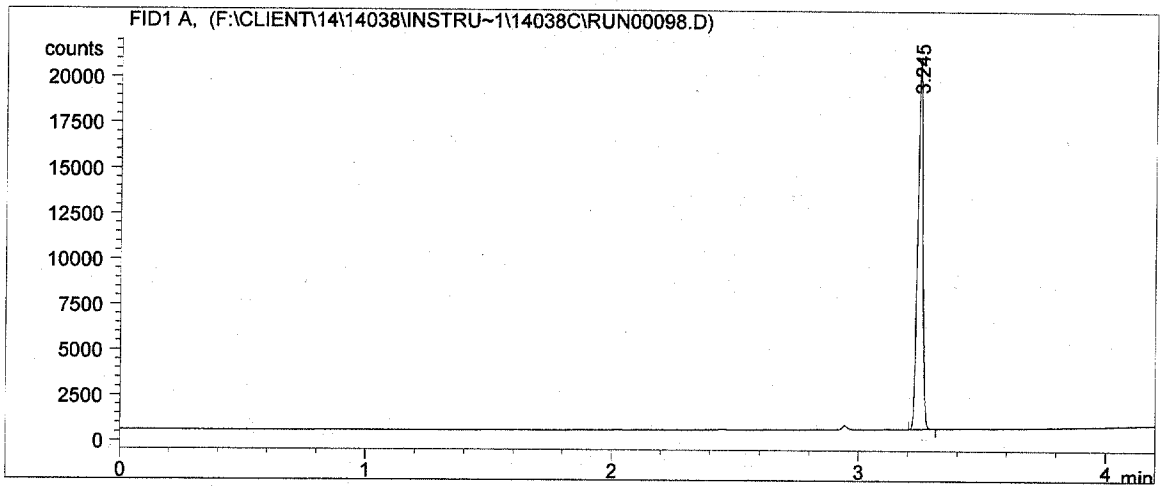

Figure 2: Representative Chromatogram Of A Processed 2.0 mg Allyl Alcohol/mL Quality Control Sample

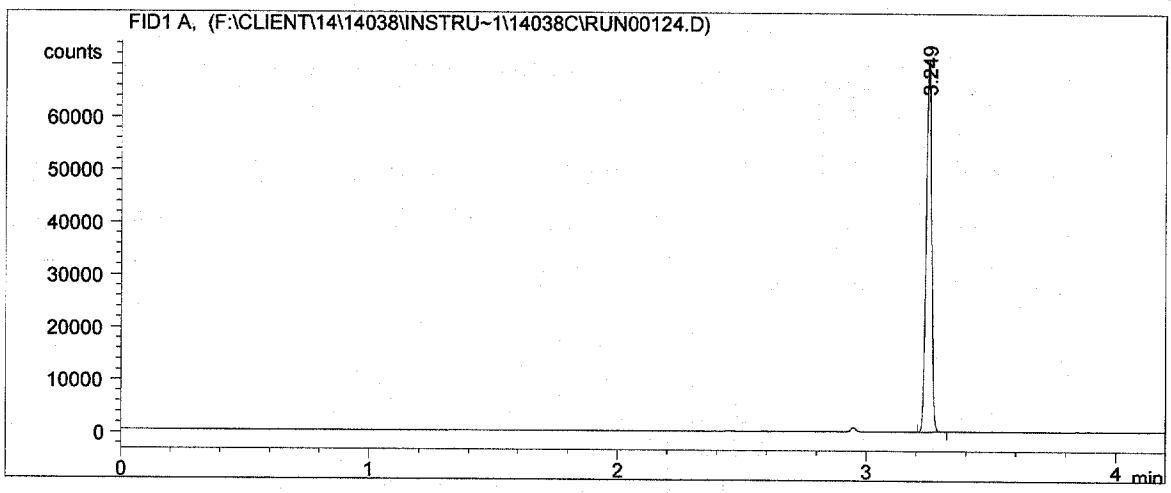

Figure 3: Representative Chromatogram Of A Processed 7.0 mg Allyl Alcohol/mL Formulation Sample

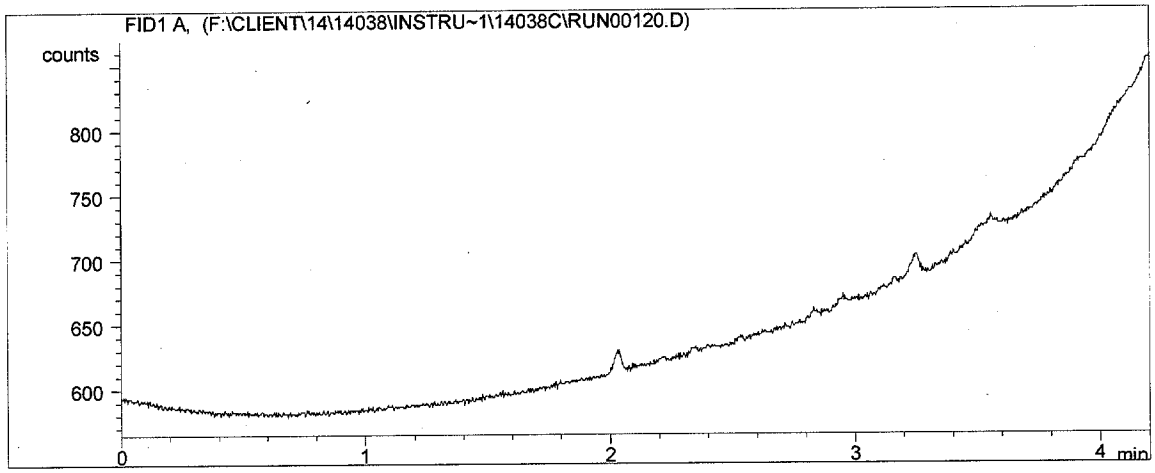

Figure 4: Representative Chromatogram Of A Processed Control Formulation Sample

3.1. SPECIFICITY/SELECTIVITY (FORMULATION ASSAY)

As shown in Figure 4 (and in contrast to Figures 1 through 3), assay specificity/selectivity was confirmed when GC/FID analysis of control formulations revealed that there were no significant peaks at or near the retention time for allyl alcohol (approximately 3.2 minutes).

3.2. CONCENTRATION ANALYSES OF DOSING FORMULATIONS (FORMULATION ASSAY)

The results of the periodic determination of allyl alcohol concentrations in dosing formulations are presented in Tables 1 through 3. The mean concentrations (and percent of target values) are summarized as follows.

	Mean Concentration, mg/mL (% of Target)		
Date of Preparation	Group 2 (2.0 mg/mL)	Group 3 (7.0 mg/mL)	Group 4 (10 mg/mL)
10 Sept 2004	1.90 (94.8)	6.82 (97.4)	9.75 (97.5)
17 Sept 2004	1.82 (91.0)	7.28 (104)	9.23 (92.3)
24 Sept 2004	1.90 (95.2)	6.39 (91.3)	9.90 (99.0)

The analyzed formulations used for dose administration met the WIL SOP requirement for concentration acceptability *i.e.*, the analyzed concentrations were within ±10% of the target dose concentrations.

3.3. PURITY ASSESSMENT

A sample was collected on 01 October 2004 from the test article container. The sample was transferred to the Analytical Chemistry Department and analyzed that same day. Triplicate 1-µL injections of the sample were made and the area percent from the second and third injections were used to assess purity.

Purity assessment results are presented in Table 4. These data indicate that the test article used in this study was at least 99.41% pure.

A representative chromatogram of the test article is shown in Figure 5.

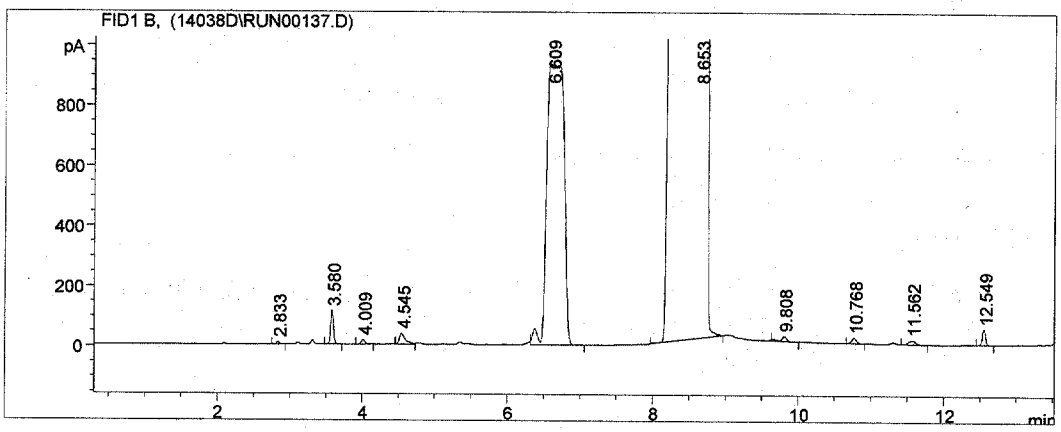

Figure 5: Representative Chromatogram Of A Test Article Sample (99.41% Pure)

4. CONCLUSION

A GC/FID and headspace sampling method for the determination of allyl alcohol in aqueous formulations was established in a previous study (Stump, 2004) through a careful evaluation of the assay specificity/selectivity, calibration reproducibility, precision, accuracy and ruggedness. Also in that study, allyl alcohol stability in 0.20 and 10.0 mg/mL aqueous formulations was evaluated and found to be acceptable for 10 days at room temperature. In this study, quantitation was performed using calibration standards of allyl alcohol in DI water at concentrations ranging from 0.20 to 20 mg/mL. Representative formulations used for dosing were analyzed and the test article concentrations met the acceptance criteria.

A sample of the test article was analyzed to determine the test article purity by GC/FID. End-of-use samples of the test article (collected after completion of the dosing period) were analyzed to assess purity and compared to the purity of test article prior to the start of dosing in the previously conducted dose range-finding study (Stump, 2004). The test article sample that was analyzed was greater than 99.4% pure, indicating that the test article purity did not significantly change over the course of these two studies.

5. REFERENCE

Stump, D.G. A Dose Range-Finding Prenatal Developmental Toxicity Study of Allyl Alcohol in Rats. (Study No. WIL-14037). WIL Research Laboratories, LLC, Ashland, Ohio, **2004.**

6. KEY STUDY PERSONNEL AND REPORT SUBMISSION

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Hauna L. Strohl, B.S.	Associate Study Analyst
Robert A. Wally, B.S., RAC	Technical Manager, Regulatory Affairs and Services

TABLES 1 - 4

A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 1: Concentration Analysis Of The 9/10/04 Formulations
(Analyzed 9/10/04)

Group	Dose Conc (mg/mL)	Ref # (14038 -)	Run #	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
1	0	3 -10	34	None Detected					
2	2.0	3 - 1	35	2.01	100	1.90	0.096	5.1	94.8
		3 - 2	36	1.83	91.3				
		3 - 3	37	1.86	92.8				
3	7.0	3 - 4	38	6.82	97.4	6.82	0.14	2.0	97.4
		3 - 5	39	6.68	95.5				
		3 - 6	40	6.96	99.4				
4	10.0	3 - 7	41	9.22	92.2	9.75	0.64	6.5	97.5
		3 - 8	42	10.5	105				
		3 - 9	43	9.58	95.8				

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A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 2: Concentration Analysis Of The 9/17/04 Formulations
(Analyzed 9/17/04)

Group	Dose Conc (mg/mL)	Ref # (14038 -)	Run #	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
1	0	14 -10	76	None Detected					
2	2.0	14 - 1	77	1.84	91.8	1.82	0.016	0.90	91.0
		14 - 2	78	1.80	90.2				
		14 - 3	79	1.82	91.1				
3	7.0	14 - 4	80	7.44	106	7.28	0.17	2.4	104
		14 - 5	81	7.30	104				
		14 - 6	82	7.09	101				
4	10.0	14 - 7	83	9.14	91.4	9.23	0.11	1.2	92.3
		14 - 8	84	9.21	92.1				
		14 - 9	85	9.35	93.5				

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A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 3: Concentration Analysis Of The 9/24/04 Formulations
(Analyzed 9/24/04)

Group	Dose Conc (mg/mL)	Ref # (14038 -)	Run #	Analyzed Conc (mg/mL)	Percent of Target (%)	Mean Conc (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
1	0	24 -10	120	None Detected					
2	2.0	24 - 1	121	2.04	102	1.90	0.12	6.1	95.2
		24 - 2	122	1.82	90.9				
		24 - 3	123	1.86	92.9				
3	7.0	24 - 4	124	6.47	92.4	6.39	0.070	1.1	91.3
		24 - 5	125	6.37	91.0				
		24 - 6	126	6.33	90.4				
4	10.0	24 - 7	127	9.22	92.2	9.90	0.98	9.9	99.0
		24 - 8	128	11.0	110				
		24 - 9	129	9.45	94.5				

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A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

Table 4: Purity Assessment Of TMS 6177 A-3 (End Of Use)

Collected Date	Analyzed Date	Reference # (14037-)	Sample ID	Run Number	Retention Time	Area Response	Area (%)	Mean Area %
10/1/04	10/1/04	32-2	6177A-3	137	2.833	17.85	0.0006400	**99.41**
					3.580	313.76	0.011200	
					4.009	49.10	0.001750	
					4.545	198.15	0.007070	
					6.609	15367.63	0.5486	
					8.653	2784860.00	**99.42**	
					9.808	97.62	0.003480	
					10.77	81.89	0.002920	
					11.56	86.58	0.003090	
					12.55	156.65	0.005590	
10/1/04	10/1/04	32-2	6177A-3	138	2.832	17.78	0.0006600	
					3.580	309.10	0.01155	
					4.008	47.89	0.001790	
					4.545	204.93	0.007660	
					6.609	14685.15	0.5487	
					8.645	2660310.00	**99.41**	
					9.806	89.38	0.003340	
					10.77	77.43	0.002890	
					11.56	80.19	0.003000	
					12.55	147.28	0.005500	
					13.76	174.00	0.006500	

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ATTACHMENT I

Supporting Data

A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 1a: Calibration Standard Data
(Analyzed 9/10/2004)

Allyl Alcohol (mg/mL)	Ref # (14038 -)	Run #	Area	Mean Area	SD	RSD (%)	Response Factor (Mean Area/Conc.)
0.213	1 - 9	7	1299	1295	219	17	6.08E+03
	1 - 10	8R	1512				
	1 - 11	9	1075				
0.511	1 - 12	10	5198	5282	95.3	1.8	1.03E+04
	1 - 13	11	5262				
	1 - 14	12R	5386				
1.02	1 - 15	13	13217	13356	524	3.9	1.31E+04
	1 - 16	14	13936				
	1 - 17	15	12915				
5.03	1 - 18	19	62011	62655	557	0.89	1.25E+04
	1 - 19	20	62983				
	1 - 20	21	62970				
10.0	1 - 21	25	131696	135440	5386	4.0	1.36E+04
	1 - 22	26	141613				
	1 - 23	27	133010				
20.0	1 - 24	28	243605	250497	11336	4.5	1.25E+04
	1 - 25	29	244306				
	1 - 26	30	263581				

Overall Mean	1.13E+04
SD	2.8E+03
RSD (%)	25

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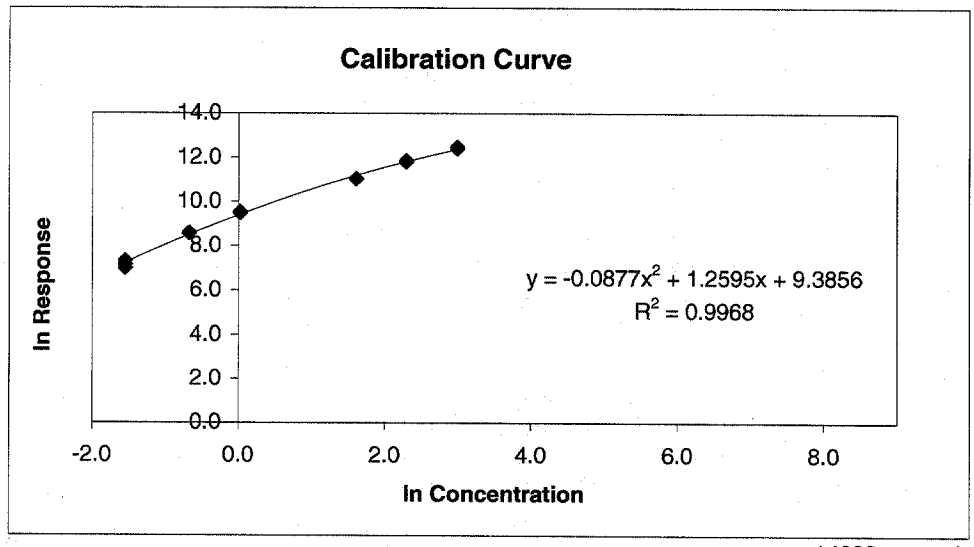
A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 1b: Calibration Curve Data
(Analyzed 9/10/2004)

Ref # (14038 -)	ln Response	ln Conc	ln Conc^2	Back-Calc. Conc. (mg/mL)	% RE (%)
1 - 9	7.16921	-1.546463	2.391548	0.205	-3.8
1 - 10	7.32147	-1.546463	2.391548	0.226	6.3
1 - 11	6.98017	-1.546463	2.391548	0.181	-15
1 - 12	8.55611	-0.671386	0.450759	0.532	4.1
1 - 13	8.56830	-0.671386	0.450759	0.537	5.1
1 - 14	8.59152	-0.671386	0.450759	0.546	6.9
1 - 15	9.48924	0.019803	0.000392	1.09	6.5
1 - 16	9.54222	0.019803	0.000392	1.13	11
1 - 17	9.46616	0.019803	0.000392	1.07	4.5
1 - 18	11.03507	1.615420	2.609582	4.30	-15
1 - 19	11.05061	1.615420	2.609582	4.36	-13
1 - 20	11.05041	1.615420	2.609582	4.36	-13
1 - 21	11.78825	2.299581	5.288071	9.63	-3.4
1 - 22	11.86085	2.299581	5.288071	10.5	5.2
1 - 23	11.79818	2.299581	5.288071	9.74	-2.3
1 - 24	12.40330	2.995732	8.974412	20.9	4.5
1 - 25	12.40618	2.995732	8.974412	21.0	4.9
1 - 26	12.48212	2.995732	8.974412	23.3	17

A	B	C	R^2
-0.0877	1.259	9.3856	0.9968



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A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 1c: Calibration Standards, Quality Controls & Formulations
(Analyzed 9/10/2004)

Ref # (14038 -)	Run #	Theo. mg/mL	Area	In Area	Conc. mg/mL	Mean (mg/mL)	SD	RSD (%)	% RE (%)
Calibration Standards									
1 - 9	7	0.213	1299	7.17	0.205	0.204	0.023	11	-4.1
1 - 10	8R		1512	7.32	0.226				
1 - 11	9		1075	6.98	0.181				
1 - 12	10	0.511	5198	8.56	0.532	0.538	0.0071	1.3	5.4
1 - 13	11		5262	8.57	0.537				
1 - 14	12R		5386	8.59	0.546				
1 - 15	13	1.02	13217	9.49	1.09	1.10	0.035	3.2	7.4
1 - 16	14		13936	9.54	1.13				
1 - 17	15		12915	9.47	1.07				
1 - 18	19	5.03	62011	11.0	4.30	4.34	0.038	0.89	-14
1 - 19	20		62983	11.1	4.36				
1 - 20	21		62970	11.1	4.36				
1 - 21	25	9.97	131696	11.8	9.63	9.95	0.46	4.7	-0.18
1 - 22	26		141613	11.9	10.5				
1 - 23	27		133010	11.8	9.74				
1 - 24	28	20.0	243605	12.4	20.9	21.7	1.4	6.3	8.7
1 - 25	29		244306	12.4	21.0				
1 - 26	30		263581	12.5	23.3				
Quality Control Samples									
2 - 3	16	2.00	26776	10.2	1.96	1.92	0.042	2.2	-1.8
2 - 4	17		25461	10.1	1.88				-6.1
2 - 5	18		26121	10.2	1.92				-3.9
2 - 6	22	8.01	109999	11.6	7.85	7.65	0.25	3.3	-2.0
2 - 7	23		108450	11.6	7.73				-3.5
2 - 8	24		103806	11.6	7.36				-8.1
Concentration Samples 9/10/04									% of Target (%)
3 - 10	34	0.0	None Detected						
3 - 1	35	2.0	27432	10.2	2.01	1.90	0.096	5.1	100
3 - 2	36		24651	10.1	1.83				91.3
3 - 3	37		25103	10.1	1.86				92.8
3 - 4	38	7.0	96762	11.5	6.82	6.82	0.14	2.0	97.4
3 - 5	39		94999	11.5	6.68				95.5
3 - 6	40		98621	11.5	6.96				99.4
3 - 7	41	10.0	126764	11.8	9.22	9.75	0.64	6.5	92.2
3 - 8	42		141259	11.9	10.5				105
3 - 9	43		131053	11.8	9.58				95.8

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A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 2a: Calibration Standard Data
(Analyzed 9/17/2004)

Allyl Alcohol (mg/mL)	Ref # (14038 -)	Run #	Area	Mean Area	SD	RSD (%)	Response Factor (Mean Area/Conc.)
0.213	12 - 9	50	3196	3135	166	5.3	1.47E+04
	12 - 10	51	3262				
	12 - 11	52	2948				
0.511	12 - 12	56	7874	7787	395	5.1	1.52E+04
	12 - 13	57	8131				
	12 - 14	58	7355				
1.02	12 - 15	59	15007	15192	165	1.1	1.49E+04
	12 - 16	60	15322				
	12 - 17	61	15248				
5.03	12 - 18	62	76986	75906	2802	3.7	1.51E+04
	12 - 19	63	78008				
	12 - 20	64	72725				
9.97	12 - 21	68	137784	143563	5740	4.0	1.44E+04
	12 - 22	69	143642				
	12 - 23	70	149264				
20.0	12 - 24	71	301295	301929	27079	9.0	1.51E+04
	12 - 25	72	275173				
	12 - 26	73	329319				

Overall Mean	1.49E+04
SD	3.1E+02
RSD (%)	2.1

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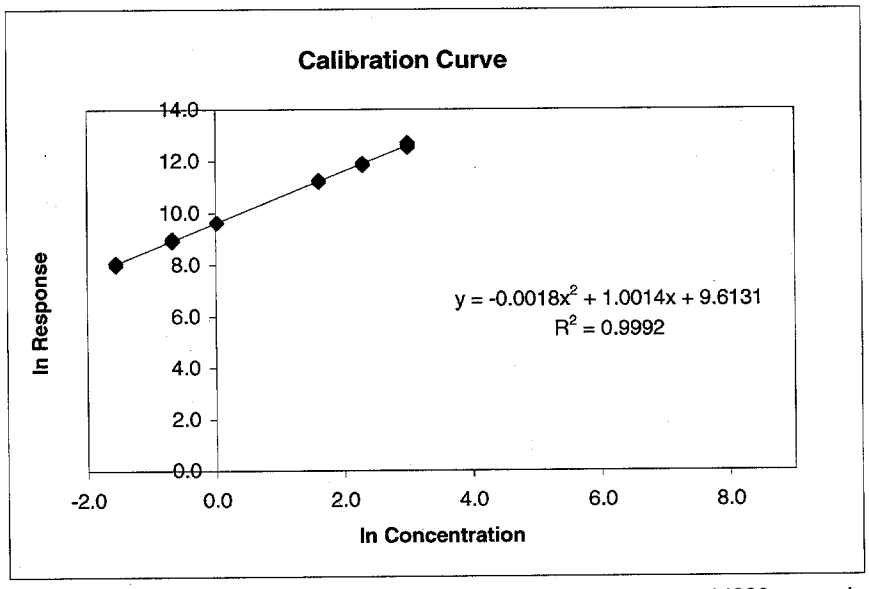
A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 2b: Calibration Curve Data
(Analyzed 9/17/2004)

Ref # (14038 -)	ln Response	ln Conc	ln Conc^2	Back-Calc. Conc. (mg/mL)	% RE (%)
12 - 9	8.06958	-1.546463	2.391548	0.215	0.92
12 - 10	8.09004	-1.546463	2.391548	0.219	3.0
12 - 11	7.98876	-1.546463	2.391548	0.198	-6.9
12 - 12	8.97135	-0.671386	0.450759	0.527	3.2
12 - 13	9.00347	-0.671386	0.450759	0.544	6.5
12 - 14	8.90314	-0.671386	0.450759	0.493	-3.6
12 - 15	9.61627	0.019803	0.000392	1.00	-1.7
12 - 16	9.63701	0.019803	0.000392	1.02	0.40
12 - 17	9.63219	0.019803	0.000392	1.02	-0.078
12 - 18	11.25138	1.615420	2.609582	5.16	2.6
12 - 19	11.26456	1.615420	2.609582	5.23	3.9
12 - 20	11.19444	1.615420	2.609582	4.87	-3.1
12 - 21	11.83344	2.299581	5.288071	9.26	-7.1
12 - 22	11.87508	2.299581	5.288071	9.66	-3.1
12 - 23	11.91347	2.299581	5.288071	10.0	0.70
12 - 24	12.61585	2.995732	8.974412	20.4	1.9
12 - 25	12.52516	2.995732	8.974412	18.6	-7.0
12 - 26	12.70478	2.995732	8.974412	22.3	11
	A	**B**	**C**	**R^2**	
	-0.0018	1.001	9.6131	0.9992	



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A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 2c: Calibration Standards, Quality Controls & Formulations
(Analyzed 9/17/2004)

Ref # (14038 -)	Run #	Theo. mg/mL	Area	In Area	Conc. mg/mL	Mean (mg/mL)	SD	RSD (%)	% RE (%)
Calibration Standards									
12 - 9	50	0.211	3196	8.07	0.215	0.211	0.011	5.2	-0.042
12 - 10	51		3262	8.09	0.219				
12 - 11	52		2948	7.99	0.198				
12 - 12	56	0.511	7874	8.97	0.527	0.521	0.026	5.1	2.0
12 - 13	57		8131	9.00	0.544				
12 - 14	58		7355	8.90	0.493				
12 - 15	59	1.02	15007	9.62	1.00	1.02	0.011	1.1	-0.44
12 - 16	60		15322	9.64	1.02				
12 - 17	61		15248	9.63	1.02				
12 - 18	62	5.03	76986	11.3	5.16	5.09	0.19	3.7	1.1
12 - 19	63		78008	11.3	5.23				
12 - 20	64		72725	11.2	4.87				
12 - 21	68	9.97	137784	11.8	9.26	9.65	0.39	4.0	-3.2
12 - 22	69		143642	11.9	9.66				
12 - 23	70		149264	11.9	10.0				
12 - 24	71	20.0	301295	12.6	20.4	20.4	1.8	9.1	2.1
12 - 25	72		275173	12.5	18.6				
12 - 26	73		329319	12.7	22.3				
Quality Control Samples									
13 - 3	53	2.00	30320	10.3	2.03	2.03	0.038	1.9	1.3
13 - 4	54		30918	10.3	2.07				3.3
13 - 5	55		29795	10.3	1.99				-0.43
13 - 6	65	8.01	128089	11.8	8.61	8.54	0.38	4.4	7.4
13 - 7	66		132200	11.8	8.88				11
13 - 8	67		121144	11.7	8.14				1.6
Concentration Samples 9/17/04									% of Target (%)
14 - 10	76	0.0	None Detected						
14 - 1	77	2.0	27479	10.2	1.84	1.82	0.016	0.90	91.8
14 - 2	78		26990	10.2	1.80				90.2
14 - 3	79		27269	10.2	1.82				91.1
14 - 4	80	7.0	110779	11.6	7.44	7.28	0.17	2.4	106
14 - 5	81		108815	11.6	7.30				104
14 - 6	82		105710	11.6	7.09				101
14 - 7	83	10.0	135925	11.8	9.14	9.23	0.11	1.2	91.4
14 - 8	84		136985	11.8	9.21				92.1
14 - 9	85		139109	11.8	9.35				93.5

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A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 3a: Calibration Standard Data
(Analyzed 9/24/2004)

Allyl Alcohol (mg/mL)	Ref # (14038 -)	Run #	Area	Mean Area	SD	RSD (%)	Response Factor (Mean Area/Conc.)
0.213	22 - 9	94	1994	2029	31.6	1.6	9.52E+03
	22 - 10	95	2035				
	22 - 11	96	2056				
0.511	22 - 12	100	8859	7733	976	13	1.51E+04
	22 - 13	101	7126				
	22 - 14	102	7215				
1.02	22 - 15	103	15891	15317	513	3.4	1.50E+04
	22 - 16	104	14903				
	22 - 17	105	15157				
5.03	22 - 18	106	74579	74546	2892	3.9	1.48E+04
	22 - 19	107	77422				
	22 - 20	108	71637				
9.97	22 - 21	112	145281	153138	12232	8.0	1.54E+04
	22 - 22	113	146902				
	22 - 23	114	167232				
20.0	22 - 24	115	330018	300759	25979	8.6	1.50E+04
	22 - 25	116	291860				
	22 - 26	117	280399				

Overall Mean	1.41E+04
SD	2.3E+03
RSD (%)	16

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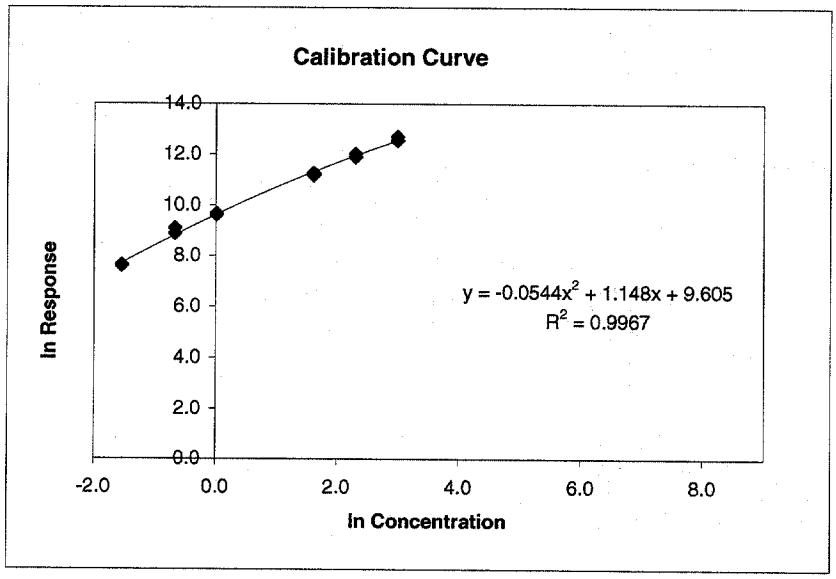
A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 3b: Calibration Curve Data
(Analyzed 9/24/2004)

Ref # (14038 -)	ln Response	ln Conc	ln Conc^2	Back-Calc. Conc. (mg/mL)	% RE (%)
22 - 9	7.59801	-1.546463	2.391548	0.197	-7.4
22 - 10	7.61840	-1.546463	2.391548	0.200	-6.0
22 - 11	7.62866	-1.546463	2.391548	0.202	-5.2
22 - 12	9.08916	-0.671386	0.450759	0.644	26
22 - 13	8.87149	-0.671386	0.450759	0.538	5.2
22 - 14	8.88390	-0.671386	0.450759	0.543	6.3
22 - 15	9.67353	0.019803	0.000392	1.06	4.1
22 - 16	9.60930	0.019803	0.000392	1.00	-1.6
22 - 17	9.62618	0.019803	0.000392	1.02	-0.13
22 - 18	11.21961	1.615420	2.609582	4.55	-9.5
22 - 19	11.25702	1.615420	2.609582	4.73	-6.0
22 - 20	11.17936	1.615420	2.609582	4.37	-13
22 - 21	11.88643	2.299581	5.288071	9.22	-7.5
22 - 22	11.89752	2.299581	5.288071	9.33	-6.4
22 - 23	12.02714	2.299581	5.288071	10.8	8.2
22 - 24	12.70690	2.995732	8.974412	24.1	20
22 - 25	12.58403	2.995732	8.974412	20.7	3.5
22 - 26	12.54397	2.995732	8.974412	19.7	-1.4
	A	**B**	**C**	**R^2**	
	-0.0544	1.148	9.6050	0.9967	



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A PRENATAL DEVELOPMENTAL
TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
Table 3c: Calibration Standards, Quality Controls & Formulations
(Analyzed 9/24/2004)

Ref # (14038 -)	Run #	Theo. mg/mL	Area	ln Area	Conc. mg/mL	Mean (mg/mL)	SD	RSD (%)	% RE (%)
Calibration Standards									
22 - 9	94	0.211	1994	7.60	0.197	0.200	0.0024	1.2	-5.3
22 - 10	95		2035	7.62	0.200				
22 - 11	96		2056	7.63	0.202				
22 - 12	100	0.511	8859	9.09	0.644	0.575	0.060	10	13
22 - 13	101		7126	8.87	0.538				
22 - 14	102		7215	8.88	0.543				
22 - 15	103	1.02	15891	9.67	1.06	1.03	0.030	2.9	0.79
22 - 16	104		14903	9.61	1.00				
22 - 17	105		15157	9.63	1.02				
22 - 18	106	5.03	74579	11.2	4.55	4.55	0.18	3.9	-9.6
22 - 19	107		77422	11.3	4.73				
22 - 20	108		71637	11.2	4.37				
22 - 21	112	9.97	145281	11.9	9.22	9.78	0.87	8.9	-1.9
22 - 22	113		146902	11.9	9.33				
22 - 23	114		167232	12.0	10.8				
22 - 24	115	20.0	330018	12.7	24.1	21.5	2.3	11	7.5
22 - 25	116		291860	12.6	20.7				
22 - 26	117		280399	12.5	19.7				
Quality Control Samples									
23 - 3	97	2.00	31892	10.4	1.99	1.92	0.077	4.0	-0.42
23 - 4	98		30600	10.3	1.92				-4.2
23 - 5	99		29243	10.3	1.84				-8.1
23 - 6	109	8.01	113081	11.6	7.02	7.40	0.33	4.5	-12
23 - 7	110		121900	11.7	7.61				-5.0
23 - 8	111		121392	11.7	7.58				-5.4
Concentration Samples 9/24/04									% of Target (%)
24 - 10	120	0.0	None Detected						
24 - 1	121	2.0	32640	10.4	2.04	1.90	0.12	6.1	102
24 - 2	122		28920	10.3	1.82				90.9
24 - 3	123		29581	10.3	1.86				92.9
24 - 4	124	7.0	104639	11.6	6.47	6.39	0.070	1.1	92.4
24 - 5	125		103207	11.5	6.37				91.0
24 - 6	126		102547	11.5	6.33				90.4
24 - 7	127	10.0	145288	11.9	9.22	9.90	0.98	10	92.2
24 - 8	128		170581	12.0	11.0				110
24 - 9	129		148598	11.9	9.45				94.5

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APPENDIX C

Product Characteristics, Nutrition Content And Ingredients Of Hills Prescription Diet®

Product Characteristics

Calories	Increased
Fat	High
Carbohydrate	Low
Omega 3 fatty acids	High
Glutamine/glutamate	High
Total branched chain amino acids	High
Potassium	Increased
Protein, Fat, Carbohydrate Digestibility	High
Suitable for Assisted Feeding	Syringable
Target Urine pH	Neutral (6.7-7.3)*

* Urine pH of individual cats may vary due to complicating factors such as: time of feeding before urine collection, type of urine collection, individual animal variation, and test methodology.

Metabolizable Energy* (Caloric Content)

Canned 1151 kcal/kg (180 kcal/156 g can)

[1]Measurement of Usable Energy in a food, which differs substantially from gross caloric content.

Average Nutrient Contents

Nutrient	Nutrient Guarantee %	As Fed* %	Dry Matter** %	As Fed, Caloric Basis*** g/100 kcal
Protein	8.5 min	10.4	44.3	9.0
Fat	5.2 min	7.1	30.2	6.2
Carbohydrate (NFE)		4.0	17.0	3.5
Crude Fiber	0.5 max	0.1	0.4	0.1 mg/100kcal***
Calcium	0.18 min	0.23	0.98	200
Phosphorus	0.17 min	0.22	0.94	191
Sodium		0.18	0.77	156
Potassium		0.22	0.94	191
Magnesium	0.019 min	0.025	0.106	22
Taurine	0.06 min	0.15	0.65	132
Glutamine/Glutamate		1.70	7.23	1477
Branched Chain Amino Acid Total		1.93	8.21	1677
Omega-3 Fatty Acids Total		0.60	2.55	521

[1]Differs from label guarantees which are either maximums or minimums.
[2]The nutrient in the product after moisture is removed. It is used to make direct comparisons of nutrient profiles of products with differing moisture contents.
[3]Nutrient intake for every 100 kilocalories consumed.

Ingredients

Water, poultry liver, chicken, corn flour, casein, fish oil, sodium tripolyphosphate, guar gum, taurine, minerals (calcium carbonate, potassium chloride, magnesium oxide, zinc oxide, ferrous sulfate, copper sulfate, manganous oxide, calcium iodate, sodium selenite), vitamins (choline chloride, vitamin D3 supplement, vitamin E supplement, thiamine, mononitrate, niacin, calcium pantothenate, pyridoxine hydrochloride, riboflavin, folic acid, biotin, vitamin B12 supplement).

APPENDIX D

Animal Room Environmental Conditions

A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
TEMPERATURE/HUMIDITY - DAILY SUMMARY REPORT BY STUDY

PROJECT NO.:WIL- 14038
SPONSOR: LYONDELL CHEMICAL

STUDY SPECIFICATIONS: 14038

DATE IN: 08/24/04 TIME IN: 11:00
DATE OUT: 09/30/04 TIME OUT: 11:00

ROOM SPECIFICATIONS: B ROOM 73
SPECIES: RAT

LOW TEMPERATURE °F: 66.0 HIGH TEMPERATURE °F: 76.0 LOW HUMIDITY: 30.0
LOW TEMPERATURE °C: 18.9 HIGH TEMPERATURE °C: 24.4 HIGH HUMIDITY: 70.0

	TEMPERATURE		HUMIDITY
DATE	MEAN (°F)	MEAN (°C)	MEAN (%RH)
24-Aug-04	70.5	21.4	48.1
25-Aug-04	70.5	21.4	49.6
26-Aug-04	70.5	21.4	50.1
27-Aug-04	70.7	21.5	49.9
28-Aug-04	70.5	21.4	50.2
29-Aug-04	70.5	21.4	47.0
30-Aug-04	70.5	21.4	45.7
31-Aug-04	70.5	21.4	46.8
01-Sep-04	70.4	21.4	46.1
02-Sep-04	70.5	21.4	47.5
03-Sep-04	70.5	21.4	47.3
04-Sep-04	70.5	21.4	48.0
05-Sep-04	70.5	21.4	47.4
06-Sep-04	70.5	21.4	48.7
07-Sep-04	70.5	21.4	47.8
08-Sep-04	70.5	21.4	46.3
09-Sep-04	70.4	21.4	45.7
10-Sep-04	70.4	21.4	46.5
11-Sep-04	70.5	21.4	46.8
12-Sep-04	70.4	21.4	47.3
13-Sep-04	70.6	21.4	46.7
14-Sep-04	70.5	21.4	46.9
15-Sep-04	70.5	21.4	46.4

NOTE: + = VALUE WAS GREATER THAN HIGH RANGE
- = VALUE WAS LESS THAN LOW RANGE
NOTE: MEANS REPRESENT THE MEAN OF THE DAILY VALUES

REPORT 4
VERSION 1.08
12/15/04 10:39

A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
TEMPERATURE/HUMIDITY - DAILY SUMMARY REPORT BY STUDY

STUDY SPECIFICATIONS: 14038

DATE IN: 08/24/04 TIME IN: 11:00
DATE OUT: 09/30/04 TIME OUT: 11:00

ROOM SPECIFICATIONS: B ROOM 73
SPECIES: RAT

LOW TEMPERATURE °F: 66.0 HIGH TEMPERATURE °F: 76.0 LOW HUMIDITY: 30.0
LOW TEMPERATURE °C: 18.9 HIGH TEMPERATURE °C: 24.4 HIGH HUMIDITY: 70.0

	TEMPERATURE		HUMIDITY
DATE	MEAN (°F)	MEAN (°C)	MEAN (%RH)
16-Sep-04	70.6	21.4	48.3
17-Sep-04	70.4	21.3	44.2
18-Sep-04	70.5	21.4	43.6
19-Sep-04	70.4	21.4	42.7
20-Sep-04	70.4	21.4	41.9
21-Sep-04	70.5	21.4	53.9
22-Sep-04	70.5	21.4	53.8
23-Sep-04	71.0	21.7	53.5
24-Sep-04	71.5	21.9	51.3
25-Sep-04	71.5	22.0	48.4
26-Sep-04	71.5	22.0	52.5
27-Sep-04	71.5	21.9	52.6
28-Sep-04	71.5	21.9	51.6
29-Sep-04	71.4	21.9	50.1
30-Sep-04	71.5	21.9	45.9

NOTE: + = VALUE WAS GREATER THAN HIGH RANGE
- = VALUE WAS LESS THAN LOW RANGE
NOTE: MEANS REPRESENT THE MEAN OF THE DAILY VALUES

A PRENATAL DEVELOPMENT TOXICITY STUDY OF ALLYL ALCOHOL IN RATS
TEMPERATURE/HUMIDITY - DAILY SUMMARY REPORT BY STUDY

PROJECT NO.:WIL- 14038
SPONSOR: LYONDELL CHEMICAL

STUDY SPECIFICATIONS: 14038

DATE IN: 08/24/04 TIME IN: 11:00
DATE OUT: 09/30/04 TIME OUT: 11:00

ROOM SPECIFICATIONS: B ROOM 73
SPECIES: RAT

LOW TEMPERATURE °F: 66.0 HIGH TEMPERATURE °F: 76.0 LOW HUMIDITY: 30.0
LOW TEMPERATURE °C: 18.9 HIGH TEMPERATURE °C: 24.4 HIGH HUMIDITY: 70.0

DATE	TEMPERATURE MEAN (°F)	TEMPERATURE MEAN (°C)	HUMIDITY MEAN (%RH)

GRAND STATS	MEAN	MIN	MAX
TEMPERATURE °F	70.7	70.4	71.5
TEMPERATURE °C	21.5	21.3	22.0
HUMIDITY (%RH)	48.1	41.9	53.9
N DAYS	38		

NOTE: + = VALUE WAS GREATER THAN HIGH RANGE
- = VALUE WAS LESS THAN LOW RANGE
NOTE: MEANS REPRESENT THE MEAN OF THE DAILY VALUES

REPORT 4
VERSION 1.08
12/15/04 10:39

ROOM SPECIFICATIONS:	B ROOM 73		
SPECIES:	RAT		
LOW TEMPERATURE:	66.0	DATE IN:	08/24/04
HIGH TEMPERATURE:	76.0	TIME IN:	11:00
LOW HUMIDITY:	30.0	DATE OUT:	09/30/04
HIGH HUMIDITY:	70.0	TIME OUT:	11:00

ROOM B ROOM 73 SUMMARY

	TEMPERATURE	HUMIDITY
MEAN	70.7	48.1
MIN	69.5	29.1
MAX	79.0	68.5
SD	0.54	4.09
N SAMPLES	885	885
FIRST DAY	08/24/04	
LAST DAY	09/30/04	
N DAYS	38	

NOTE: TEMPERATURE UNITS = DEGREES FAHRENHEIT
HUMIDITY UNITS = % RELATIVE HUMIDITY
NOTE: MEANS REPRESENT THE MEAN OF ALL VALUES

STUDY 14038 SUMMARY

MEAN	70.7	48.1
MIN	69.5	29.1
MAX	79.0	68.5
SD	0.54	4.09
N SAMPLES	885	885
FIRST DAY	08/24/04	
LAST DAY	09/30/04	
N DAYS	38	

NOTE: TEMPERATURE UNITS = DEGREES FAHRENHEIT
HUMIDITY UNITS = % RELATIVE HUMIDITY
NOTE: MEANS REPRESENT THE MEAN OF ALL VALUES

APPENDIX E

WIL Developmental Historical Control Data [Crl:CD®(SD)IGS BR Rats]

Mean of Study Means

Endpoint	Total		Mean	SD	SEM	Median	Min	Max	25th Quartile	75th Quartile
NO. OF STUDIES	**61**									
Total No. of Animals in the Control Group	1512	a								
No. of Animals That Died	3									
No. of Animals That Aborted/Delivered	0									
No. of Animals Examined at Laparohysterectomy	1509									
Percent Pregnant			96.0	5.54	0.71	100.0	76.0	100.0	95.5	100.0
No. Gravid	1452									
No. Nongravid	60									
No. With Only Resorptions	3									
No. of Dams With Live Fetuses	1447	a								
Mean Gravid Uterine Weight (g)			84.9	3.98	0.51	85.3	77.8	95.4	81.6	87.4
Mean No. Viable Fetuses/Dam			15.2	0.61	0.08	15.1	14.0	16.6	14.8	15.6
Total No. Viable Fetuses	22047									
Viable Fetuses (%/Litter)			95.6	1.47	0.19	95.7	91.4	98.0	94.9	96.4
Mean No. Postimplantation Loss/Dam			0.7	0.20	0.02	0.68	0.3	1.1	0.6	0.8
Total No. of Implantation Sites Lost	983									
Postimplantation Loss (%/Litter)			4.4	1.47	0.19	4.3	2.0	8.6	3.6	5.1
Early Resorptions (%/Litter)			4.4	1.50	0.19	4.2	1.5	8.6	3.3	5.0
Late Resorptions (%/Litter)			0.1	0.18	0.02	0.0	0.0	0.8	0.0	0.2
Dead Fetuses (%/Litter)			0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam			15.9	0.62	0.08	15.8	14.6	17.5	15.4	16.2
Mean No. Corpora Lutea/Dam			17.7	0.83	0.11	17.6	16.0	19.4	17.2	18.2
Mean No. Preimplantation Loss/Dam			1.8	0.55	0.07	1.8	0.7	3.1	1.4	2.1
Total No. Preimplantation Lost	2624									
Preimplantation Loss (%/Litter)			9.5	2.65	0.34	9.2	4.0	15.7	7.4	11.3
Total No. Male Fetuses	10955									
Total No. Female Fetuses	11092									
% Males/Litter			49.6	2.74	0.35	49.4	44.5	56.0	47.7	51.4
% Females/Litter			50.4	2.74	0.35	50.6	44.0	55.5	48.6	52.3
Mean Fetal Body Weight (g)			3.6	0.10	0.01	3.6	3.4	3.8	3.5	3.7
Mean Male Body Weight (g)			3.7	0.11	0.01	3.7	3.5	3.9	3.6	3.8
Mean Female Body Weight (g)			3.5	0.10	0.01	3.5	3.4	3.7	3.4	3.6

a = Calculations include one nonpregant dam that died on study and one pregnant female euthanized *in extremis*.

Mean of Study Means

NO. OF STUDIES	**61**	
Total No. Fetuses/Litters Examined Externally	22047	1447
Total No. Fetuses/Litters Examined Viscerally	21853	1447
Total No. Fetuses/Litters Examined Skeletally	21843	1446

MALFORMATIONS (% Per Litter Basis)	**Mean**	**SD**	**SEM**	**Median**	**Min**	**Max**	**25th Quartile**	**75th Quartile**
EXTERNAL								
Aglossia	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Anal Atresia	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Apodia	0.0	0.03	0.00	0.00	0.0	0.3	0.0	0.0
Astomia	0.0	0.04	0.01	0.00	0.0	0.3	0.0	0.0
Brachydactyly	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Carpal and/or Tarsal Flexure	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Cleft Palate	0.0	0.06	0.01	0.00	0.0	0.3	0.0	0.0
Conjoined Twins	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Craniorachischisis	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Cyclopia	0.0	0.04	0.01	0.00	0.0	0.3	0.0	0.0
Ectrodactyly	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Ectromelia	0.0	0.03	0.00	0.00	0.0	0.3	0.0	0.0
Exencephaly With or Without Open Eyelid(s)	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Facial Cleft	0.0	0.03	0.00	0.00	0.0	0.3	0.0	0.0
Fetal Anasarca	0.0	0.18	0.02	0.00	0.0	1.3	0.0	0.0
Filamentous Tail	0.0	0.06	0.01	0.00	0.0	0.3	0.0	0.0
Gastroschisis	0.0	0.03	0.00	0.00	0.0	0.3	0.0	0.0
Hydrocephaly With or Without Dome Head	0.0	0.03	0.00	0.00	0.0	0.2	0.0	0.0
Localized Fetal Edema	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Macroglossia	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Mandibular Agnathia	0.0	0.04	0.01	0.00	0.0	0.3	0.0	0.0
Mandibular Micrognathia	0.0	0.04	0.01	0.00	0.0	0.3	0.0	0.0
Meningocele	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Meningoencephalocele	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Micromelia	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Microphthalmia and/or Anophthalmia	0.0	0.06	0.01	0.00	0.0	0.3	0.0	0.0
Omphalocele	0.0	0.08	0.01	0.00	0.0	0.3	0.0	0.0
Open Eyelid(s)	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Mean of Study Means

MALFORMATIONS (% Per Litter Basis)	Mean	SD	SEM	Median	Min	Max	Quartile	Quartile
EXTERNAL (continued)								
Polydactyly	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Short Tail	0.0	0.03	0.00	0.00	0.0	0.3	0.0	0.0
Sirenomelia	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Spina Bifida	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Umbilical Herniation of the Intestine	0.0	0.06	0.01	0.00	0.0	0.3	0.0	0.0
Vertebral Agenesis	0.0	0.07	0.01	0.00	0.0	0.3	0.0	0.0
VISCERAL								
Diaphragmatic Hernia	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Heart and/or Great Vessel Anomaly	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Hydrocephaly	0.0	0.05	0.01	0.00	0.0	0.3	0.0	0.0
Interrupted Aortic Arch	0.0	0.03	0.00	0.00	0.0	0.3	0.0	0.0
Kidney(s)- Rudimentary	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Kidney and/or Ureter Absent	0.0	0.04	0.01	0.00	0.0	0.3	0.0	0.0
Kidney(s) - Fused	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Lungs- Lobular Agenesis	0.0	0.07	0.01	0.00	0.0	0.6	0.0	0.0
Malpositioned Kidney(s)	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Malpositioned Vessel	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Narrowed Aorta	0.0	0.04	0.01	0.00	0.0	0.3	0.0	0.0
Retroesophageal Aortic Arch	0.0	0.06	0.01	0.00	0.0	0.3	0.0	0.0
Situs Inversus	0.0	0.08	0.01	0.00	0.0	0.4	0.0	0.0
Testis and Epididymis Absent	0.0	0.04	0.00	0.00	0.0	0.3	0.0	0.0

Mean of Study Means

MALFORMATIONS (% Per Litter Basis)	Mean	SD	SEM	Median	Min	Max	Quartile	Quartile
SKELETAL								
Bent Limb Bone(s)	0.0	0.05	0.01	0.00	0.0	0.3	0.0	0.0
Costal Cartilage Anomaly	0.0	0.03	0.00	0.00	0.0	0.3	0.0	0.0
Ilium Misshapen	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Only 11 Full Pairs of Ribs Present	0.0	0.03	0.00	0.00	0.0	0.2	0.0	0.0
Only 12 Full Pairs of Ribs Present	0.0	0.06	0.01	0.00	0.0	0.4	0.0	0.0
Rib Anomaly	0.0	0.07	0.01	0.00	0.0	0.4	0.0	0.0
Skull Anomaly	0.0	0.06	0.01	0.00	0.0	0.4	0.0	0.0
Sternebrae- Fused	0.0	0.13	0.02	0.00	0.0	1.0	0.0	0.0
Sternebra(e) Malaligned (Severe)	0.0	0.07	0.01	0.00	0.0	0.4	0.0	0.0
Sternoschisis	0.0	0.05	0.01	0.00	0.0	0.3	0.0	0.0
Vertebral Anomaly With or Without Associated Rib Anomaly	0.0	0.12	0.02	0.00	0.0	0.7	0.0	0.0
Vertebral Centra Anomaly	0.0	0.03	0.00	0.00	0.0	0.2	0.0	0.0

Mean of Study Means

NO. OF STUDIES	**61**	
Total No. Fetuses/Litters Examined Externally	22047	1447
Total No. Fetuses/Litters Examined Viscerally	21853	1447
Total No. Fetuses/Litters Examined Skeletally	21843	1446

VARIATIONS (% Per Litter Basis)	Mean	SD	SEM	Median	Min	Max	25th Quartile	75th Quartile
EXTERNAL								
Twinning	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
VISCERAL								
Accessory Spleen	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Hemorrhagic Iris	0.0	0.03	0.00	0.00	0.0	0.3	0.0	0.0
Hemorrhagic Ring around the Iris	0.0	0.06	0.01	0.00	0.0	0.3	0.0	0.0
Kidney(s)- Small	0.0	0.04	0.00	0.00	0.0	0.3	0.0	0.0
Major Blood Vessel Variation	0.1	0.12	0.02	0.00	0.0	0.4	0.0	0.0
Renal Papilla(e) not Developed and/or Distended Ureter(s)	0.0	0.12	0.02	0.00	0.0	0.8	0.0	0.0
Retrocaval Ureter	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Spleen- Pale	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Spleen- Small	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
SKELETAL								
14th Rudimentary Rib(s)	6.2	2.85	0.36	5.60	1.4	15.1	4.4	7.2
14th Full Rib(s)	0.1	0.18	0.02	0.00	0.0	0.9	0.0	0.0
25 Presacral Vertebrae	0.2	0.38	0.05	0.00	0.0	2.0	0.0	0.2
27 Presacral Vertebrae	0.1	0.30	0.04	0.00	0.0	1.8	0.0	0.2
7th Cervical Rib(s)	0.6	0.62	0.08	0.30	0.0	2.7	0.0	0.8
7th Sternebra	0.1	0.39	0.05	0.00	0.0	2.5	0.0	0.0
Accessory Skull Bone(s)	0.0	0.03	0.00	0.00	0.0	0.2	0.0	0.0
Bent Rib(s)	0.2	0.53	0.07	0.00	0.0	4.0	0.0	0.2
Bent Rib(s) With Reduced Ossification	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Cervical Centrum #1 Ossified	18.1	5.90	0.76	17.05	6.6	32.1	14.0	21.6
Entire Sternum Unossified	0.0	0.03	0.00	0.00	0.0	0.2	0.0	0.0
Extra Site of Ossification Ventral to Cervical Centra #2	0.0	0.03	0.00	0.00	0.0	0.3	0.0	0.0
Hyoid Unossified	1.5	0.82	0.11	1.37	0.0	3.4	0.9	2.1

Mean of Study Means

VARIATIONS (% Per Litter Basis)	Mean	SD	SEM	Median	Min	Max	25th Quartile	75th Quartile
SKELETAL (continued)								
Ilium Unossified	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Ischium Unossified	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Metacarpal(s) and/or Metatarsal(s) Unossified	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Pubis Unossified	0.0	0.11	0.01	0.00	0.0	0.5	0.0	0.0
Reduced Ossification of the 13th Rib(s)	0.6	0.68	0.09	0.38	0.0	3.0	0.0	0.9
Reduced Ossification of the Entire Skelelton	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Reduced Ossification of the Limb Bone(s)	0.0	0.04	0.01	0.00	0.0	0.2	0.0	0.0
Reduced Ossification of the Rib(s)	0.0	0.07	0.01	0.00	0.0	0.5	0.0	0.0
Reduced Ossification of the Skull	0.0	0.03	0.00	0.00	0.0	0.2	0.0	0.0
Reduced Ossification of the Vertebral Arch(es)	0.0	0.12	0.01	0.00	0.0	0.8	0.0	0.0
Reduced Ossification of the Vertebral Centra	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Ribs- Thickened	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Sternebra(e) #1,#2,#3 and/or #4 Unossified	0.2	0.35	0.04	0.00	0.0	1.3	0.0	0.5
Sternebra(e) #5 and/or #6 Unossified	8.7	6.04	0.77	7.64	0.3	23.1	4.1	11.2
Sternebra(e) Malaligned (Slight or Moderate)	0.1	0.21	0.03	0.00	0.0	0.8	0.0	0.3
Sternebrae with Thread-Like Attachment	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Unco-ossification of the Vertebral Centra	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Verterbral Centra Unossified	0.0	0.04	0.01	0.00	0.0	0.2	0.0	0.0

Summary Incidence
Malformations and Variations
Ranked Uppermost to Nethermost

MALFORMATIONS

(Total No. Fetuses/Litters Affected)

Total Number of Fetuses/Litters Examined	Fetuses	Litters
External	22047	1447
Visceral	21853	1447
Skeletal	21843	1446

	Number	
	Fetuses	Litters
SKELETAL		
Vertebral Anomaly With or Without Associated Rib Anomaly	9	6
Sternoschisis	3	3
Bent Limb Bone(s)	2	2
Sternebra(e) Malaligned (Severe)	2	2
Rib Anomaly	2	2
Costal Cartilage Anomaly	1	1
Only 11 Full Pairs of Ribs Present	1	1
Only 12 Full Pairs of Ribs Present	1	1
Skull Anomaly	1	1
Sternebrae Fused	1	1
Vertebral Centra Anomaly	1	1

Summary Incidence
Malformations and Variations
Ranked Uppermost to Nethermost

VARIATIONS
(Total No. Fetuses/Litters Affected)

Total Number of Fetuses/Litters Examined	Fetuses	Litters
External	22047	1447
Visceral	21853	1447
Skeletal	21843	1446

	Number	
	Fetuses	Litters
VISCERAL		
Major Blood Vessel Variation	15	15
Renal Papilla(e) not Developed and/or Distended Ureter(s)	5	4
Hemorrhagic Ring Around the Iris	3	3
Hemorrhagic Iris	1	1
Kidney(s)- Small	1	1
SKELETAL		
Cervical Centrum #1 Ossified	3919	1065
Sternebra(e) #5 and/or #6 Unossified	1920	632
14th Rudimentary Rib(s)	1328	565
Hyoid Unossified	325	208
7th Cervical Rib(s)	121	91
Reduced Ossification of the 13th Rib(s)	119	74
Sternebra(e) #1,#2,#3 and/or #4 Unossified	50	44
Sternebra(e) Malaligned (Slight or Moderate)	32	31
25 Presacral Vertebrae	30	20
27 Presacral Vertebrae	29	21
Bent Rib(s)	18	18
14th Full Rib(s)	18	14
Pubis Unossified	9	9
Reduced Ossification of the Vertebral Arch(es)	7	7
7th Sternebra	19	5
Reduced Ossification of the Rib(s)	3	2
Reduced Ossification of the Limb Bone(s)	2	2
Vertebral Centra Unossified	2	2
Accessory Skull Bone(s)	1	1
Entire Sternum Unossified	1	1
Extra Site of Ossification Ventral to Cervical Centrum #2	1	1

Individual Study Means

STUDY NO.	1	2 a	3	4	5
Total No. of Animals in the Control Group	25	25	22	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	1	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	25	24	22	25	25
Percent Pregnant	88.0	76.0	95.5	100.0	100.0
No. Gravid	22	19	21	25	25
No. Nongravid	3	6	1	0	0
No. With Only Resorptions	0	0	0	0	0
No. of Dams With Live Fetuses	22	19	21	25	25
Mean Gravid Uterine Weight (g)	82.0	79.6	80.6	78.7	84.0
Mean No. Viable Fetuses/Dam	14.0	14.1	15.0	14.3	14.9
Total No. Viable Fetuses	309	267	315	357	373
Viable Fetuses (%/Litter)	95.9	95.9	94.9	94.1	95.0
Mean No. Postimplantation Loss/Dam	0.6	0.6	0.8	0.9	0.7
Total No. of Implantation Sites Lost	13	11	17	22	17
Postimplantation Loss (%/Litter)	4.1	4.1	5.1	5.9	5.0
Early Resorptions (%/Litter)	3.8	4.1	5.1	5.6	5.0
Late Resorptions (%/Litter)	0.3	0.0	0.0	0.3	0.0
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	14.6	14.6	15.8	15.2	15.6
Mean No. Corpora Lutea/Dam	16.7	16.5	17.9	16.6	17.3
Mean No. Preimplantation Loss/Dam	2.1	1.8	2.2	1.5	1.7
Total No. Preimplantation Losses	46	35	44	37	43
Preimplantation Loss (%/Litter)	11.3	10.7	11.6	7.9	8.9
Total No. Male Fetuses	158	135	155	187	204
Total No. Female Fetuses	151	132	160	170	169
% Males/Litter	50.7	50.3	48.5	52.8	55.2
% Females/Litter	49.3	49.7	51.5	47.2	44.8
Mean Fetal Body Weight (g)	3.8	3.7	3.4	3.6	3.6
Mean Male Body Weight (g)	3.9	3.8	3.5	3.7	3.7
Mean Female Body Weight (g)	3.7	3.6	3.4	3.5	3.5
Date of First Gestation Day 0 (GD 0)	04/21/98	05/06/98	05/20/98	06/16/98	06/02/98
Date of Study Laparohysterectomy (Last)	05/15/98	05/29/98	06/12/98	07/09/98	06/26/98
Vehicle	0.5% Methyl-cellulose	Sponsor-Supplied Placebo	Sponsor-Supplied Placebo	0.2% Hydroxy-propylmethyl-cellulose	0.5% Methyl-cellulose 0.1% Polysorbate 80
Route	Gavage	Gavage	Sub-Q	Gavage	Gavage

a = Calculations include one dam that died on study that was not pregnant.

Individual Study Means

STUDY NO.	6	7	8	9	10
Total No. of Animals in the Control Group	22	25	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	22	25	25	25	25
Percent Pregnant	100.0	88.0	88.0	88.0	96.0
No. Gravid	22	22	22	22	24
No. Nongravid	0	3	3	3	1
No. With Only Resorptions	0	0	0	0	0
No. of Dams With Live Fetuses	22	22	22	22	24
Mean Gravid Uterine Weight (g)	89.8	78.1	83.8	80.0	89.8
Mean No. Viable Fetuses/Dam	15.7	14.4	15.2	14.6	16.5
Total No. Viable Fetuses	346	316	334	322	397
Viable Fetuses (%/Litter)	96.2	93.3	95.7	95.4	94.3
Mean No. Postimplantation Loss/Dam	0.6	1.1	0.7	0.7	1.0
Total No. of Implantation Sites Lost	14	24	15	15	24
Postimplantation Loss (%/Litter)	3.8	6.7	4.3	4.6	5.7
Early Resorptions (%/Litter)	3.5	6.7	4.3	4.6	5.7
Late Resorptions (%/Litter)	0.3	0.0	0.0	0.0	0.0
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	16.4	15.5	15.9	15.3	17.5
Mean No. Corpora Lutea/Dam	18.1	17.2	17.6	17.5	19.3
Mean No. Preimplantation Loss/Dam	1.8	1.8	1.7	2.2	1.7
Total No. Preimplantation Losses	39	39	38	48	41
Preimplantation Loss (%/Litter)	9.0	9.9	8.7	12.0	8.8
Total No. Male Fetuses	170	157	166	144	205
Total No. Female Fetuses	176	159	168	178	192
% Males/Litter	48.6	49.6	49.0	44.5	52.0
% Females/Litter	51.4	50.4	51.0	55.5	48.0
Mean Fetal Body Weight (g)	3.7	3.5	3.6	3.6	3.5
Mean Male Body Weight (g)	3.8	3.6	3.7	3.7	3.6
Mean Female Body Weight (g)	3.6	3.4	3.5	3.5	3.4
Date of First Gestation Day 0 (GD 0)	07/28/98	09/08/98	08/21/98	11/24/98	01/12/99
Date of Study Laparohysterectomy (Last)	08/20/98	10/14/98	09/11/98	12/18/98	02/05/99
Vehicle	Deionized Water	0.5% Methyl-cellulose	Sponsor Supplied Placebo	Mazola Corn Oil	Deionized Water
Route	Gavage	Dermal	Subcutaneous	Gavage	Gavage

Individual Study Means

STUDY NO.	11	12	13	14	15
Total No. of Animals in the Control Group	25	25	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	25	25	25	25	25
Percent Pregnant	100.0	96.0	96.0	100.0	100.0
No. Gravid	25	24	24	25	25
No. Nongravid	0	1	1	0	0
No. With Only Resorptions	0	0	0	0	0
No. of Dams With Live Fetuses	25	24	24	25	25
Mean Gravid Uterine Weight (g)	85.7	88.0	81.9	89.7	87.4
Mean No. Viable Fetuses/Dam	15.7	15.7	14.5	16.3	15.2
Total No. Viable Fetuses	393	377	349	407	380
Viable Fetuses (%/Litter)	96.2	96.5	95.3	96.3	96.2
Mean No. Postimplantation Loss/Dam	0.6	0.5	0.8	0.6	0.6
Total No. of Implantation Sites Lost	15	13	18	15	15
Postimplantation Loss (%/Litter)	3.8	3.5	4.7	3.7	3.8
Early Resorptions (%/Litter)	3.8	3.5	4.7	3.7	3.5
Late Resorptions (%/Litter)	0.0	0.0	0.0	0.0	0.3
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	16.3	16.3	15.3	16.9	15.8
Mean No. Corpora Lutea/Dam	18.2	18.1	17.2	18.8	18.9
Mean No. Preimplantation Loss/Dam	1.9	1.9	1.9	1.9	3.1
Total No. Preimplantation Losses	47	45	45	47	77
Preimplantation Loss (%/Litter)	9.4	9.7	10.5	8.9	14.3
Total No. Male Fetuses	178	197	160	220	189
Total No. Female Fetuses	215	180	189	187	191
% Males/Litter	45.5	52.4	45.2	53.8	49.3
% Females/Litter	54.5	47.6	54.8	46.2	50.7
Mean Fetal Body Weight (g)	3.5	3.7	3.6	3.6	3.7
Mean Male Body Weight (g)	3.7	3.7	3.8	3.6	3.8
Mean Female Body Weight (g)	3.4	3.6	3.5	3.5	3.7
Date of First Gestation Day 0 (GD 0)	03/02/99	03/02/99	04/27/99	04/27/99	05/12/99
Date of Study Laparohysterectomy (Last)	03/25/99	03/25/99	05/22/99	05/21/99	06/05/99
Vehicle	0.5% Methyl-cellulose	0.5% Methyl-cellulose	Surgical Sham	Phosphate Buffer	0.5% Methyl-cellulose
Route	Gavage	Gavage	Surgical	Gavage	Gavage

Individual Study Means

STUDY NO.	16	17	18	19	20
Total No. of Animals in the Control Group	22	25	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	22	25	25	25	25
Percent Pregnant	95.5	100.0	100.0	92.0	96.0
No. Gravid	21	25	25	23	24
No. Nongravid	1	0	0	2	1
No. With Only Resorptions	0	0	0	0	0
No. of Dams With Live Fetuses	21	25	25	23	24
Mean Gravid Uterine Weight (g)	87.4	79.1	87.4	86.9	86.6
Mean No. Viable Fetuses/Dam	15.4	15.1	15.5	15.4	15.8
Total No. Viable Fetuses	323	378	388	355	379
Viable Fetuses (%/Litter)	96.8	95.7	94.9	97.6	97.8
Mean No. Postimplantation Loss/Dam	0.5	0.8	0.8	0.4	0.4
Total No. of Implantation Sites Lost	11	19	21	9	9
Postimplantation Loss (%/Litter)	3.2	4.3	5.1	2.4	2.2
Early Resorptions (%/Litter)	2.9	4.3	4.8	2.4	2.2
Late Resorptions (%/Litter)	0.3	0.0	0.3	0.0	0.0
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	15.9	15.9	16.4	15.8	16.2
Mean No. Corpora Lutea/Dam	17.7	18.7	18.4	17.5	18.6
Mean No. Preimplantation Loss/Dam	1.8	2.8	2.0	1.7	2.4
Total No. Preimplantation Losses	37	71	50	39	58
Preimplantation Loss (%/Litter)	9.6	13.4	10.1	9.3	12.1
Total No. Male Fetuses	159	184	179	175	191
Total No. Female Fetuses	164	194	209	180	188
% Males/Litter	49.2	48.7	45.8	50.1	50.3
% Females/Litter	50.8	51.3	54.2	49.9	49.7
Mean Fetal Body Weight (g)	3.8	3.4	3.7	3.7	3.5
Mean Male Body Weight (g)	3.9	3.5	3.8	3.7	3.6
Mean Female Body Weight (g)	3.7	3.4	3.6	3.6	3.4
Date of First Gestation Day 0 (GD 0)	06/01/99	08/18/99	06/22/99	12/07/99	12/28/99
Date of Study Laparohysterectomy (Last)	06/24/99	09/11/99	07/16/99	12/30/99	01/21/00
Vehicle	0.5% Methyl-cellulose	Deionized Water	Distilled Water	Mazola Corn Oil	Sponsor-Supplied
Route	Gavage	Gavage	Gavage	Gavage	Gavage

Individual Study Means

STUDY NO.	21	22	23	24	25
Total No. of Animals in the Control Group	25	25	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	25	25	25	25	25
Percent Pregnant	88.0	100.0	100.0	92.0	100.0
No. Gravid	22	25	25	23	25
No. Nongravid	3	0	0	2	0
No. With Only Resorptions	0	0	0	0	0
No. of Dams With Live Fetuses	22	25	25	23	25
Mean Gravid Uterine Weight (g)	83.5	87.4	87.3	83.4	81.3
Mean No. Viable Fetuses/Dam	15.5	15.3	15.6	14.3	14.8
Total No. Viable Fetuses	342	383	391	328	370
Viable Fetuses (%/Litter)	97.2	94.7	96.1	93.4	95.6
Mean No. Postimplantation Loss/Dam	0.5	0.9	0.6	1.0	0.7
Total No. of Implantation Sites Lost	10	23	15	24	17
Postimplantation Loss (%/Litter)	2.8	5.3	3.9	6.6	4.4
Early Resorptions (%/Litter)	2.8	5.3	3.1	6.6	4.2
Late Resorptions (%/Litter)	0.0	0.0	0.8	0.0	0.3
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	16.0	16.2	16.2	15.3	15.5
Mean No. Corpora Lutea/Dam	18.0	18.5	18.1	16.9	16.9
Mean No. Preimplantation Loss/Dam	2.0	2.2	1.9	1.6	1.4
Total No. Preimplantation Losses	44	56	47	36	35
Preimplantation Loss (%/Litter)	10.7	11.8	9.4	8.9	7.8
Total No. Male Fetuses	153	180	195	151	186
Total No. Female Fetuses	189	203	196	177	184
% Males/Litter	44.5	46.8	49.7	45.4	49.6
% Females/Litter	55.5	53.2	50.3	54.6	50.4
Mean Fetal Body Weight (g)	3.5	3.7	3.6	3.8	3.6
Mean Male Body Weight (g)	3.6	3.8	3.7	3.9	3.7
Mean Female Body Weight (g)	3.4	3.6	3.5	3.7	3.5
Date of First Gestation Day 0 (GD 0)	02/22/00	08/24/99	10/05/99	11/16/99	11/09/99
Date of Study Laparohysterectomy (Last)	03/18/00	09/19/99	10/30/99	12/10/99	12/02/99
Vehicle	0.5% Carboxy-methylcellulose	0.5% Carboxy-methylcellulose	0.4% Methyl-cellulose	Distilled Water	0.5% Methylcellulose 0.1% Polysorbate 80 in Deionized Water
Route	Gavage	Gavage	Gavage	Gavage	Gavage

Individual Study Means

STUDY NO.	26	27	28	29	30
Total No. of Animals in the Control Group	25	25	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	25	25	25	25	25
Percent Pregnant	100.0	100.0	96.0	100.0	96.0
No. Gravid	25	25	24	25	24
No. Nongravid	0	0	1	0	1
No. With Only Resorptions	0	0	0	0	0
No. of Dams With Live Fetuses	25	25	24	25	24
Mean Gravid Uterine Weight (g)	86.0	83.6	87.1	86.7	90.0
Mean No. Viable Fetuses/Dam	15.4	15.1	15.8	15.0	16.1
Total No. Viable Fetuses	386	378	379	376	386
Viable Fetuses (%/Litter)	98.0	91.9	93.7	95.4	97.0
Mean No. Postimplantation Loss/Dam	0.3	1.0	1.0	0.7	0.5
Total No. of Implantation Sites Lost	8	26	25	18	12
Postimplantation Loss (%/Litter)	2.0	8.1	6.3	4.6	3.0
Early Resorptions (%/Litter)	2.0	8.1	6.0	4.6	3.0
Late Resorptions (%/Litter)	0.0	0.0	0.3	0.0	0.0
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	15.8	16.2	16.8	15.8	16.6
Mean No. Corpora Lutea/Dam	17.3	19.0	18.2	16.6	19.0
Mean No. Preimplantation Loss/Dam	1.6	2.9	1.3	0.9	2.4
Total No. Preimplantation Losses	39	72	32	22	57
Preimplantation Loss (%/Litter)	9.1	15.7	6.0	5.3	11.7
Total No. Male Fetuses	185	192	193	187	181
Total No. Female Fetuses	201	186	186	189	205
% Males/Litter	47.9	47.8	51.3	50.0	46.6
% Females/Litter	52.1	52.2	48.7	50.0	53.4
Mean Fetal Body Weight (g)	3.6	3.6	3.5	3.7	3.7
Mean Male Body Weight (g)	3.7	3.7	3.6	3.8	3.8
Mean Female Body Weight (g)	3.5	3.5	3.4	3.6	3.6
Date of First Gestation Day 0 (GD 0)	01/19/99	02/27/01	11/27/01	01/17/01	06/27/00
Date of Study Laparohysterectomy (Last)	02/11/99	03/22/01	12/21/01	02/10/01	07/21/00
Vehicle	0.5% Methyl-cellulose	10 mM Na2HPO4.7H2O 150 mM NaCl	Olive Oil	50 mM Sodium Acetate Trihydrate	Placebo Formulation
Route	Gavage	Subcutaneous	Gavage	Gavage	Gavage

Individual Study Means

STUDY NO.	31	32	33	34	35
Total No. of Animals in the Control Group	25	22	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	25	22	25	25	25
Percent Pregnant	100.0	100.0	100.0	100.0	92.0
No. Gravid	25	22	25	25	23
No. Nongravid	0	0	0	0	2
No. With Only Resorptions	0	0	0	0	1
No. of Dams With Live Fetuses	25	22	25	25	22
Mean Gravid Uterine Weight (g)	81.5	87.0	82.1	83.7	77.8
Mean No. Viable Fetuses/Dam	14.4	14.9	14.8	15.0	14.5
Total No. Viable Fetuses	361	328	369	375	334
Viable Fetuses (%/Litter)	95.7	97.6	96.2	96.4	92.3
Mean No. Postimplantation Loss/Dam	0.7	0.4	0.6	0.6	0.6
Total No. of Implantation Sites Lost	17	9	15	14	14
Postimplantation Loss (%/Litter)	4.3	2.4	3.8	3.6	7.7
Early Resorptions (%/Litter)	4.3	2.4	3.8	3.6	7.7
Late Resorptions (%/Litter)	0.0	0.0	0.0	0.0	0.0
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	15.1	15.3	15.4	15.6	15.1
Mean No. Corpora Lutea/Dam	18.1	17.2	17.3	17.9	17.2
Mean No. Preimplantation Loss/Dam	3.0	1.9	2.0	2.3	2.0
Total No. Preimplantation Losses	74	42	49	58	47
Preimplantation Loss (%/Litter)	15.0	11.2	10.2	11.1	12.5
Total No. Male Fetuses	173	173	191	206	154
Total No. Female Fetuses	188	155	178	169	180
% Males/Litter	47.7	52.9	51.2	54.8	46.2
% Females/Litter	52.3	47.1	48.8	45.2	53.8
Mean Fetal Body Weight (g)	3.6	3.8	3.6	3.7	3.5
Mean Male Body Weight (g)	3.7	3.9	3.7	3.8	3.5
Mean Female Body Weight (g)	3.6	3.7	3.5	3.6	3.4
Date of First Gestation Day 0 (GD 0)	05/16/00	08/22/00	12/29/98	07/13/99	01/11/00
Date of Study Laparohysterectomy (Last)	06/08/00	09/15/00	01/23/99	08/05/99	02/03/00
Vehicle	Basal Diet	Citric Acid Solution	0.5% Carboxy-methylcellulose	Methylcellulose Matrix	Clean Filtered Air
Route	Dietary	Gavage	Gavage	Intranasal	Inhalation

Individual Study Means

STUDY NO.	36	37	38 b	39	40
Total No. of Animals in the Control Group	25	25	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	1	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	25	25	24	25	25
Percent Pregnant	100.0	100.0	92.0	92.0	100.0
No. Gravid	25	25	23	23	25
No. Nongravid	0	0	2	2	0
No. With Only Resorptions	0	0	0	1	0
No. of Dams With Live Fetuses	25	25	22	22	25
Mean Gravid Uterine Weight (g)	87.5	81.2	83.6	88.2	82.0
Mean No. Viable Fetuses/Dam	15.3	15.1	14.7	15.3	15.0
Total No. Viable Fetuses	382	378	324	352	376
Viable Fetuses (%/Litter)	95.9	95.8	95.8	92.6	97.7
Mean No. Postimplantation Loss/Dam	0.7	0.7	0.7	0.6	0.3
Total No. of Implantation Sites Lost	17	17	15	13	8
Postimplantation Loss (%/Litter)	4.1	4.2	4.2	7.4	2.3
Early Resorptions (%/Litter)	4.1	3.9	4.2	7.4	2.3
Late Resorptions (%/Litter)	0.0	0.3	0.0	0.0	0.0
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	16.0	15.8	15.4	15.9	15.4
Mean No. Corpora Lutea/Dam	18.4	17.0	17.3	17.4	17.0
Mean No. Preimplantation Loss/Dam	2.4	1.2	1.9	1.6	1.6
Total No. Preimplantation Losses	60	30	42	36	40
Preimplantation Loss (%/Litter)	12.1	6.4	8.9	7.8	9.2
Total No. Male Fetuses	183	200	165	185	180
Total No. Female Fetuses	199	178	159	167	196
% Males/Litter	47.6	53.1	51.4	52.1	48.7
% Females/Litter	52.4	46.9	48.6	47.9	51.3
Mean Fetal Body Weight (g)	3.7	3.5	3.7	3.8	3.5
Mean Male Body Weight (g)	3.8	3.6	3.8	3.9	3.6
Mean Female Body Weight (g)	3.6	3.4	3.7	3.7	3.4
Date of First Gestation Day 0 (GD 0)	07/20/99	08/26/99	02/02/99	01/23/01	05/15/01
Date of Study Laparohysterectomy (Last)	08/13/99	09/19/99	02/27/99	02/16/01	06/08/01
Vehicle	PEG 400	Sodium Phosphate Dibasic Heptahydrate in 0.9% NaCl	10% Aqueous Acacia	Deionized Water	30% Aqueous 1,3-Butylene Glycol
Route	Gavage	Intravenous	Gavage	Gavage	Gavage

b = Calculations include one pregnant dam that was euthanized *in extremis*.

Individual Study Means

STUDY NO.	41	42	43	44	45
Total No. of Animals in the Control Group	25	25	24	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	25	25	24	25	25
Percent Pregnant	100.0	100.0	100.0	88.0	100.0
No. Gravid	25	25	24	22	25
No. Nongravid	0	0	0	3	0
No. With Only Resorptions	0	0	0	0	0
No. of Dams With Live Fetuses	25	25	24	22	25
Mean Gravid Uterine Weight (g)	84.2	85.3	87.4	90.1	81.6
Mean No. Viable Fetuses/Dam	15.5	15.6	15.3	15.1	14.8
Total No. Viable Fetuses	388	391	367	332	369
Viable Fetuses (%/Litter)	95.5	95.9	95.5	95.5	95.3
Mean No. Postimplantation Loss/Dam	0.7	0.7	0.7	0.7	0.7
Total No. of Implantation Sites Lost	18	17	17	15	18
Postimplantation Loss (%/Litter)	4.5	4.1	4.5	4.5	4.7
Early Resorptions (%/Litter)	4.5	4.1	4.5	4.5	4.7
Late Resorptions (%/Litter)	0.0	0.0	0.0	0.0	0.0
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	16.2	16.3	16.0	15.8	15.5
Mean No. Corpora Lutea/Dam	17.5	19.4	16.7	16.7	17.9
Mean No. Preimplantation Loss/Dam	1.1	3.1	0.7	1.0	2.4
Total No. Preimplantation Losses	26	78	17	21	60
Preimplantation Loss (%/Litter)	5.5	15.5	4.0	5.8	12.0
Total No. Male Fetuses	181	194	182	160	182
Total No. Female Fetuses	207	197	185	172	187
% Males/Litter	47.2	47.5	49.4	48.9	49.7
% Females/Litter	52.8	52.5	50.6	51.1	50.3
Mean Fetal Body Weight (g)	3.5	3.6	3.7	3.8	3.6
Mean Male Body Weight (g)	3.6	3.6	3.9	3.9	3.7
Mean Female Body Weight (g)	3.4	3.5	3.6	3.7	3.5
Date of First Gestation Day 0 (GD 0)	09/05/01	07/20/99	05/01/01	05/15/01	07/14/98
Date of Study Laparohysterectomy (Last)	09/29/01	08/12/99	05/25/01	06/08/01	08/07/98
Vehicle	Sponsor-Supplied Vehicle	Sponsor-Supplied Placebo	Clean Filtered Air	2% Cremophor EL, 0.15% Benzoic Acid, 150 mM NaCl, DI Water (pH 2)	0.5% Hydroxy-propyl Cellulose
Route	Gavage	Intravenous	Inhalation	Gavage	Gavage

Individual Study Means

STUDY NO.	46	47	48	49	50
Total No. of Animals in the Control Group	25	25	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	25	25	25	25	25
Percent Pregnant	96.0	100.0	92.0	96.0	96.0
No. Gravid	24	25	23	24	24
No. Nongravid	1	0	2	1	1
No. With Only Resorptions	0	0	0	0	0
No. of Dams With Live Fetuses	24	25	23	24	24
Mean Gravid Uterine Weight (g)	90.2	95.4	80.7	91.3	78.2
Mean No. Viable Fetuses/Dam	16.3	16.6	14.7	15.8	14.4
Total No. Viable Fetuses	392	416	339	380	346
Viable Fetuses (%/Litter)	95.0	95.5	94.5	95.1	97.1
Mean No. Postimplantation Loss/Dam	0.9	0.8	0.9	0.8	0.4
Total No. of Implantation Sites Lost	21	20	21	20	10
Postimplantation Loss (%/Litter)	5.0	4.5	5.5	4.9	2.9
Early Resorptions (%/Litter)	5.0	4.3	5.5	4.9	2.9
Late Resorptions (%/Litter)	0.0	0.2	0.0	0.0	0.0
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	17.2	17.4	15.7	16.7	14.8
Mean No. Corpora Lutea/Dam	18.5	18.9	17.0	18.0	16.0
Mean No. Preimplantation Loss/Dam	1.3	1.4	1.3	1.3	1.2
Total No. Preimplantation Losses	32	36	30	32	29
Preimplantation Loss (%/Litter)	6.7	7.3	7.4	5.7	7.0
Total No. Male Fetuses	202	215	166	178	174
Total No. Female Fetuses	190	201	173	202	172
% Males/Litter	51.5	52.0	48.8	47.1	50.7
% Females/Litter	48.5	48.0	51.2	52.9	49.3
Mean Fetal Body Weight (g)	3.5	3.7	3.6	3.7	3.5
Mean Male Body Weight (g)	3.6	3.8	3.7	3.8	3.6
Mean Female Body Weight (g)	3.5	3.6	3.5	3.6	3.4
Date of First Gestation Day 0 (GD 0)	07/03/01	03/06/01	7/17/01	11/13/01	2/5/02
Date of Study Laparohysterectomy (Last)	07/26/01	03/29/01	8/10/01	12/8/01	3/2/02
Vehicle	Basal Diet	Deionized Water	0.5% MC, 0.1% Polysorbate 80, 1% Sodium Dodecyl Sulfate in Deionized Water	2.5% Hydroxypropylmethyl-cellulose (HPMC) in 50 mM Sodium Acetate	0.5% Aqueous Methylcellulose
Route	Dietary	Gavage	Gavage	Gavage	Gavage

Individual Study Means

STUDY NO.	51	52	53	54	55
Total No. of Animals in the Control Group	25	25	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	1	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	24	25	25	25	25
Percent Pregnant	96.0	76.0	96.0	100.0	88.0
No. Gravid	24	19	24	25	22
No. Nongravid	1	6	1	0	3
No. With Only Resorptions	0	0	0	0	0
No. of Dams With Live Fetuses	23	19	24	25	22
Mean Gravid Uterine Weight (g)	83.8	78.3	86.2	80.0	88.1
Mean No. Viable Fetuses/Dam	14.7	14.4	15.2	14.2	15.7
Total No. Viable Fetuses	339	274	364	356	346
Viable Fetuses (%/Litter)	94.2	96.8	96.4	93.1	97.7
Mean No. Postimplantation Loss/Dam	0.9	0.5	0.6	1.1	0.4
Total No. of Implantation Sites Lost	20	9	14	27	8
Postimplantation Loss (%/Litter)	5.8	3.2	3.6	6.9	2.3
Early Resorptions (%/Litter)	5.8	3.2	3.3	6.6	1.5
Late Resorptions (%/Litter)	0.0	0.0	0.3	0.3	0.8
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	15.6	14.9	15.8	15.3	16.1
Mean No. Corpora Lutea/Dam	16.6	16.0	17.2	17.8	17.3
Mean No. Preimplantation Loss/Dam	1.0	1.1	1.5	2.5	1.2
Total No. Preimplantation Losses	23	21	35	62	27
Preimplantation Loss (%/Litter)	6.0	6.5	8.0	12.9	7.4
Total No. Male Fetuses	184	135	196	176	160
Total No. Female Fetuses	155	139	168	180	186
% Males/Litter	54.9	49.2	54.2	49.6	47.1
% Females/Litter	45.1	50.8	45.8	50.4	52.9
Mean Fetal Body Weight (g)	3.7	3.5	3.6	3.6	3.7
Mean Male Body Weight (g)	3.8	3.6	3.7	3.7	3.8
Mean Female Body Weight (g)	3.6	3.4	3.5	3.6	3.6
Date of First Gestation Day 0 (GD 0)	2/5/02	2/19/02	4/9/02	8/20/02	11/13/02
Date of Study Laparohysterectomy (Last)	2/28/02	3/15/02	5/3/02	9/14/02	12/8/02
Vehicle	0.125 M Citrate Buffer Solution (Ph 3.0)	20 mM Phosphate Buffer	Deionized Water	Reverse-Osmosis Purified Water	Deionized Water
Route	Gavage	Gavage	Gavage	Gavage	Gavage

Individual Study Means

STUDY NO.	56	57 (c)	58	59	60
Total No. of Animals in the Control Group	25	25	25	25	25
No. of Animals That Died or Euthanized *in Extremis*	0	0	0	0	0
No. of Animals That Aborted/Delivered	0	0	0	0	0
No. of Animals Examined at Laparohysterectomy	25	25	25	25	25
Percent Pregnant	100.0	96.0	100.0	100.0	100.0
No. Gravid	25	24	25	25	25
No. Nongravid	0	1	0	0	0
No. With Only Resorptions	0	0	0	1	0
No. of Dams With Live Fetuses	25	24	25	24	25
Mean Gravid Uterine Weight (g)	81.2	90.9	90.1	85.5	84.2
Mean No. Viable Fetuses/Dam	15.0	15.8	16.3	15.0	15.6
Total No. Viable Fetuses	374	379	407	374	389
Viable Fetuses (%/Litter)	96.7	97.6	95.7	91.4	96.5
Mean No. Postimplantation Loss/Dam	0.5	0.4	0.7	0.8	0.6
Total No. of Implantation Sites Lost	12	9	18	21	14
Postimplantation Loss (%/Litter)	3.3	2.4	4.3	8.6	3.5
Early Resorptions (%/Litter)	3.3	2.4	4.1	8.6	3.2
Late Resorptions (%/Litter)	0.0	0.0	0.2	0.0	0.3
Dead Fetuses (%/Litter)	0.0	0.0	0.0	0.0	0.0
Mean No. Implantations/Dam	15.4	16.2	17.0	15.8	16.1
Mean No. Corpora Lutea/Dam	16.4	17.4	19.4	17.9	17.8
Mean No. Preimplantation Loss/Dam	1.0	1.3	2.4	2.1	1.6
Total No. Preimplantation Losses	25	30	61	52	41
Preimplantation Loss (%/Litter)	5.8	6.9	11.1	11.3	8.7
Total No. Male Fetuses	212	195	187	180	190
Total No. Female Fetuses	162	184	220	194	199
% Males/Litter	56.0	51.5	46.1	48.2	48.5
% Females/Litter	44.0	48.5	53.9	51.8	51.5
Mean Fetal Body Weight (g)	3.5	3.8	3.6	3.6	3.5
Mean Male Body Weight (g)	3.6	3.9	3.7	3.8	3.6
Mean Female Body Weight (g)	3.4	3.7	3.5	3.6	3.4
Date of First Gestation Day 0 (GD 0)	01/07/03	04/08/03	10/09/01	01/15/02	05/27/03
Date of Study Laparohysterectomy (Last)	01/31/03	05/01/03	11/01/01	02/08/02	06/20/03
Vehicle	Deionized Water	Arachis Oil	Deionized Water	Corn Oil	10% Acacia, 0.05% Dow Corning Antifoam 1510-US
Route	Gavage	Gavage	Gavage	Gavage	Gavage

c= Calculations exclude one fetal body weight

Individual Study Means

STUDY NO.	61
Total No. of Animals in the Control Group	25
No. of Animals That Died or Euthanized *in Extremis*	0
No. of Animals That Aborted/Delivered	0
No. of Animals Examined at Laparohysterectomy	25
Percent Pregnant	96.0
No. Gravid	24
No. Nongravid	1
No. With Only Resorptions	0
No. of Dams With Live Fetuses	24
Mean Gravid Uterine Weight (g)	86.9
Mean No. Viable Fetuses/Dam	15.1
Total No. Viable Fetuses	362
Viable Fetuses (%/Litter)	94.5
Mean No. Postimplantation Loss/Dam	0.8
Total No. of Implantation Sites Lost	20
Postimplantation Loss (%/Litter)	5.5
Early Resorptions (%/Litter)	5.5
Late Resorptions (%/Litter)	0.0
Dead Fetuses (%/Litter)	0.0
Mean No. Implantations/Dam	15.9
Mean No. Corpora Lutea/Dam	17.7
Mean No. Preimplantation Loss/Dam	1.8
Total No. Preimplantation Losses	42
Preimplantation Loss (%/Litter)	9.2
Total No. Male Fetuses	180
Total No. Female Fetuses	182
% Males/Litter	49.4
% Females/Litter	50.6
Mean Fetal Body Weight (g)	3.6
Mean Male Body Weight (g)	3.7
Mean Female Body Weight (g)	3.6
Date of First Gestation Day 0 (GD 0)	06/03/03
Date of Study Laparohysterectomy (Last)	06/26/03
Vehicle	Olive Oil
Route	Gavage

APPENDIX F

Study Protocol

PROTOCOL

A PRENATAL DEVELOPMENTAL TOXICITY STUDY OF ALLYL ALCOHOL IN RATS

(U.S. EPA OPPTS 870.3700 and OECD 414 Guidelines)

Submitted To:

Lyondell Chemical Company
1221 McKinney
P. O. Box 3646
Houston, TX 77253-3646

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

1 OBJECTIVE:

The objective of this study is to determine the potential of the test article to induce developmental toxicity after maternal exposure during the critical period of organogenesis, to characterize maternal toxicity at the exposure levels tested and to determine a NOAEL (no-observed-adverse-effect level) for maternal toxicity and developmental toxicity.

This study is subject to the applicable regulations of the United States Environmental Protection Agency (EPA) Health Effects Test Guidelines OPPTS 870.3700, Prenatal Developmental Toxicity Study, August, 1998 and the Organisation of Economic Co-operation and Development Guidelines (OECD) for Testing of Chemicals Guideline 414, Prenatal Developmental Toxicity Study, January 2001.

2 PERSONNEL INVOLVED IN THE STUDY:

2.1 Sponsor Representative:

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Willem Faber Toxicology Consulting LLC
Tel: (585) 742-1568
Fax: (585) 742-3215

2.2 WIL Study Director:

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Associate Director, Developmental
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2.3 WIL Deputy Director:

Christopher J. Bowman, Ph.D.
Staff Toxicologist, Developmental
and Reproductive Toxicology

2.4 WIL Departmental Responsibilities:

Joseph F. Holson, Ph.D.
President, Director

Mark D. Nemec, B.S., D.A.B.T.
Director, Developmental and
Reproductive Toxicology

Bennett J. Varsho, B.S., L.A.T.G.
Operations Manager, Developmental,
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John F. Knapp, B.S.
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Eddie D. Sloter, Ph.D.
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Ronald E. Wilson, B.S.
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Lewis E. Kaufman, M.S., RAC, RQAP-GLP
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Carol A. Kopp, B.S., L.A.T.
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Daniel W. Sved, Ph.D.
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Wade B. Lawrence, D.V.M., D.A.C.V.P., D. A.B.T.
Assistant Director, Anatomic Pathology

Heather L. Osborn, B.S., RQAP-GLP
Manager, Quality Assurance

Lisa T. Snyder, D.V.M.
Clinical Veterinarian

3 STUDY SCHEDULE:

Proposed Animal Receipt Date:	August 24, 2004
Proposed Experimental Start Date:	September 7, 2004
Proposed Experimental Termination/ Completion Date:	October 1, 2004
Proposed Audited Report Date:	December 17, 2004

4 TEST ARTICLE DATA:

4.1 Identification:

Allyl alcohol; CAS Number:107-18-6

4.2 Lot Number:

20906MB

4.3 Purity:

Purity was determined in a previous study (WIL-14037). Purity will be determined on this study by the WIL Analytical Chemistry Department after the last day of dose administration.

4.4 Stability:

The test article is considered to be stable under the storage conditions provided by the Sponsor.

4.5 Physical Description:

To be documented by WIL Research Laboratories, Inc.

4.6 Storage Conditions:

Store at room temperature.

4.7 Reserve Samples:

Reserve samples of the test article will be taken in accordance with WIL Standard Operating Procedures and stored in the Archives at WIL Research Laboratories, Inc. indefinitely, unless otherwise specified.

4.8 Personnel Safety Data:

To be provided by the Sponsor. It is the responsibility of the Sponsor to notify the testing facility of any special handling requirements for the test article. A material safety data sheet (MSDS) should accompany the test article upon arrival at the laboratory.

5 TEST SYSTEM:

5.1 Species:

Rat

5.2 Strain:

Sprague-Dawley Crl:CD®(SD)IGS BR

5.3 Source:

Charles River Laboratories, Inc.
(Raleigh, NC)

5.4 Number of Study:

100 females (maximum of 125 purchased). A sufficient number of sexually mature untreated resident males of the same strain and source will be used to induce pregnancies. Animals not assigned to the study will be transferred to the stock animal colony or will be euthanized by carbon dioxide inhalation and the carcasses discarded.

The number of animals selected for this study is based on the US EPA OPPTS 870.3700 and OECD 414 Guidelines and is considered the appropriate number to yield 20 pregnant animals per group.

5.5 Body Weight Range:

Minimum of 220 g at initiation of breeding.

5.6 Approximate Age:

80 to 120 days at the start of the in-life phase.

5.7 Identification System:

The animals will be uniquely identified by a Monel® metal eartag displaying the animal number. Individual cage cards will be affixed to each cage and will display the animal number, group number, study number, dosage level and sex of the animal.

5.8 Justification for Selection:

This species and strain of rat has been recognized as appropriate for developmental toxicity studies. WIL Research Laboratories, Inc. has historical data on the background incidence of fetal malformations and developmental variations in the Crl:CD®(SD)IGS BR rat. This animal model has been proven to be susceptible to the effects of developmental toxicants.

6 SPECIFIC MAINTENANCE SCHEDULE:

6.1 Animal Housing:

The rats will be individually housed (except during mating) in clean suspended wire-mesh cages in an environmentally controlled room during the study. The cages will be elevated above cage-board or other suitable material, which will be changed at least three times each week. Nesting material will not be provided, as euthanasia is scheduled prior to anticipated parturition. The cages will be subjected to routine cleaning at a frequency consistent with maintaining good animal health and WIL Standard Operating Procedures. The facilities at WIL Research Laboratories, Inc. are fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International).

6.2 Environmental Conditions:

Controls will be set to maintain an average daily temperature of 71 ± 5°F (22 ± 3°C) and an average daily relative humidity of 50 ± 20%. Temperature and relative humidity will be monitored continuously. Data for these two parameters will be scheduled for automatic collection on an hourly basis. Fluorescent lighting controlled by light timers will provide illumination for a 12-hour light/dark photoperiod. Temporary adjustments to the light/dark cycles may be made to accommodate protocol-specified activities. The ventilation rate will be set at a minimum of 10 room air changes per hour, 100% fresh air.

6.3 Drinking Water:

Reverse osmosis-purified water will be available *ad libitum*. Filters servicing the automatic watering system are changed regularly according to WIL

Standard Operating Procedures. The municipal water supplying the laboratory is analyzed according to WIL Standard Operating Procedures on a routine basis to assure that contaminants are not present in concentrations that would be expected to affect the outcome of the study.

6.4 Basal Diet:

PMI Nutrition International, LLC Certified Rodent LabDiet® 5002 will be offered *ad libitum* during the study. Periodic analyses of the certified feed are performed by the manufacturer to ensure that heavy metals and pesticides are not present at concentrations that would be expected to affect the outcome of the study. Results of the analyses are provided to WIL Research Laboratories, Inc. by the manufacturer. Feeders will be changed and sanitized once per week.

7 EXPERIMENTAL DESIGN:

7.1 Animal Receipt and Quarantine:

Each rat will be inspected by a qualified technician upon receipt. Rats judged to be in good health and suitable as test animals will be immediately placed in quarantine for a minimum of 10 days. All rats will be initially weighed and permanently identified with a metal eartag. During the quarantine period, each rat will be observed twice daily for changes in general appearance and behavior. Body weights may be recorded prior to the initiation of breeding. Just prior to the start of the in-life phase, those rats judged to be suitable test subjects will be identified.

7.2 Breeding Procedure:

A female will be cohabitated with an untreated resident male rat of the same strain and source in a suspended wire-mesh cage for mating. Detection of mating will be confirmed by evidence of a vaginal copulatory plug or by a vaginal lavage for sperm. After confirmation of mating, the female will be returned to an individual suspended wire-mesh cage (assigned to a group), and the day will be designated as day 0 of gestation.

7.3 Randomization:

At the conclusion of the quarantine period, rats judged to be suitable test subjects and meeting acceptable body weight requirements will be cohabitated with an untreated resident male. Mated females will be assigned to groups using a WIL Toxicology Data Management System (WTDMS™) computer program which assigns animals based on stratification of gestation day 0 body weights into a block design to one control group and three test article groups of 25 rats each.

7.4 Route and Rationale of Test Article Administration:

The route of administration will be oral (gavage) as historically, this route has been used extensively for studies of this nature. Appropriate-sized flexible polypropylene-shafted, silicone bulb-shaped tipped dosing cannulae will be used for oral administration by gavage.

7.5 Organization of Test Groups, Dosage Levels and Treatment Regimen:

7.5.1 Organization of Test Groups:

The dosage levels will be determined from results of previous studies and will be provided by the Sponsor Representative after consultation with the WIL Study Director. The following diagram presents the study group arrangement.

Group Number	Test Article	Dosage Level (mg/kg/day)	Dosage Concentration (mg/ml)	Dosage Volume (ml/kg)	Number of Females
1	Vehicle Control	0	0	5	25
2	Allyl Alcohol	10	2	5	25
3	Allyl Alcohol	35	7	5	25
4	Allyl Alcohol	50	10	5	25

7.5.2 Vehicle Control Article:

Deionized water

7.5.3 Treatment Regimen:

The test and control materials will be administered as a single daily dose during the period of major organogenesis, gestation days 6 through 19. All rats will be dosed at approximately the same time each day.

7.5.4 Adjustment of Dosages:

Individual dosages will be calculated on the most recent body weight to provide the proper mg/kg/day dosage.

7.6 Preparation and Analysis of Test Article Formulations:

7.6.1 Method, Frequency of Preparation and Stability of Test Article Formulations:

Appropriate amounts of the test article will be added to deionized water for each dose formulation. The formulations will be mixed using a

magnetic stir bar. Dosing formulations will be prepared weekly and stored at room temperature for a period not to exceed 10 days. Stability of the test article in deionized water at concentrations of 0.2 and 10 mg/mL was demonstrated for 10 days at room temperature in a previous study (WIL-14037). The Study Director or the Deputy Director or designee will visually inspect the formulations prior to the first dose administration. This visual inspection will be performed to assure that the formulations are visibly homogeneous and acceptable for dosing.

7.6.2 Homogeneity of Test Article Formulations:

Because the test article is miscible in the vehicle, homogeneity assessment will not be performed.

7.6.3 Concentration Analysis:

Samples will be taken from the middle of each dosing formulation prepared during the in-life phase of the study. These samples will be analyzed to verify the concentration of the test article in the dosing formulations. Any samples or back-up samples kept at WIL Research Laboratories, Inc. will be discarded after issuance of the Final Report.

7.7 Maternal Observations During Gestation:

7.7.1 Appearance and Behavior:

Each rat will be observed twice daily for moribundity and mortality, once in the morning and once in the afternoon from gestation day 0 through 20. Clinical observations regarding general appearance and behavior will be recorded daily. Mortality and all signs of overt toxicity will be recorded on the day observed. The observations shall include, but are not limited to, evaluation for changes in appearance of skin and fur, eyes, mucous membranes, respiratory and circulatory system, autonomic and central nervous systems, somatomotor activity and behavior. During the treatment period, the rats will also be observed approximately one hour following dosing and the observations will be recorded. Additional post-dosing observation periods may be necessary and will be documented in the study records.

7.7.2 Body Weights:

Individual body weights will be recorded on gestation days 0 and 6-20 (daily).

7.7.3 Food Consumption:

Individual food consumption will be recorded on gestation days 0 and 6-20 (daily). Food intake will be reported as g/animal/day and g/kg/day for each corresponding body weight interval of gestation.

7.7.4 Deaths and Animals Euthanized *in Extremis*:

Females not surviving until the scheduled euthanasia will be necropsied and cause of death recorded, if possible. Rats not expected to survive to the next observation period (moribund) will be euthanized by carbon dioxide inhalation and subjected to a gross necropsy. The number and location of implantation sites and viable fetuses will be recorded. Corpora lutea will also be counted and recorded. Representative sections of the liver and all gross lesions will be preserved in 10% neutral-buffered formalin for possible future histopathologic examination. Carcasses from adult animals will be discarded. Viable fetuses will be euthanized by an intrathoracic injection of sodium pentobarbital if necessary. Recognizable fetuses will be examined externally and preserved in 10% neutral-buffered formalin.

7.7.5 Premature Deliveries:

Females that deliver prematurely will be euthanized by carbon dioxide inhalation that day and necropsied. The number and location of former implantation sites and viable fetuses will be recorded. Corpora lutea will also be counted and recorded. Representative sections of the liver and all gross lesions will be preserved in 10% neutral-buffered formalin for possible future histopathologic examinations. Carcasses from adult animals will be discarded. Viable fetuses will be euthanized by hypothermia followed by an intrathoracic injection of sodium pentobarbital if necessary. Viable pups will be counted and euthanized by intraperitoneal injection of sodium pentobarbital. Viable fetuses/pups will be examined as described in Section 7.9.

7.8 Laparohysterectomy and Macroscopic Examination:

7.8.1 Laparohysterectomy and Macroscopic Examination:

Laparohysterectomy and macroscopic examinations will be conducted without knowledge of treatment group. All surviving rats will be euthanized by carbon dioxide inhalation on gestation day 20. The abdominal, pelvic and thoracic cavities will be opened and the organs examined. The uterus of each dam will be excised and its adnexa trimmed. Corpora lutea will be counted and recorded. Gravid uterine

weights will be obtained and recorded. The uterus of each dam will be opened and the number of viable and nonviable fetuses, early and late resorptions and total number of implantation sites will be recorded, and the placentae will be examined. The individual uterine distribution will be documented using the following procedure: all implantation sites, including early and late resorptions, will be numbered in consecutive fashion beginning with the left distal uterine horn, noting the position of the cervix and continuing from the proximal to the distal right uterine horn. Uteri which appear nongravid by macroscopic examination will be opened and placed in a 10% ammonium sulfide solution (Salewski, 1964) for detection of early implantation loss. **Liver organ weights will be recorded. Representative sections of the liver from all maternal animals will be preserved in 10% neutral-buffered formalin.** In addition to the liver, maternal tissues will be preserved for future histopathologic examination in 10% neutral-buffered formalin only as deemed necessary by the gross findings. Representative sections of corresponding organs from a sufficient number of controls will be retained for comparison.

7.9 Fetal Examination:

Fetal examinations will be conducted without knowledge of treatment group. External, internal and skeletal fetal findings will be recorded as developmental variations or malformations. Prenatal data (viable and nonviable fetuses, early and late resorptions, pre- and post-implantation loss and the fetal sex distribution) will be presented on a group mean basis and additionally as proportional data (% per litter).

7.9.1 External:

Each viable fetus will be examined in detail, weighed, tagged and euthanized by hypothermia followed by an intrathoracic injection of sodium pentobarbital (if necessary). The sex of each fetus will be recorded. Nonviable fetuses (the degree of autolysis is minimal or absent) will be examined, crown-rump length measured, weighed, sexed and tagged individually. The crown-rump length of late resorptions (advanced degree of autolysis) will be measured, the degree of autolysis recorded, a gross external examination performed (if possible).

7.9.2 Visceral (Internal):

Fetuses will be examined for visceral anomalies by dissection in the fresh (non-fixed) state. The thoracic and abdominal cavities will be opened and dissected using a technique described by Stuckhardt and Poppe (1984). This examination will include the heart and major

vessels. The sex of all fetuses will be confirmed by internal examination.

The heads will be removed from approximately one-half of the fetuses in each litter and placed in Bouin's solution for subsequent processing and soft-tissue examination using the Wilson sectioning technique. (1965).

The heads from the remaining one-half of the fetuses in each litter will be examined by a mid-coronal slice.

All carcasses, including the carcasses without heads, will be eviscerated and fixed in 100% ethyl alcohol for subsequent examination of skeletons.

7.9.3 Skeletal:

Each eviscerated fetus, following fixation in alcohol, will be stained with Alizarin Red S and Alican Blue by a method similar to that described by Dawson (1926) and Inouye (1976). The skeletal examination will be made following this procedure.

8 DURATION OF STUDY:

The quarantine, breeding and gestation phases of the study will require approximately two months. The laparohysterectomy phase of the study and processing and evaluation of the fetal specimens will require approximately six weeks.

9 STATISTICAL METHODS:

All analyses will be two-tailed for significance levels of 5% and 1%. All means will be presented with standard deviations. All statistical tests will be performed using a computer with appropriate programming as referenced below. The litter, rather than the fetus, will be considered as the experimental unit.

9.1 Maternal In-Life Data:

Continuous data variables [mean body weights (absolute and net), body weight gains (absolute and net) and food consumption of each interval] will be subjected to a parametric one-way analysis of variance (ANOVA) (Snedecor, 1980) to determine intergroup difference. If the results of the ANOVA are significant ($p<0.05$), Dunnett's test (1964) will be applied to the data.

9.2 Laparohysterectomy Data:

The group mean numbers of viable fetuses, corpora lutea, implantation sites, maternal gravid uterine weights, maternal liver weights and mean fetal weight (separately by sex, and combined) will be subjected to a parametric one-way analysis of variance (ANOVA) (Snedecor, 1980) and Dunnett's test (1964) as described above. The mean litter proportions of prenatal data (% per litter of viable and nonviable fetuses, early and late resorptions, total resorptions, pre- and post-implantation loss and the fetal sex distribution) will be subjected to the Kruskal-Wallis nonparametric ANOVA test (1952) to determine intragroup difference. If the results of the ANOVA are significant ($p<0.05$), Dunn's test (1964) will be applied to the data to compare the treated groups to the control group.

9.3 Fetal Morphology Data:

The mean litter proportion (% per litter) of total fetal malformations and developmental variations (external, visceral, skeletal and combined) and of each particular external, visceral and skeletal malformation or variation will be tabulated. The mean litter proportions of fetal malformations and developmental variations will be subjected to the Kruskal-Wallis nonparametric ANOVA test (1952) followed by Dunn's test (1964) (if appropriate) as described above.

10 QUALITY ASSURANCE:

The study will be audited by the WIL Quality Assurance Unit while in progress to assure compliance with the study protocol and protocol amendments, WIL Standard Operating Procedures and the appropriate provisions of the EPA TSCA Good Laboratory Practice Standards published in the Federal Register (40 CFR Part 792) and the OECD Principles of Good Laboratory Practice, November 26, 1997 [C(97)186/Final]. The raw data and draft report will be audited by the WIL Quality Assurance Unit prior to submission to the Sponsor to assure that the final report accurately describes the conduct and the findings of the study.

Dosing formulation analyses will be conducted following the Standard Operating Procedures of the performing laboratory and in accordance with GLPs. Quality Assurance monitoring of these analyses for SOP and GLP compliance is the responsibility of the performing laboratory. Inspection reports will be supplied to the Study Director. Upon completion of the prescribed activities and submission of the results to the Sponsor and Study Director, the performing laboratory will provide a signed Quality Assurance statement to the Sponsor (copy to the Study Director). The results will be included in the final report.

This study will be included on the WIL master list of regulated studies.

11 RECORDS TO BE MAINTAINED:

All original raw data records, as defined by WIL SOPs and the applicable GLPs, will be stored as described in Section 12 in the Archives at WIL Research Laboratories, Inc.

12 WORK PRODUCT:

The Sponsor will have title to all documentation records, raw data, specimens or other work product generated during the performance of the study. Any remaining formulation samples will be discarded after issuance of the final report. All work product, including raw paper data, pertinent electronic storage media and specimens, will be retained at no charge for six months following issuance of the final report in the Archives at WIL Research Laboratories, Inc. Thereafter, WIL Research Laboratories will charge a monthly archiving fee for retention of all work product. All work product will be stored in compliance with regulatory requirements.

Any work product, including documents, specimens, and samples, that are required by this protocol, its amendments, or other written instructions of the Sponsor, to be shipped by WIL Research Laboratories, Inc. to another location will be appropriately packaged and labeled as defined by WIL's SOPs and delivered to a common carrier for shipment. WIL Research Laboratories, Inc. will not be responsible for shipment following delivery to the common carrier.

13 REPORTS:

The final report will contain a summary, test article data, methods and procedures, maternal and fetal data, WIL Historical Control Data, the analytical chemistry report and an interpretation and discussion of the study results. The final report will be comprehensive and shall define level(s) inducing toxic effects as well as no effect level(s) under the condition of this investigation. The report will contain all information necessary to conform with current EPA OPPTS and OECD specifications.

WIL Research Laboratories will submit one copy of an audited draft report in a timely manner upon completion of data collection prior to issuance of the final report. One revision will be permitted as part of the cost of the study, from which the Sponsor's reasonable revisions and suggestions will be incorporated into the final report, as appropriate. Additional changes or revisions may be made, at extra cost. It is expected that the Sponsor will review the draft report and provide comments to WIL within a two-month time frame following submission. WIL will submit the final report within one month following receipt of comments. If the Sponsor's comments and/or authorization to finalize the report have not been received at WIL within one year following submission of the draft report, WIL may elect to finalize the report following appropriate written notification to the Sponsor. Two electronic copies

(PDF) of the final report on CD-R will be provided. Requests for additional electronic copies or paper copies of the final report may result in additional charges.

14 ANIMAL WELFARE ACT COMPLIANCE:

This study will comply with all applicable sections of the Final Rules of the Animal Welfare Act (AWA) regulations (9 CFR Parts 1, 2 and 3). The Sponsor should make particular note of the following:

- The Sponsor Representative's signature on this protocol documents for the Study Director the Sponsor's assurance that the study described in this protocol does not unnecessarily duplicate previous experiments.
- Whenever possible, procedures used in this study have been designed to avoid or minimize discomfort, distress or pain to animals. All methods are described in this study protocol or in written laboratory Standard Operating Procedures.
- Animals that experience severe or chronic pain or distress that cannot be relieved will be painlessly euthanized as deemed appropriate by the veterinary staff and Study Director. The Sponsor will be advised by the Study Director of all circumstances which could lead to this action in as timely a manner as possible.
- Methods of euthanasia used during this study are in conformance with the above-referenced regulation.
- The Sponsor/Study Director has considered alternatives to procedures that may cause more than momentary or slight pain or distress to the animals and has provided a written narrative description (AWA covered species only) of the methods and sources used to determine that alternatives are not available.

15 PROTOCOL MODIFICATION:

Modification of the protocol may be accomplished during the course of this investigation. However, no changes will be made in the study design without the verbal or written permission of the Sponsor. In the event that the Sponsor verbally requests or approves a change in the protocol, such changes will be made by appropriate documentation in the form of a protocol amendment. All alterations of the protocol and reasons for the modification(s) will be signed by the Study Director and the Sponsor Representative.

16 REFERENCES:

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17 PROTOCOL APPROVAL:

Sponsor approval received via email on 8/20/04.
Date

Lyondell Chemical Company

Willem D. Faber, Ph.D., D.A.B.T.
Sponsor Representative

9/7/04
Date

WIL Research Laboratories, Inc.

Donald G. Stump, Ph.D., D.A.B.T.
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8/20/04
Date

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8/23/2004
Date