A 03

100 INDEPENDENCE MALL WEST, PHILADELPHIA, PA 19106-2399 USA
TELEPHONE (215) 592-3000 CENTRAL FAX (215) 592-3377

8EHQ-0501-14902

Contain NO CBI

8R47875

RECEIVED
OPPT CBIC

2001 MAY 15 AM 7:06

May 8, 2001

ROHM HAAS

Document Processing Center (TS-790)
Attention: Section 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

8EHQ-01-14902

Ref.: Letter, March 27, 2001, describing the voluntary review of certain categories of health and environmental studies recently acquired by Rohm and Haas Company.

Dear Coordinator:

Rohm and Haas Company submits this notice in accordance with Section 8(e) of the Toxic Substances Control Act.

This letter transmits results of a subchronic feeding study of dibutyltin bis(isooctyl thioglycolate, CAS No. = 25168-24-5), or dimethyltin bis(isooctyl thioglycolate (CAS No. = 26636-01-1)/monomethyltin tris(isooctyl thioglycolate; CAS No. = 54849-38-6) with young albino rats. Each test material was administered in diet for 13 weeks at dietary levels of 100, 500 or 1500 ppm (2500 ppm for first week only) to groups of 5 male and 5 female rats. A control group of 5 male and 5 female rats were fed only the basal diet for 13 weeks during the study.

Treatment-related mortality was observed for all test materials in this study. For dibutyltin bis(isooctyl thioglycolate, CAS No. = 25168-24-5), all male and female animals in the 1500 ppm group died before the end of the study. For the methyltin compound (dimethyltin bis(isooctyl thioglycolate (CAS No. = 26636-01-1)/ monomethyltin tris(isooctyl thioglycolate; CAS No. = 54849-38-6), all male and female animals in the 1500 ppm group, and 1 female in the 500 ppm group died before the end of the study.

Clinical signs associated with dibutyltin bis(isooctyl thioglycolate, CAS No. = 25168-24-5) included paleness, depression, labored respiration, wheezing, and alopecia. Clinical signs associated with dimethyltin bis(isooctyl thioglycolate (CAS No. = 26636-01-1)/monomethyltin tris(isooctyl thioglycolate; CAS No. = 54849-38-6 included hyperactivity, tremors, protruding eyes, bloody crusts, labored respiration, and urine stains. Body weights and food consumption for surviving test animals in each treated group were significantly different from those for the control. At terminal necropsy, the organs showing the greatest frequency of alteration in all three test materials were kidneys and the liver. Microscopic pathology confirmed the presence of significant alterations of kidney (hypertrophy of tubular epithelial cells in the cotricomedullary junction occasionally attended by necrosis) and liver (severe hepatic necrosis, bile duct proliferation, and heptacytomegaly) tissue in the dibutyltin bis(isooctyl thioglycolate,

8901000185

RECEIVED
OPPT CBIC
2001 MAY 21 AM 10:00

04

CAS No. = 25168-24-5) test groups. Less striking, but detectable alterations were observed in sections of the liver (bile duct hyperplasia and centrilobular vacuolation of the hepatocytes) in animals treated with dimethyltin bis(isooctyl thioglycolate (CAS No. = 26636-01-1)/monomethyltin tris(isooctyl thioglycolate; CAS No. = 54849-38-6). Additionally, an unusual incidence of nephritis was seen at the intermediate level in these animals.

Rohm and Haas Company does not consider the exact identity of these chemicals to be Confidential Business Information (CBI )

If you have any questions concerning this submittal, my telephone number is (215) 592-2986.

Sincerely,

George J. Powell
TSCA Manager
EHS Corporate Center

71RM-1004

CAS# 25168-24-5
CAS# 26636-01-1
CAS# 54849-38-6

# 13-WEEK DIETARY ADMINISTRATION - RATS

AVASTAB TM-180
AVASTAB TM-181
THERMOLITE 831

FINAL REPORT

Submitted to

Cincinnati Milacron Chemicals, Inc.
New Brunswick, New Jersey

TRW/HAZLETON LABORATORIES
8200 LEESBURG TURNPIKE • VIENNA, VIRGINIA • 22180

November 15, 1971

A 06

TRW / HAZLETON LABORATORIES

SPONSOR: Cincinnati Milacron Chemicals, Inc. DATE: November 15, 19

MATERIAL: Avastab TM-180 64083
Avastab TM-181 LOT NO: 91035
Thermolite 831

SUBJECT: FINAL REPORT
13-Week Dietary Administration - Rats
Project No. 452-105

## SUMMARY

This study was conducted to evaluate and compare the subacute toxicity of Avastab TM-180, Avastab TM-181, and Thermolite 831. The compounds were administered in the diet for 13 weeks at dietary levels of 100, 500, and 1500 pp During the first week, the highest dosage level was 2500 ppm, but at the end of the first week the dosage was decreased. A group of untreated rats served as controls and received the basal laboratory diet only. Criteria for evaluatio of a compound effect included physical appearance, behavior, growth, food consumption, survival, clinical studies, organ weights, and gross and microscopic pathology.

Only one animal receiving the highest dosage level of Thermolite 831 survived 13 weeks; average period of survival in that group was 18 days. Average periods of survival was 11 days for rats receiving highest dosage of Avastab TM-180 and 17 days for rats receiving highest level of Avastab TM-181. With respect to appearance and behavior, hunching and a thin appearance was observed in all test groups. In addition, Avastab TM-181 produced hyper-

activity, tremors, protruding eyes, bloody crust, labored respiration, and urine stains. Signs occurring in the Avastab TM-180 test groups included paleness and depression, labored respiration, wheezing and alopecia. Signs noted in the Thermolite 831 test group included squinting, urine stains, and alopecia.

Body weight gains and food consumption for surviving test animals were significantly different from those of controls.

Inspection of clinical data revealed the effect of the three compounds in raising the serum glutamic-pyruvic transaminase and alkaline phosphatase levels of the rats. Rats receiving Thermolite 831 and Avastab TM-181 had elevated blood urea nitrogen values. Rats receiving Thermolite 831 had elevated blood glucose levels.

At necropsy, the organs showing the greatest frequency of gross alteration were the kidneys and the liver. The greatest frequency of liver involvement was observed in animals treated with TM-180. The greatest incidence of kidney involvement was observed in the TM-181 test animals, although kidney involvement in the animals receiving the other two compounds was also high. Alterations to the pancreas occurred most frequently in intermediate level anima receiving the Thermolite 831 test material, and at the low levels in animals receiving TM-180 and TM-181.

Statistical evaluation of organ/body weight data revealed significantl high kidney/body weight ratios in both males and females receiving the intermediate level TM-181. In addition, females in this group showed significantly high liver and adrenal/body weight ratios.

Microscopic pathology confirmed the presence of significant alterations of liver and kidney tissue in the Avastab TM-180 test group. Less striking, but detectable alterations were observed in sections of the liver in animals given Avastab TM-181. Additionally, an unusual incidence of nephritis was seen at the intermediate level in these animals. Minimal hepatic changes were observed in rats given Thermolite 831.

## MATERIAL

Identification

Avastab TM-180; Lot No. 64083.

Avastab TM-181; Lot No. 91035.

Thermolite 831.

Description All three compounds are clear, slightly viscous, pale yellow liquids with unpleasant odors.

Receipt Date April 8, 1971.

Purity Assumed 100% active ingredient.

TRW / HAZLETON LABORATORIES



## METHODS

### Experimental Animals

Species: Fifty male and fifty female Long Evans, Sprague-Dawley h
rats.

Weight Range (At Initiation): From 50 to 70 grams for males and f
to 71 grams for females.

Housing: Individually in elevated wire mesh cages.

### Groups and Dietary Levels

Method of Grouping: Stratified randomization

| Group No. | No. of Rats | | Dietary Level |
|---|---|---|---|
| | male | female | % |
| 1 | 5 | 5 | Basal Laboratory Diet |
| 2 | 5 | 5 | 100 ppm Thermolite 831 |
| 3 | 5 | 5 | 500 ppm Thermolite 831 |
| 4 | 5 | 5 | 2500 ppm Thermolite 831* |
| 5 | 5 | 5 | 100 ppm TM-180 |
| 6 | 5 | 5 | 500 ppm TM-180 |
| 7 | 5 | 5 | 2500 ppm TM-180* |
| 8 | 5 | 5 | 100 ppm TM-181 |
| 9 | 5 | 5 | 500 ppm TM-181 |
| 10 | 5 | 5 | 2500 ppm TM-181* |

* At one week dosage levels for Groups No. 4, No. 7, and No. 10 we
to 1500 ppm of the respective compounds.

Administration of the Test Material

The control group was fed only the basal diet of Purina Rat Chow. For the test groups, the compounds were incorporated into the basal diet on a weight-per-weight basis and thoroughly mixed in a Patterson-Kelley, twin-shell blender. Fresh diets were prepared weekly. The appropriate diet and water were offered to the animals ad libitum.

Observations and Records

Daily: For mortality.

Weekly: Individual body weights, food consumption, physical appearance, and the behavior of each rat.

Clinical Studies

Performed: On all rats in all groups at 10 weeks.

Hematology: Hematocrit, hemoglobin, erythrocyte count, and total and differential leukocyte count.

Blood Chemistry: Fasting blood sugar, blood urea nitrogen, total serum protein, total serum bilirubin, serum glutamic-pyruvic transaminase, serum alkaline phosphatase, and serum electrophoresis.

Urine Analysis: Specific gravity, pH, glucose, total protein, bilirubin, and microscopic examination of sediment.

Terminal Studies

After 13 weeks, all animals were sacrificed by exsanguination under Diabutal anesthesia. Gross observations of viscera were recorded at necropsy for each rat which died during the study or was sacrificed at termination.

Tissues Preserved From Each Rat: Brain, pituitary, thoracic spinal cord, eye, thyroids, lung, heart, liver, spleen, kidneys, adrenals, stomach, pancreas, small intestine, large intestine, mesenteric lymph node, urinary bladder, testes with epididymis, seminal vesicles, ovary, uterus, skin, rib junction, bone marrow, nerve with muscle, and any unusual lesions.

Fixative: 10% neutral buffered formalin.

Organ Weights for Each Sacrificed Rat: Recorded prior to fixative for the heart, liver, spleen, kidneys, and testes with epididymis, and after fixation for the thyroids and adrenals. Organ/body weight ratios were determined.

Tissues Examined Microscopically: Liver, kidneys, and any unusual lesions.

Statistical Evaluation

Criteria: Growth rate, food consumption, terminal body weights, organ weights, and organ/body weight ratios.

Methods: Analysis of variance, of F-test (5% probability level), and preliminary tests (where applicable) by methods of Rao, Bartlett, Scheffe, and Fisher-Behrens (modified t-test).

References: Ostle, B., Statistics in Research, Iowa State College Press, Ames, Iowa, 1956; Rao, C. R., Biometrics 14, 1, 1958; Snedecor, G. W., Statistical Methods, Iowa State College Press, Ames, Iowa, 1956.

## RESULTS

Appearance and Behavior

A comparison of the three compounds reveals similar toxic effects with respect to survival; a 90 - 100% mortality range was produced by the highest dosage level of each compound (see following section). However, some difference with respect to appearance and behavior, were observed among the three test groups. A hunched and thin appearance was observed at the highest dosage level of all three test groups.

In addition to these signs, animals receiving the highest dosage level of TM-181 showed hyperactivity, tremors, protruding eyes, bloody crust, labored respiration, and urine stains.

Signs occurring in the TM-180 test groups included paleness and depression, labored respiration, wheezing, and alopecia.

Signs noted in the Thermolite 831 test groups included squinting, urin stains, and alopecia.

The following is a breakdown of the occurrence of these signs by week:

By Week 1, hunching and a thin appearance was observed in Groups No. 4 No. 7 , and No. 10. These signs persisted through Week 13 or death.

In addition, Group No. 4 animals showed squinting and urine stains by Week 1.

By Week 2, nasal discharge was observed for one Group No. 4 animal; paleness and depression in one Group No. 7 animal; and labored respiration in

two Group No. 7 animals. Signs in Group No. 10 at Week 2 included hyperactivity, tremors, protruding eyes, bloody crust on the nose, labored respiration, and urine stains.

At Week 6, hunching and thin appearance were observed in one Group No. 5 animal; hunching was also observed in one Group No. 8 animal.

At Week 9, a bloody crust was observed on the nose of one Group No. 9 animal which persisted through Week 12.

At Week 10, alopecia was observed on the back of one Group No. 5 animal. In Group No. 9, urine stains were observed on the fur of two animals. This sign persisted to Week 12.

At Week 11, wheezing was observed in one Group No. 6 animal which persisted to Week 13, and urine stains were observed on the fur of one additional Group No. 9 animal. Hunching was observed for one Group No. 8 animal.

At Week 12, alopecia was observed on both front paws of one Group No. 8 animal. In Group No. 9, tremors in one animal; hunching, and bloody crust on the left eye of one animal; and hyperactivity which persisted to termination in one Group No. 9 animal.

At Week 13, hunching was observed in one Group No. 5 animal and urine stains in one Group No. 9 animal.

Growth, Food Consumption, and Survival

Mean body weights, weight ranges, food consumption, and survival data are presented in Table No. 1.

The control, low, and intermediate levels of the three test groups showed a survival value of 100%. Death occurred in all females in Group No. 4 by Day 12, all of the females in Group No. 7 by Day 38, and all of the females in

Group No. 10 by Day 19. Death occurred in four males in Group No. 4 by Day 20, all of the males in Group No. 7 by Day 16, and all of the males in Group No. 10 by Day 19.

Body weight gains and food consumption for surviving test animals were not significantly different from those of controls. Analysis of body weights and food consumption performed on the high level animals in each test group revealed that values for these parameters were lower than the 95% confidence limits for animals of the same sex and group at that weekly interval.

Clinical Studies

The results of these studies are presented in Tables No. 2 (hematology), No. 3 (blood chemistry), and No. 4 (urine analysis).

Inspection of hematological data revealed values for the test groups were similar to those for the control. Individual variations included high or low segmented neutrophils, low lymphocyte counts, or high eosinophil values.

Blood chemistry data revealed declining blood glucose values for males in Groups No. 2 and No. 3, and in the Group No. 4 male which survived when compared with controls and the other test groups. Slightly elevated blood urea nitrogen percentages were observed in Group No. 3 males and females, Group No. 8 females, and Group No. 9 males and females. Rising serum glutamic-pyruvic transaminase values in Groups No. 2, No. 3, No. 6, No. 8, and No. 9 females were observed. High alkaline phosphatase group mean values were observed in Group No. 3 males and females, Group No. 6 males and females, and Group No. 9 males and females.

Urine analysis revealed nothing remarkable.

In conclusion, each of the compounds tested influenced the serum glutamic-pyruvic transaminase and alkaline phosphatase levels of the rats. Thermolite 831 and TM-181 influenced the levels of blood urea nitrogen in test animals. The glucose levels of test animals were influenced by Thermolite 831.

Gross Pathology

At termination, the organs showing the greatest frequency of alteration in all three test groups were the kidneys and the liver. The greatest frequency of liver involvement was observed in animals treated with TM-180. The greatest occurrence of kidney involvement was observed in the TM-181 test animals, although kidney involvement in the two other test groups was also high.

Alterations to the pancreas occurred most frequently in intermediate level animals receiving the Thermolite 831 test material, and at the low levels in animals receiving TM-180 and TM-181.

At termination, the following organs were observed to be abnormal.

Control:

Spleen - (Rough surface) Male Rat No. 93350, and female Rat No. 93354.

Lungs - (Dark red areas in all lobes) Female Rat No. 93353.

Kidneys - (Greenish color) Female Rat No. 93355.

(Dilated pelvis) Female Rat No. 93354.

Thermolite 831, Low Level:

Spleen - (Rough surface) Female Rats No. 93364 and No. 93365.

Lungs - (Dark red areas over all lobes) Female Rat No. 93366.

(Dark pink with red cyst-like areas) Male Rat No. 93359.

Kidneys - (Dilated pelvis) Male Rat No. 93358 and female Rat No. 933

(Dark red zones between the cortex and medulla) Male Rat No. 93360.

(Dark red medulla) Male Rat No. 93362.

Liver - (Dark red with pale brown areas and thickened lobes) Male Ra No. 93359.

Thermolite 831, Intermediate Level:

Lungs - (Dark red areas over all lobes) Male Rats No. 93369, No. 933 and No. 93377.

Kidneys - (Dilated pelvis) Male Rat No. 93369 and female Rat No. 933

(Dark red or brown zone between the cortex and medulla) Ma Rat No. 93369 and female Rat No. 93374.

(Greenish color) Female Rat No. 93377.

(Wide cortex) Male Rat No. 93371.

Pancreas - (Brownish color with small white areas) Female Rats No. 93374, No. 93375, No. 93376, and No. 93377.

Uterus - (Distended containing a clear fluid) Female Rat No. 93377.

Thermolite 831, High Level:

Adrenals - (Appeared small) Male Rats No. 93382 and No. 93388.

TM-180, Low Level:

Spleen - (Rough surface) Male Rat No. 93392.

Lungs - (Dark red areas in all lobes) Male Rat No. 93392 and female Rats No. 93395 and No. 93396.

Kidneys - (Red zone between the cortex and medulla) Male Rats No. 93 No. 93390, and No. 93392, and female Rat No. 93397.

(Greenish color) Male Rat No. 93391.

Liver - (Enlarged) Male Rat No. 93392.

(Caudate lobe firm) Male Rat No. 93391.

(Dark purple) Male Rat No. 93389.

Pancreas - (Brownish color with small white areas) Female Rats No. 93394 and No. 93396.

Pituitary - (Free from bone in capsule) Female Rat No. 93395.

TM-180, Intermediate Level:

Spleen - (Rough surface) Male Rats No. 93393 and No. 93399.

Kidney - (Dark pink medulla) Female Rats No. 93404 and No. 93406.

(Wide cortex) Female Rat No. 93406.

(Dark brown zone at the junction of the cortex and medulla) Female Rat No. 93407.

TM-180, High Level: No survivors.

TM-181, Low Level:

Spleen - (Rough surface) Male Rats No. 93418 and No. 93419.

Lungs - (Dark red areas on all lobes) Female Rats No. 93427, No. 93423, No. 93424, and No. 93425.

(All lobes distended) Male Rat No. 93419, and female Rat No. 93424.

Kidneys - (Dark red or brown zone between the cortex and medulla) Female Rats No. 93427 and No. 93424.

(Dark pink medulla) Female Rat No. 93424.

(Pitted cortex) Female Rat No. 93423.

Ovaries - (Watery cysts on the surface) Female Rat No. 93423.

Pancreas - (Brownish color with small white areas) Female Rats No. 93426 and No. 93427.

TM-181, Intermediate Level:

Spleen - (Appeared rough) Male Rat No. 93428.

Lungs - (Dark red areas on all lobes) Male Rats No. 93430 and No. 93

Kidneys - (Cortex of the medulla wide) Male Rats No. 93428, No. 9343 No. 93432, No. 93430, and No. 93429, and female Rats No. 93435 a No. 93433.

(Cut surface yellow and striated) Male Rat No. 93428, and female Rats No. 93435 and No. 93433.

(Narrow and dark tan medulla) Male Rats No. 93429 and No. and female Rat No. 93435.

(Red cyst-like areas on medulla) Male Rat No. 93431 and female Rat No. 93430.

(Yellowish pink or tan and small medulla) Male Rats No. 93 and No. 93432, and female Rat No. 93433.

(Outer medulla pitted) Female Rat No. 93436.

(Pelvis contains small, fine white granules) Female Rat No. 93436.

(Greenish color) Female Rat No. 93437.

(Outer surface rough) Female Rat No. 93437.

(Narrow cortex) Female Rat No. 93437.

(Dilated pelvis) Female Rat No. 93437.

Liver - (Caudate lobe firm and dark red) Male Rat No. 93431.

(All lobes appeared thickened) Male Rat No. 93432.

The animals which died showed the following alterations.

Thermolite 831, High Level:

Spleen - (Small) Male Rat No. 93379.

Lung - (Dark red areas all lobes) Male Rat No. 93379, and female R
No. 93383, No. 93384, and No. 93385.

Kidneys - (Dark red) Female Rats No. 93383 and No. 93384.
(Pink raised zone between cortex and medulla) Male Rat
No. 93379.
(Dark pink medulla) Male Rats No. 93378 and No. 93380.
(Small) Male Rat No. 93379.

Liver - (Dark red) Male Rat No. 93380.
(Black) Female Rat No. 93384.
(Friable consistency) Female Rat No. 93387.

Adrenals - (Dark red) Male Rats No. 93378, No. 93379, No. 93380, a
No. 93381, and female Rat No. 93387.
(Black) Female Rats No. 93383, No. 93384, and No. 93385

Thoracic Cavity - (Contained large amount pink fluid) Male Rat
No. 93381 and female Rat No. 93387.

Stomach - (Pyloric portion red) Female Rats No. 93383 and No. 9338

Brain - (Surface covered with dark red substance) Female Rat No. 9

TM-180, High Level:

Kidneys - (Dark red) Female Rat No. 93416.
(Poor differentiation between cortex and medulla) Male R
No. 93409.
(Wide medulla) Male Rat No. 93410.
(Dark red medulla) Male Rats No. 93411 and No. 93412 and f
Rats No. 93413 and No. 93415.

(Medulla dark pink) Female Rat No. 93417.

(Dark red zone between the cortex and medulla) Female Rats No. 93414 and No. 93417.

(Outer edge thin Male Rat No. 93410.

Liver - (Contains yellow areas on all lobes) Male Rat No. 93408, and Female Rats No. 93416, and No. 93413.

(Dark red) Male Rat No. 93409.

(Translucent margins) Male Rats No. 93410 and No. 93412, and female Rat No. 93417.

(Yellowish tinge) Female Rat No. 93417.

(Lobes thickened, margins rounded) Female Rat No. 93414.

(Lateral lobe adhering to caudate lobe) Female Rat No. 93414.

Stomach - (Contains dark red fluid) Male Rat No. 93408.

Large and Small Intestines - (Appeared red) Female Rat No. 93415

Adrenals - (Dark red) Male Rats No. 93408, No. 93409, No. 93410, and No. 93411 and female Rats No. 93413, No. 93415, No. 93416, and No. 93417.

Brain - (Soft and appeared pale) Male Rat No. 93410.

Bladder - (Distended and walls thickened) Male Rat No. 93410.

TM-181, Intermediate Level:

Lungs - (Dark red) Female Rat No. 93434.

Stomach - (Contained dark red material and walls appeared reddened) Female Rat No. 93434.

Adrenals - (Dark red) Female Rat No. 93434.

Kidneys - (Dilated pelvis) Female Rat No. 93434.

(Striated, raised, gray zone between cortex and medulla) Female Rat No. 93434.

Gastrointestinal Tract - (Red) Female Rat No. 93434.

Thoracic Cavity - (Contained red fluid) Female Rat No. 93434.

TM-181, High Level:

Spleen - (Small) Female Rats No. 93447, No. 93446, and No. 93443.

(Pale) Male Rat No. 93439.

Lung - (Dark red and collapsed) Male Rat No. 93440 and female Rat No. 93445.

(Red areas on all lobes) Female Rat No. 93447.

Kidney - (Medulla red) Male Rats No. 93439 and No. 93441.

(Cortex wide) Female Rat No. 93443.

(Enlarged) Female Rat No. 93446.

(Outer medulla contains a pink raised zone) Female Rats No. 93446 and No. 93443.

(Dark red with brown zone at junction) Female Rat No. 93386.

Liver - (Margins translucent and all lobes muddy red in color) Male Rat No. 93441.

Pituitary - (Dark red) Male Rats No. 93438 and No. 93439 and female Rat No. 93447.

Adrenals - (Dark red) Male Rats No. 93438 and No. 93441 and female Rats No. 93443, No. 93446, No. 93447, and No. 93386.

(Dark pinkish gray) Male Rat No. 93439.

Brain - (Surface covered with dark red fluid) Male Rat No. 93439 and female Rats No. 93446, and No. 93443.

(Blood vessels appeared dilated) Male Rat No. 93439.

Bladder - (Lining dark pink) Female Rat No. 93446.

Small Intestine and Stomach - (Distended and free from fecal matter) Male Rat No. 93439.

Mesenteric Lymph Nodes - (Dark) Female Rat No. 93386.

Ovaries and Uterus - (Small) Female Rats No. 93447 and No. 93443.

Organ Weights

Group mean terminal body weights, organ weights, organ/body weight ratios, and standard deviations for male and female rats are presented in Table No. 5.

With the exception of the surviving male, Group No. 4 (high level Thermolite 831), the group mean terminal body weights of surviving test animals were not significantly different from those of the control.

Statistical evaluation of organ/body weight data revealed significant high kidney/body weight ratios in Group No. 9 (intermediate level TM-181) males and females. In addition, females in this group showed significantly high live and adrenal/body weight ratios.

Microscopic Pathology

The pathologist's detailed findings and incidence table are appended to this report.

The administration of TM-180 resulted in significant liver and kidney pathology. Less striking, but detectable alterations were observed in sections of liver from animals given TM-181. Additionally, an unusual incidence of nephritis was seen at the intermediate level in these animals. Minimal hepatic changes were observed in rats given Thermolite 831.

Pathology Summary

A histopathological evaluation, of liver and kidney tissues and of selected other tissues in which there were grossly observed alterations, was performed on 10 groups of rats which had been treated and sacrificed in accordance with the original project protocol.

Liver and kidney from the control animals (Group No. 1) were within expected histologic limits. However, due apparently to less than optimum fixation, tissues from Group No. 1 and animals from other groups showed evidence of variable degrees of autolytic change.

In general, those animals exposed to Thermolite 831 showed the least alteration, while those treated with TM-180 had the most severe changes. Alterations observed in rats treated with TM-181 were intermediate between the other two test groups.

In the animals given Thermolite 831, there was minimal to slight bile duct proliferation in both the Groups No. 2 and No. 3 females. Although most of the high level (Group No. 4) animals died very early, moderate bile duct hyperplasia was present in one female (Rat No. 93384). Minimal bile duct proliferation was also seen in two control females. Slight centrilobular vacuolation of hepatocytes was observed in two Group No. 3 males. Only a suggestion of bile duct proliferation was detected in treated males from this group. Adrenal hemorrhage was seen in Group No. 4 animals which died.

Administration of TM-180 resulted in severe hepatic necrosis in several of the high level (Group No. 7) animals. Bile duct proliferation was present in Groups No. 6 and No. 7 males and females and Group No. 5 females. In the Group

No. 6 males, there was also hepatocytomegaly. Renal changes consisting of hypertrophy of tubular epithelial cells at the corticomedullary junction, occasionally attended by necrosis, were present in several high level (Group No. 7) rats. Adrenal hemorrhage was observed in several animals which died.

Bile duct proliferation, usually minimal in degree, was present in a small number of animals given TM-181. Hepatocytomegaly was present in several males, primarily in Group No. 9. An unusual incidence of interstitial nephritis was observed in the Group No. 9 animals. It was more severe in the males than in the females.

The remaining lesions present in the liver and kidney and in the tissues evaluated due to grossly observed alterations were considered to be spontaneous in nature.

In conclusion, significant liver and kidney pathology resulted from the administration of TM-180. Less conspicuous, but detectable alterations were observed in sections of liver from animals given TM-181. Additionally, an unusual incidence of nephritis was seen in these animals (Group No. 9). Minimal hepatic changes were observed in rats given Thermolite 831.

Submitted by

WILLIAM A. OLSON, Ph.D.
Project Manager, Agricultural and
Food Chemicals Department
Toxicology-Biosciences Laboratory

Pathology by

J. F. FERRELL, D.V.M.
Consultant Pathologist

Report Preparation: Horwatt
Supervision: Minner

dc;gbb

## EXPLANATION OF FOOTNOTES

Key to urine analysis table is as follows:

T = trace (±)

0 = negative

1 = slight (+)

2 = moderate (++)

3 = marked (+++)

4 = severe (++++)

Table No. 1 – Mean body weights, weight ranges, food consumption, and survival data for ( ☒ male, ☐ female) albino rats.

## SPRAGUE DAWLEY RATS RECEIVING AVASTAB TM 180-181 AND THERMOLITE 831 FOR 13 WEEKS

| TIME INTERVAL | GROUP 1 | | | | GROUP 2 | | | | GROUP 3 | | | | GROUP 4 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WT. | WT. RANGE | FOOD | SURV | WT. | WT. RANGE | FOOD | SURV | WT. | WT. RANGE | FOOD | SURV | WT. | WT. RANGE | FOOD | SURV |
| weeks | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | |
| 0 | 59 | 50- 70 | 0 | 5/ 5 | 59 | 50- 69 | 0 | 5/ 5 | 59 | 52- 67 | 0 | 5/ 5 | 59 | 52- 67 | 0 | 5/ 5 |
| 1 | 107 | 90-120 | 96 | 5/ 5 | 106 | 96-118 | 98 | 5/ 5 | 94 | 75-109 | 77 | 5/ 5 | 68 | 55- 84 | 37 | 3/ 5 |
| 2 | 162 | 136-178 | 142 | 5/ 5 | 165 | 153-176 | 135 | 5/ 5 | 147 | 125-171 | 114 | 5/ 5 | 62 | 62- 62 | 31 | 2/ 5 |
| 3 | 218 | 191-239 | 158 | 5/ 5 | 217 | 198-241 | 149 | 5/ 5 | 195 | 174-220 | 138 | 5/ 5 | 56 | 56- 56 | 96 | 1/ 5 |
| 4 | 266 | 236-288 | 163 | 5/ 5 | 264 | 242-295 | 146 | 5/ 5 | 242 | 220-266 | 146 | 5/ 5 | 68 | 68- 68 | 44 | 1/ 5 |
| 5 | 313 | 294-328 | 163 | 5/ 5 | 304 | 275-342 | 162 | 5/ 5 | 283 | 259-319 | 154 | 5/ 5 | 90 | 90- 90 | 56 | 1/ 5 |
| 6 | 343 | 321-362 | 176 | 5/ 5 | 329 | 300-380 | 170 | 5/ 5 | 318 | 291-360 | 172 | 5/ 5 | 98 | 98- 98 | 103 | 1/ 5 |
| 7 | 385 | 359-407 | 172 | 5/ 5 | 365 | 336-417 | 165 | 5/ 5 | 347 | 331-377 | 165 | 5/ 5 | 127 | 127-127 | 55 | 1/ 5 |
| 8 | 409 | 383-429 | 177 | 5/ 5 | 392 | 366-447 | 173 | 5/ 5 | 366 | 347-398 | 169 | 5/ 5 | 139 | 139-139 | 65 | 1/ 5 |
| 9 | 434 | 395-458 | 172 | 5/ 5 | 414 | 391-470 | 159 | 5/ 5 | 381 | 328-424 | 162 | 5/ 5 | 161 | 161-161 | 105 | 1/ 5 |
| 10 | 436 | 393-463 | 150 | 5/ 5 | 424 | 399-482 | 144 | 5/ 5 | 403 | 378-433 | 143 | 5/ 5 | 196 | 196-196 | 76 | 1/ 5 |
| 11 | 451 | 407-480 | 160 | 5/ 5 | 430 | 410-488 | 169 | 5/ 5 | 423 | 388-449 | 184 | 5/ 5 | 193 | 193-193 | 127 | 1/ 5 |
| 12 | 477 | 429-507 | 176 | 5/ 5 | 451 | 428-516 | 164 | 5/ 5 | 447 | 406-493 | 176 | 5/ 5 | 219 | 219-219 | 107 | 1/ 5 |
| 13 | 482 | 441-515 | 179 | 5/ 5 | 451 | 427-523 | 176 | 5/ 5 | 456 | 411-521 | 174 | 5/ 5 | 234 | 234-234 | 161 | 1/ 5 |

Table No. 1 – Mean body weights, weight ranges, food consumption, and survival data for ( ☒ male, ☐ female) albino rats.

## SPRAGUE DAWLEY RATS RECEIVING AVASTAB TM 180-181 AND THERMOLITE 831 FOR 13 WEEKS

| TIME INTERVAL | GROUP 5 | | | | GROUP 6 | | | | GROUP 7 | | | | GROUP 8 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WT | WT RANGE | FOOD | SURV. | WT | WT RANGE | FOOD | SURV | WT | WT RANGE | FOOD | SURV | WT | WT RANGE | FOOD | SURV |
| weeks | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | |
| 0 | 59 | 52- 67 | 0 | 5/ 5 | 59 | 53- 67 | 0 | 5/ 5 | 59 | 53- 66 | 0 | 5/ 5 | 59 | 53- 66 | 0 | 5/ 5 |
| 1 | 104 | 90-116 | 103 | 5/ 5 | 103 | 93-111 | 106 | 5/ 5 | 55 | 52- 60 | 47 | 3/ 5 | 110 | 100-127 | 105 | 5/ 5 |
| 2 | 155 | 128-167 | 127 | 5/ 5 | 150 | 136-158 | 122 | 5/ 5 | 44 | 44- 44 | 32 | 1/ 5 | 165 | 155-196 | 139 | 5/ 5 |
| 3 | 204 | 167-222 | 141 | 5/ 5 | 202 | 188-210 | 153 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 5 | 217 | 205-256 | 158 | 5/ 5 |
| 4 | 253 | 203-287 | 146 | 5/ 5 | 249 | 233-263 | 150 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 5 | 265 | 242-315 | 158 | 5/ 5 |
| 5 | 294 | 237-336 | 156 | 5/ 5 | 291 | 271-303 | 169 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 5 | 305 | 271-364 | 170 | 5/ 5 |
| 6 | 325 | 257-372 | 167 | 5/ 5 | 322 | 302-334 | 183 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 5 | 335 | 296-395 | 179 | 5/ 5 |
| 7 | 366 | 291-430 | 159 | 5/ 5 | 366 | 344-378 | 169 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 375 | 329-436 | 165 | 5/ 5 |
| 8 | 391 | 310-455 | 169 | 5/ 5 | 399 | 368-402 | 182 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 394 | 346-451 | 177 | 5/ 5 |
| 9 | 394 | 310-468 | 172 | 5/ 5 | 408 | 390-421 | 172 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 416 | 369-475 | 169 | 5/ 5 |
| 10 | 420 | 331-499 | 138 | 5/ 5 | 423 | 403-440 | 148 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 426 | 372-496 | 148 | 5/ 5 |
| 11 | 431 | 344-515 | 155 | 5/ 5 | 432 | 418-442 | 172 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 436 | 384-505 | 174 | 5/ 5 |
| 12 | 441 | 350-529 | 163 | 5/ 5 | 434 | 416-452 | 175 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 450 | 400-518 | 171 | 5/ 5 |
| 13 | 443 | 352-536 | 166 | 5/ 5 | 473 | 446-519 | 166 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 477 | 448-533 | 178 | 5/ 5 |

Table No. 1 – Mean body weights, weight ranges, food consumption, and survival data for ( ☒ male, ☐ female) albino rats.

## SPRAGUE DAWLEY RATS RECEIVING AVASTAB TM 180-181 AND THERMOLITE 831 FOR 13 WEEKS

| TIME INTERVAL | GROUP 9 | | | | GROUP 10 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WT | WT RANGE | FOOD | SURV | WT | WT RANGE | FOOD | SURV | WT | WT RANGE | FOOD | SURV | WT | WT RANGE | FOOD | SURV |
| weeks | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | |
| 0 | 60 | 54- 66 | 0 | 5/ 5 | 60 | 54- 65 | 0 | 5/ 5 | | | | | | | | |
| 1 | 98 | 85-113 | 85 | 5/ 5 | 78 | 73- 88 | 67 | 5/ 5 | | | | | | | | |
| 2 | 151 | 142-170 | 122 | 5/ 5 | 87 | 80- 96 | 81 | 3/ 5 | | | | | | | | |
| 3 | 206 | 193-229 | 142 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 5 | | | | | | | | |
| 4 | 252 | 237-273 | 150 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 5 | 289 | 275-305 | 157 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 6 | 319 | 297-340 | 179 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 7 | 360 | 339-381 | 170 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 8 | 370 | 335-410 | 168 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 9 | 395 | 349-429 | 164 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 10 | 397 | 357-422 | 148 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 11 | 397 | 350-440 | 174 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 12 | 424 | 398-451 | 178 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 13 | 441 | 408-473 | 198 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |

Table No. 1 – Mean body weights, weight ranges, food consumption, and survival data for ( ☐ male, ☒ female) albino rats.

## SPRAGUE DAWLEY RATS RECEIVING AVASTAB TM 180-181 AND THERMOLITE 831 FOR 13 WEEKS

| TIME INTERVAL | GROUP 5 | | | | GROUP 6 | | | | GROUP 7 | | | | GROUP 8 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WT. | WT RANGE | FOOD | SURV. | WT. | WT RANGE | FOOD | SURV. | WT. | WT RANGE | FOOD | SURV. | WT. | WT RANGE | FOOD | SURV. |
| weeks | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | |
| 0 | 63 | 56- 70 | 0 | 5/ 5 | 63 | 56- 70 | 0 | 5/ 5 | 63 | 56- 70 | 0 | 5/ 5 | 63 | 57- 70 | 0 | 5/ 5 |
| 1 | 111 | 99-122 | 100 | 5/ 5 | 108 | 95-121 | 105 | 5/ 5 | 60 | 59- 61 | 46 | 2/ 5 | 114 | 103-123 | 102 | 5/ 5 |
| 2 | 146 | 135-164 | 113 | 5/ 5 | 147 | 135-156 | 125 | 5/ 5 | 71 | 71- 71 | 54 | 1/ 5 | 154 | 145-163 | 132 | 5/ 5 |
| 3 | 174 | 155-201 | 128 | 5/ 5 | 173 | 162-186 | 127 | 5/ 5 | 92 | 92- 92 | 73 | 1/ 5 | 184 | 177-191 | 135 | 5/ 5 |
| 4 | 187 | 167-215 | 107 | 5/ 5 | 196 | 189-206 | 116 | 5/ 5 | 142 | 142-142 | 379 | 1/ 5 | 203 | 188-216 | 120 | 5/ 5 |
| 5 | 205 | 174-242 | 118 | 5/ 5 | 209 | 198-222 | 125 | 5/ 5 | 100 | 100-100 | 59 | 1/ 5 | 217 | 206-232 | 127 | 5/ 5 |
| 6 | 211 | 176-249 | 122 | 5/ 5 | 221 | 210-237 | 127 | 5/ 5 | 0 | 999- 0 | 0 | 0/ 5 | 232 | 217-249 | 137 | 5/ 5 |
| 7 | 230 | 202-262 | 109 | 5/ 5 | 244 | 233-259 | 117 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 253 | 233-277 | 122 | 5/ 5 |
| 8 | 239 | 208-275 | 128 | 5/ 5 | 250 | 233-265 | 133 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 262 | 246-282 | 137 | 5/ 5 |
| 9 | 242 | 215-279 | 120 | 5/ 5 | 257 | 241-277 | 123 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 267 | 252-284 | 121 | 5/ 5 |
| 10 | 251 | 220-285 | 110 | 5/ 5 | 271 | 252-295 | 115 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 277 | 253-302 | 125 | 5/ 5 |
| 11 | 248 | 218-281 | 90 | 5/ 5 | 261 | 245-279 | 101 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 276 | 259-298 | 114 | 5/ 5 |
| 12 | 239 | 208-262 | 123 | 5/ 5 | 256 | 244-268 | 124 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 281 | 262-299 | 130 | 5/ 5 |
| 13 | 244 | 224-266 | 116 | 5/ 5 | 282 | 256-292 | 121 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | 292 | 275-307 | 116 | 5/ 5 |

Table No. 1 – Mean body weights, weight ranges, food consumption, and survival data for ( ☐ male, ☒ female) albino rats.

## SPRAGUE DAWLEY RATS RECEIVING AVASTAB TM 180-181 AND THERMOLITE 831 FOR 13 WEEKS

| TIME INTERVAL | GROUP 9 | | | | GROUP 10 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WT. | WT RANGE | FOOD | SURV | WT. | WT RANGE | FOOD | SURV | WT | WT RANGE | FOOD | SURV | WT | WT RANGE | FOOD | SURV |
| weeks | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | | g. | g. | g. | |
| 0 | 64 | 57- 70 | 0 | 5/ 5 | 64 | 57- 70 | 0 | 5/ 5 | | | | | | | | |
| 1 | 101 | 95-106 | 79 | 5/ 5 | 91 | 80-101 | 74 | 5/ 5 | | | | | | | | |
| 2 | 146 | 139-151 | 112 | 5/ 5 | 83 | 69-107 | 80 | 5/ 5 | | | | | | | | |
| 3 | 175 | 163-181 | 117 | 5/ 5 | 0 | 999- 0 | 0 | 0/ 5 | | | | | | | | |
| 4 | 194 | 187-202 | 116 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 5 | 215 | 205-225 | 117 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 6 | 230 | 220-240 | 141 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 7 | 253 | 236-273 | 127 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 8 | 264 | 245-285 | 142 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 9 | 276 | 253-296 | 142 | 5/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 10 | 269 | 250-287 | 123 | 4/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 11 | 260 | 225-284 | 133 | 4/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 12 | 280 | 259-298 | 139 | 4/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |
| 13 | 283 | 247-304 | 158 | 4/ 5 | 0 | 0- 0 | 0 | 0/ 0 | | | | | | | | |

TABLE NO. 2 - INDIVIDU HEMATOLOGICAL VALUES
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | S E X | HCT % | HGB GM% | RBC MILLS | WBC THS | DIFFERENTIAL META % | BAND % | SEG % | LYMPH % | MONO % | EOSIN % | BASO % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 93348 | M | 43.0 | 14.2 | 6.72 | 18.2 | 0 | 0 | 31 | 66 | 0 | 3 | 0 |
| 1 | 93349 | M | 39.0 | 13.2 | 6.61 | 16.7 | 0 | 0 | 24 | 76 | 0 | 0 | 0 |
| 1 | 93350 | M | 48.0 | 15.0 | 7.85 | 15.5 | 0 | 0 | 16 | 82 | 0 | 2 | 0 |
| 1 | 93351 | M | 47.0 | 16.3 | 8.15 | 16.3 | 0 | 0 | 34 | 65 | 0 | 1 | 0 |
| 1 | 93352 | M | 47.0 | 16.2 | 6.42 | 13.1 | 0 | 0 | 9 | 90 | 0 | 1 | 0 |
| GROUP MEAN | | | 44.8 | 15.0 | 7.15 | 16.0 | | | | | | | |
| 2 | 93358 | M | 43.0 | 14.6 | 7.42 | 20.4 | 0 | 0 | 33 | 62 | 0 | 5 | 0 |
| 2 | 93359 | M | 43.0 | 14.6 | 6.33 | 12.1 | 0 | 0 | 30 | 69 | 0 | 1 | 0 |
| 2 | 93360 | M | 41.0 | 14.2 | 6.88 | 22.7 | 0 | 0 | 19 | 78 | 0 | 3 | 0 |
| 2 | 93361 | M | 45.0 | 14.3 | 7.22 | 16.5 | 0 | 0 | 14 | 84 | 0 | 2 | 0 |
| 2 | 93362 | M | 46.0 | 15.0 | 7.33 | 13.4 | 0 | 0 | 24 | 73 | 0 | 3 | 0 |
| GROUP MEAN | | | 43.6 | 14.5 | 7.04 | 17.0 | | | | | | | |
| 3 | 93368 | M | 38.0 | 13.4 | 6.48 | 18.7 | 0 | 0 | 30 | 66 | 0 | 4 | 0 |
| 3 | 93369 | M | 43.0 | 13.9 | 7.35 | 11.0 | 0 | 0 | 32 | 67 | 0 | 1 | 0 |
| 3 | 93370 | M | 43.0 | 14.2 | 7.19 | 11.5 | 0 | 2 | 52 | 44 | 0 | 2 | 0 |
| 3 | 93371 | M | 42.0 | 13.8 | 7.18 | 10.5 | 0 | 0 | 43 | 56 | 0 | 1 | 0 |
| 3 | 93372 | M | 45.0 | 15.2 | 7.42 | 13.3 | 0 | 0 | 30 | 68 | 0 | 2 | 0 |
| GROUP MEAN | | | 42.2 | 14.1 | 7.12 | 13.0 | | | | | | | |
| 4 | 93382 | M | 43.0 | 13.0 | 6.34 | 11.3 | 0 | 0 | 32 | 68 | 0 | 0 | 0 |
| GROUP MEAN | | | 43.0 | 13.0 | 6.34 | 11.3 | | | | | | | |
| 5 | 93388 | M | 43.5 | 15.0 | 6.79 | 12.2 | 0 | 0 | 28 | 69 | 0 | 3 | 0 |
| 5 | 93389 | M | 45.0 | 15.0 | 7.68 | 18.0 | 0 | 0 | 29 | 69 | 0 | 2 | 0 |
| 5 | 93390 | M | 43.0 | 14.8 | 6.72 | 18.1 | 0 | 0 | 20 | 78 | 0 | 2 | 0 |
| 5 | 93391 | M | 42.0 | 15.4 | 6.79 | 23.9 | 0 | 0 | 21 | 75 | 0 | 4 | 0 |
| 5 | 93392 | M | 41.0 | 13.9 | 6.92 | 21.7 | 0 | 0 | 15 | 83 | 0 | 2 | 0 |
| GROUP MEAN | | | 42.9 | 14.8 | 6.96 | 18.8 | | | | | | | |

452-1

TABLE NO. 2 - INDIVIDUAL HEMATOLOGICAL VALUES
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | HCT % | HGB GM% | RBC MILLS | WBC THS | DIFFERENTIAL META % | BAND % | SEG % | LYMPH % | MONO % | EOSIN % | BASO % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 93398 | M | 42.0 | 13.4 | 6.48 | 14.2 | 0 | 0 | 28 | 71 | 0 | 1 | 0 |
| 6 | 93399 | M | 43.0 | 13.8 | 6.50 | 16.5 | 0 | 0 | 32 | 67 | 0 | 1 | 0 |
| 6 | 93400 | M | 43.0 | 12.3 | 6.18 | 11.4 | 0 | 0 | 29 | 68 | 0 | 3 | 0 |
| 6 | 93401 | M | 43.0 | 13.4 | 6.63 | 19.0 | 0 | 0 | 21 | 76 | 0 | 3 | 0 |
| 6 | 93402 | M | 44.0 | 14.2 | 6.81 | 16.0 | 0 | 0 | 35 | 62 | 0 | 3 | 0 |
| GROUP MEAN | | | 43.0 | 13.4 | 6.52 | 15.4 | | | | | | | |
| 8 | 93418 | M | 46.0 | 14.2 | 7.35 | 13.2 | 0 | 0 | 26 | 71 | 0 | 3 | 0 |
| 8 | 93419 | M | 44.0 | 15.0 | 7.84 | 18.1 | 0 | 0 | 30 | 67 | 0 | 3 | 0 |
| 8 | 93420 | M | 45.0 | 15.0 | 7.31 | 20.5 | 0 | 0 | 27 | 71 | 0 | 2 | 0 |
| 8 | 93421 | M | 47.0 | 14.2 | 7.15 | 29.9 | 0 | 0 | 43 | 54 | 0 | 3 | 0 |
| 8 | 93422 | M | 48.0 | 15.0 | 6.91 | 10.8 | 0 | 0 | 29 | 70 | 0 | 1 | 0 |
| GROUP MEAN | | | 46.0 | 14.7 | 7.31 | 18.5 | | | | | | | |
| 9 | 93428 | M | 45.0 | 14.6 | 7.63 | 20.1 | 0 | 0 | 38 | 55 | 0 | 7 | 0 |
| 9 | 93429 | M | 44.5 | 14.6 | 7.28 | 31.0 | 0 | 0 | 34 | 63 | 0 | 3 | 0 |
| 9 | 93430 | M | 46.0 | 14.2 | 6.89 | 20.5 | 0 | 0 | 24 | 74 | 0 | 2 | 0 |
| 9 | 93431 | M | 42.0 | 15.4 | 6.92 | 18.4 | 0 | 0 | 24 | 73 | 0 | 3 | 0 |
| 9 | 93432 | M | 41.0 | 14.6 | 6.01 | 20.5 | 0 | 0 | 19 | 81 | 0 | 0 | 0 |
| GROUP MEAN | | | 43.7 | 14.7 | 6.95 | 22.1 | | | | | | | |

C 05

[illegible] 2 INI [illegible] DU [illegible] HEM LOC [illegible] AL [illegible] JES
SPRAGUE DAWLEY RATS RECEIVING [illegible] STAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | HCT % | HGB GM% | RBC MILLS | WBC THS | DIFFERENTIAL META % | BAND % | SEG % | LYMPH % | MONO % | EOSIN % | BASO % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 93353 | F | 52.0 | 16.1 | 7.46 | 25.9 | 0 | 0 | 26 | 73 | 0 | 1 | 0 |
| 1 | 93354 | F | 44.0 | 14.6 | 7.19 | 28.9 | 0 | 0 | 17 | 80 | 0 | 3 | 0 |
| 1 | 93355 | F | 49.0 | 15.4 | 6.99 | 22.8 | 0 | 0 | 54 | 45 | 0 | 1 | 0 |
| 1 | 93356 | F | 47.0 | 15.9 | 7.95 | 16.3 | 0 | 0 | 20 | 79 | 0 | 1 | 0 |
| 1 | 93357 | F | 45.0 | 14.2 | 7.20 | 17.1 | 0 | 0 | 29 | 68 | 0 | 3 | 0 |
| GROUP MEAN | | | 47.4 | 15.2 | 7.36 | 22.2 | | | | | | | |
| 2 | 93363 | F | 48.0 | 15.9 | 7.96 | 11.0 | 0 | 0 | 19 | 80 | 0 | 1 | 0 |
| 2 | 93364 | F | 46.0 | 14.8 | 7.38 | 12.6 | 0 | 0 | 38 | 62 | 0 | 0 | 0 |
| 2 | 93365 | F | 46.0 | 15.0 | 7.83 | 11.2 | 0 | 0 | 34 | 65 | 0 | 1 | 0 |
| 2 | 93366 | F | 47.0 | 15.2 | 7.27 | 11.0 | 0 | 0 | 26 | 73 | 0 | 1 | 0 |
| 2 | 93367 | F | 42.0 | 14.6 | 7.23 | 22.2 | 0 | 0 | 15 | 85 | 0 | 0 | 0 |
| GROUP MEAN | | | 45.8 | 15.1 | 7.53 | 13.6 | | | | | | | |
| 3 | 93373 | F | 45.0 | 14.2 | 7.70 | 10.8 | 0 | 0 | 37 | 63 | 0 | 0 | 0 |
| 3 | 93374 | F | 46.0 | 13.8 | 7.32 | 16.7 | 0 | 0 | 32 | 68 | 0 | 0 | 0 |
| 3 | 93375 | F | 43.0 | 13.0 | 6.98 | 10.5 | 0 | 0 | 25 | 73 | 0 | 2 | 0 |
| 3 | 93376 | F | 45.0 | 13.9 | 7.28 | 18.1 | 0 | 0 | 37 | 62 | 0 | 1 | 0 |
| 3 | 93377 | F | 45.0 | 14.6 | 7.42 | 16.0 | 0 | 0 | 33 | 66 | 0 | 1 | 0 |
| GROUP MEAN | | | 44.8 | 13.9 | 7.34 | 14.4 | | | | | | | |
| 5 | 93393 | F | 49.0 | 15.4 | 7.56 | 15.8 | 0 | 0 | 8 | 92 | 0 | 0 | 0 |
| 5 | 93394 | F | 46.0 | 14.8 | 7.43 | 14.7 | 0 | 0 | 21 | 79 | 0 | 0 | 0 |
| 5 | 93395 | F | 49.0 | 15.0 | 7.96 | 12.1 | 0 | 0 | 35 | 62 | 0 | 3 | 0 |
| 5 | 93396 | F | 47.0 | 14.6 | 7.12 | 16.7 | 0 | 0 | 20 | 79 | 0 | 1 | 0 |
| 5 | 93397 | F | 46.0 | 15.0 | 7.97 | 14.0 | 0 | 0 | 25 | 74 | 0 | 1 | 0 |
| GROUP MEAN | | | 47.4 | 15.0 | 7.61 | 14.7 | | | | | | | |

TABLE NO. 2 - INDIVIDUAL HEMATOLOGICAL VALUES
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | HCT % | HGB GM% | RBC MILLS | WBC THS | DIFFERENTIAL META % | BAND % | SEG % | LYMPH % | MONO % | EOSIN % | BASO % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 93403 | F | 47.0 | 15.0 | 7.49 | 17.3 | 0 | 0 | 32 | 66 | 0 | 2 | 0 |
| 6 | 93404 | F | 46.0 | 14.2 | 7.65 | 14.2 | 0 | 0 | 6 | 93 | 0 | 1 | 0 |
| 6 | 93405 | F | 45.0 | 13.6 | 6.83 | 11.9 | 0 | 0 | 22 | 77 | 0 | 1 | 0 |
| 6 | 93406 | F | 45.0 | 13.4 | 7.42 | 15.0 | 0 | 0 | 23 | 76 | 0 | 1 | 0 |
| 6 | 93407 | F | 44.0 | 14.2 | 7.32 | 12.2 | 0 | 0 | 26 | 66 | 0 | 8 | 0 |
| GROUP MEAN | | | 45.4 | 14.1 | 7.34 | 14.1 | | | | | | | |
| 8 | 93423 | F | 45.0 | 14.2 | 7.16 | 20.5 | 0 | 0 | 30 | 67 | 0 | 3 | 0 |
| 8 | 93424 | F | 47.0 | 15.6 | 7.59 | 14.4 | 0 | 0 | 24 | 76 | 0 | 0 | 0 |
| 8 | 93425 | F | 44.0 | 15.2 | 6.63 | 16.0 | 0 | 0 | 20 | 80 | 0 | 0 | 0 |
| 8 | 93426 | F | 46.0 | 15.9 | 7.19 | 21.2 | 0 | 0 | 21 | 79 | 0 | 0 | 0 |
| 8 | 93427 | F | 46.0 | 14.2 | 7.33 | 16.3 | 0 | 0 | 49 | 48 | 0 | 3 | 0 |
| GROUP MEAN | | | 45.6 | 15.0 | 7.18 | 17.7 | | | | | | | |
| 9 | 93433 | F | 51.0 | 16.1 | 8.13 | 16.8 | 0 | 0 | 10 | 88 | 0 | 2 | 0 |
| 9 | 93435 | F | 50.0 | 15.6 | 7.81 | 14.4 | 0 | 0 | 18 | 82 | 0 | 0 | 0 |
| 9 | 93436 | F | 43.0 | 14.6 | 6.36 | 13.0 | 0 | 0 | 15 | 85 | 0 | 0 | 0 |
| 9 | 93437 | F | 50.0 | 16.1 | 8.16 | 14.3 | 0 | 0 | 7 | 93 | 0 | 0 | 0 |
| GROUP MEAN | | | 48.5 | 15.6 | 7.62 | 14.6 | | | | | | | |

TABLE NO. 3 - INDIVIDUAL BLOOD CHEMISTRY VALUES
SPRAGUE DAWLEY RATS RECEIVING . ASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | GLUCOSE MG% | BUN MG% | SGPT R-F. | ALK. PHOS K-A. UNITS | BILIRUBIN TOTAL MG% |
|---|---|---|---|---|---|---|---|
| 1 | 93348 | M | 90.0 | 17.0 | 25.0 | 30.4 | 0.16 |
| 1 | 93349 | M | 100.0 | 16.0 | 32.0 | 30.4 | 0.13 |
| 1 | 93350 | M | 100.0 | 17.0 | 24.0 | 40.4 | 0.16 |
| 1 | 93351 | M | 102.0 | 15.0 | 24.0 | 30.4 | 0.18 |
| 1 | 93352 | M | 96.0 | 18.0 | 27.0 | 39.0 | 0.13 |
| GROUP MEAN | | | 97.6 | 16.6 | 26.4 | 34.1 | 0.15 |
| 2 | 93358 | M | 84.0 | 16.0 | 25.0 | 40.4 | 0.18 |
| 2 | 93359 | M | 88.0 | 16.0 | 25.0 | 28.0 | 0.16 |
| 2 | 93360 | M | 100.0 | 14.0 | 24.0 | 25.0 | 0.18 |
| 2 | 93361 | M | 100.0 | 16.0 | 31.0 | 40.4 | 0.16 |
| 2 | 93362 | M | 85.0 | 18.0 | 25.0 | 25.9 | 0.18 |
| GROUP MEAN | | | 91.4 | 16.0 | 26.0 | 31.9 | 0.17 |
| 3 | 93368 | M | 77.0 | 20.0 | 29.0 | 42.2 | 0.16 |
| 3 | 93369 | M | 84.0 | 20.0 | 27.0 | 63.0 | 0.16 |
| 3 | 93370 | M | 85.0 | 20.0 | 25.0 | 36.8 | 0.18 |
| 3 | 93371 | M | 100.0 | 22.0 | 27.0 | 58.2 | 0.16 |
| 3 | 93372 | M | 86.0 | 22.0 | 29.0 | 50.4 | 0.18 |
| GROUP MEAN | | | 86.4 | 20.8 | 27.4 | 50.1 | 0.17 |
| 4 | 93382 | M | 46.0 | 21.0 | 25.0 | 48.6 | 0.16 |
| GROUP MEAN | | | 46.0 | 21.0 | 25.0 | 48.6 | 0.16 |
| 5 | 93388 | M | 86.0 | 16.0 | 31.0 | 40.4 | 0.21 |
| 5 | 93389 | M | 106.0 | 17.0 | 25.0 | 35.5 | 0.13 |
| 5 | 93390 | M | 102.0 | 20.0 | 27.0 | 40.4 | 0.16 |
| 5 | 93391 | M | 96.0 | 17.0 | 27.0 | 39.0 | 0.16 |
| 5 | 93392 | M | 92.0 | 20.0 | 29.0 | 54.6 | 0.16 |
| GROUP MEAN | | | 96.4 | 18.0 | 27.8 | 42.0 | 0.16 |

TABLE NO. 3 - INDIVIDUAL BLOOD CHEMISTRY VALUES
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | GLUCOSE MG% | BUN MG% | SGPT R-F. | ALK. PHOS K-A. UNITS | BILIRUBIN TOTAL MG% |
|---|---|---|---|---|---|---|---|
| 6 | 93398 | M | 102.0 | 20.0 | 28.0 | 72.0 | 0.16 |
| 6 | 93400 | M | 100.0 | 16.0 | 23.0 | 39.6 | 0.18 |
| 6 | 93401 | M | 100.0 | 17.0 | 24.0 | 28.6 | 0.13 |
| 6 | 93402 | M | 95.0 | 23.0 | 27.0 | 69.8 | 0.16 |
| GROUP MEAN | | | 98.8 | 19.0 | 25.2 | 54.4 | 0.16 |
| 8 | 93418 | M | 96.0 | 19.0 | 27.0 | 39.6 | 0.16 |
| 8 | 93419 | M | 101.0 | 16.0 | 27.0 | 41.5 | 0.16 |
| 8 | 93420 | M | 94.0 | 19.0 | 29.0 | 34.9 | 0.13 |
| 8 | 93421 | M | 84.0 | 16.0 | 28.0 | 31.5 | 0.21 |
| 8 | 93422 | M | 88.0 | 16.0 | 28.0 | 39.0 | 0.18 |
| GROUP MEAN | | | 92.6 | 17.2 | 27.8 | 37.3 | 0.17 |
| 9 | 93428 | M | 100.0 | 28.0 | 35.0 | 67.2 | 0.18 |
| 9 | 93429 | M | 130.0 | 23.0 | 31.0 | 23.7 | 0.16 |
| 9 | 93430 | M | 114.0 | 26.0 | 27.0 | 42.2 | 0.16 |
| 9 | 93431 | M | 112.0 | 24.0 | 27.0 | 65.2 | 0.16 |
| 9 | 93432 | M | 117.0 | 19.0 | 27.0 | 73.6 | 0.18 |
| GROUP MEAN | | | 114.6 | 24.0 | 29.4 | 54.4 | 0.17 |

TABLE NO. 3 - INDIVIDUAL BLOOD CHEMISTRY VALUES
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | S E X | GLUCOSE MG% | BUN MG% | SGPT R-F. | ALK. PHOS K-A. UNITS | BILIRUBIN TOTAL MG% |
|---|---|---|---|---|---|---|---|
| 1 | 93353 | F | 66.0 | 18.0 | 24.0 | 34.2 | 0.24 |
| 1 | 93354 | F | 92.0 | 16.0 | 27.0 | 19.6 | 0.22 |
| 1 | 93355 | F | 101.0 | 17.0 | 25.0 | 32.0 | 0.24 |
| 1 | 93356 | F | 108.0 | 14.0 | 32.0 | 36.8 | 0.19 |
| 1 | 93357 | F | 118.0 | 18.0 | 35.0 | 21.9 | 0.19 |
| GROUP MEAN | | | 97.0 | 16.6 | 28.6 | 28.9 | 0.22 |
| 2 | 93363 | F | 110.0 | 20.0 | 39.0 | 35.5 | 0.19 |
| 2 | 93364 | F | 110.0 | 18.0 | 34.0 | 19.6 | 0.22 |
| 2 | 93365 | F | 111.0 | 19.0 | 36.0 | 26.2 | 0.22 |
| 2 | 93366 | F | 132.0 | 19.0 | 29.0 | 24.7 | 0.22 |
| 2 | 93367 | F | 110.0 | 22.0 | 32.0 | 41.5 | 0.19 |
| GROUP MEAN | | | 114.6 | 19.6 | 34.0 | 29.5 | 0.21 |
| 3 | 93373 | F | 108.0 | 22.0 | 32.0 | 31.0 | 0.22 |
| 3 | 93374 | F | 110.0 | 20.0 | 38.0 | 24.7 | 0.27 |
| 3 | 93375 | F | 104.0 | 22.0 | 34.0 | 41.5 | 0.24 |
| 3 | 93376 | F | 108.0 | 18.0 | 28.0 | 43.3 | 0.19 |
| 3 | 93377 | F | 112.0 | 18.0 | 29.0 | 38.3 | 0.19 |
| GROUP MEAN | | | 108.4 | 20.0 | 32.2 | 35.8 | 0.22 |
| 5 | 93393 | F | 110.0 | 19.0 | 32.0 | 39.6 | 0.19 |
| 5 | 93394 | F | 120.0 | 19.0 | 28.0 | 39.0 | 0.22 |
| 5 | 93395 | F | 120.0 | 17.0 | 27.0 | 32.0 | 0.24 |
| 5 | 93396 | F | 128.0 | 21.0 | 28.0 | 17.8 | 0.24 |
| 5 | 93397 | F | 114.0 | 18.0 | 31.0 | 29.1 | 0.27 |
| GROUP MEAN | | | 118.4 | 18.8 | 29.2 | 31.5 | 0.23 |

TABLE NO. 3 - INDIVIDUAL BLOOD CHEMISTRY VALUES
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | S E X | GLUCOSE MG% | BUN MG% | SGPT R-F. | ALK. PHOS K-A. UNITS | BILIRUBIN TOTAL MG% |
|---|---|---|---|---|---|---|---|
| 6 | 93403 | F | 116.0 | 20.0 | 36.0 | 39.6 | 0.29 |
| 6 | 93404 | F | 115.0 | 16.0 | 29.0 | 31.0 | 0.24 |
| 6 | 93405 | F | 116.0 | 20.0 | 34.0 | 50.4 | 0.22 |
| 6 | 93406 | F | 110.0 | 16.0 | 25.0 | 27.3 | 0.24 |
| 6 | 93407 | F | 118.0 | 20.0 | 27.0 | 52.4 | 0.22 |
| GROUP MEAN | | | 115.0 | 18.4 | 30.2 | 40.1 | 0.24 |
| 8 | 93423 | F | 120.0 | 21.0 | 35.0 | 71.0 | 0.22 |
| 8 | 93424 | F | 84.0 | 24.0 | 32.0 | 26.7 | 0.22 |
| 8 | 93425 | F | 120.0 | 20.0 | 27.0 | 22.4 | 0.24 |
| 8 | 93426 | F | 107.0 | 19.0 | 32.0 | 29.8 | 0.27 |
| 8 | 93427 | F | 114.0 | 18.0 | 32.0 | 28.0 | 0.22 |
| GROUP MEAN | | | 109.0 | 20.4 | 31.6 | 35.6 | 0.23 |
| 9 | 93433 | F | 115.0 | 24.0 | 35.0 | 53.4 | 0.24 |
| 9 | 93435 | F | 136.0 | 33.0 | 38.0 | 53.4 | 0.24 |
| 9 | 93436 | F | 111.0 | 24.0 | 35.0 | 69.8 | 0.24 |
| 9 | 93437 | F | 161.0 | 16.0 | 39.0 | 63.0 | 0.24 |
| GROUP MEAN | | | 130.8 | 24.3 | 36.8 | 59.9 | 0.24 |

TABLE NO. 3 INDIVIDUAL BLOOD CHEMISTRY VALUES

SPRAGUE DAWLEY RATS RECEIVING [illegible] STAB AND THERMOLITE FOR 13 WEEKS

WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | TOTAL PROTEIN G% | ELECTROPHORESIS ALBUMIN % | ALPHA1 % | ALPHA2 % | BETA % | GAMMA % |
|---|---|---|---|---|---|---|---|---|
| 1 | 93348 | M | 5.80 | 41.5 | 21.5 | 11.0 | 23.0 | 3.0 |
| 1 | 93349 | M | 5.90 | 49.0 | 21.5 | 10.5 | 16.0 | 3.0 |
| 1 | 93350 | M | 6.00 | 43.0 | 25.0 | 10.0 | 20.5 | 1.5 |
| 1 | 93351 | M | 6.30 | 45.0 | 24.0 | 9.0 | 20.0 | 2.0 |
| 1 | 93352 | M | 6.30 | 44.5 | 21.5 | 9.0 | 21.0 | 4.0 |
| GROUP MEAN | | | 6.06 | 44.6 | 22.7 | 9.9 | 20.1 | 2.7 |
| 2 | 93358 | M | 5.70 | 41.0 | 22.0 | 9.0 | 24.0 | 4.0 |
| 2 | 93359 | M | 6.00 | 41.0 | 22.0 | 11.0 | 21.0 | 5.0 |
| 2 | 93360 | M | 6.10 | 43.5 | 23.5 | 10.0 | 20.0 | 3.0 |
| 2 | 93361 | M | 6.40 | 46.0 | 24.0 | 10.0 | 18.0 | 2.0 |
| 2 | 93362 | M | 6.30 | 42.0 | 22.0 | 10.0 | 22.0 | 4.0 |
| GROUP MEAN | | | 6.10 | 42.7 | 22.7 | 10.0 | 21.0 | 3.6 |
| 3 | 93368 | M | 6.10 | 47.0 | 24.0 | 9.0 | 18.0 | 2.0 |
| 3 | 93369 | M | 6.10 | 46.0 | 19.0 | 11.0 | 20.0 | 4.0 |
| 3 | 93370 | M | 5.90 | 47.0 | 21.0 | 11.0 | 19.0 | 2.0 |
| 3 | 93371 | M | 6.50 | 43.0 | 22.0 | 13.0 | 20.0 | 2.0 |
| 3 | 93372 | M | 5.90 | 46.0 | 21.0 | 12.0 | 19.0 | 2.0 |
| GROUP MEAN | | | 6.10 | 45.8 | 21.4 | 11.2 | 19.2 | 2.4 |
| 4 | 93382 | M | 0 | QNS | QNS | QNS | QNS | QNS |
| 5 | 93388 | M | 5.40 | 45.0 | 24.0 | 10.0 | 19.0 | 2.0 |
| 5 | 93389 | M | 6.30 | 45.0 | 23.0 | 9.0 | 19.0 | 4.0 |
| 5 | 93390 | M | 6.30 | | | | | |
| 5 | 93391 | M | 6.80 | 43.0 | 23.0 | 10.0 | 22.0 | 2.0 |
| 5 | 93392 | M | 6.70 | 45.0 | 23.0 | 10.0 | 20.5 | 1.5 |
| GROUP MEAN | | | 6.30 | 44.5 | 23.3 | 9.8 | 20.1 | 2.4 |

C11

TABLE NO. 3 - INDIVIDUAL BLOOD CHEMISTRY VALUES
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | TOTAL PROTEIN G% | ELECTROPHORESIS ALBUMIN % | ALPHA1 % | ALPHA2 % | BETA % | GAMMA % |
|---|---|---|---|---|---|---|---|---|
| 6 | 93398 | M | 6.1C | 46.C | 22.C | 1C.0 | 18.0 | 4.0 |
| 6 | 93400 | M | 6.4C | 47.C | 20.C | 12.C | 18.0 | 3.C |
| 6 | 93401 | M | 6.40 | 46.C | 2C.C | 11.0 | 18.0 | 5.C |
| 6 | 93402 | M | 6.30 | 43.5 | 24.5 | 10.C | 20.0 | 2.0 |
| GROUP MEAN | | | 6.28 | 45.7 | 21.3 | 10.9 | 18.8 | 3.4 |
| 8 | 93418 | M | 5.8C | 44.C | 25.C | 9.5 | 17.5 | 4.C |
| 8 | 93419 | M | 6.40 | 47.C | 21.C | 8.C | 20.C | 4.0 |
| 8 | 93420 | M | 6.5C | 46.0 | 2C.C | 1C.0 | 19.0 | 5.0 |
| 8 | 93421 | M | 6.5C | 46.0 | 20.C | 11.0 | 21.0 | 2.0 |
| 8 | 93422 | M | 6.20 | 44.C | 25.C | 10.C | 18.0 | 3.0 |
| GROUP MEAN | | | 6.28 | 45.4 | 22.2 | 9.7 | 19.1 | 3.6 |
| 9 | 93428 | M | 6.8C | 44.0 | 2C.C | 10.0 | 2C.0 | 6.0 |
| 9 | 93429 | M | 6.5C | 36.0 | 22.C | 12.C | 25.C | 5.C |
| 9 | 93430 | M | 6.0C | 46.C | 19.C | 11.C | 21.C | 3.C |
| 9 | 93431 | M | 6.5C | 45.0 | 2C.C | 11.C | 2C.0 | 4.C |
| 9 | 93432 | M | 6.4C | 41.0 | 19.0 | 11.C | 22.0 | 7.C |
| GROUP MEAN | | | 6.44 | 42.4 | 2C.C | 11.C | 21.6 | 5.0 |

TABLE NO. 3 - INDIVIDUA BLOOD CHEMISTRY VALUES
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | S E X | TOTAL PROTEIN G% | ELECTROPHORESIS ALBUMIN % | ALPHA1 % | ALPHA2 % | BETA % | GAMMA % |
|---|---|---|---|---|---|---|---|---|
| 1 | 93353 | F | 6.50 | 45.0 | 19.0 | 10.0 | 19.0 | 7.0 |
| 1 | 93354 | F | 5.90 | 47.0 | 19.0 | 10.0 | 19.0 | 5.0 |
| 1 | 93355 | F | 6.20 | 50.0 | 14.5 | 11.5 | 18.0 | 6.0 |
| 1 | 93356 | F | 6.20 | 48.5 | 19.5 | 10.0 | 16.0 | 6.0 |
| 1 | 93357 | F | 6.90 | 51.0 | 18.0 | 9.0 | 17.0 | 5.0 |
| GROUP MEAN | | | 6.34 | 48.3 | 18.0 | 10.1 | 17.8 | 5.8 |
| 2 | 93363 | F | 6.50 | 50.5 | 18.5 | 9.5 | 16.5 | 5.0 |
| 2 | 93364 | F | 6.70 | 48.0 | 17.0 | 12.0 | 18.0 | 5.0 |
| 2 | 93365 | F | 6.70 | 50.5 | 16.5 | 10.0 | 16.0 | 7.0 |
| 2 | 93366 | F | 6.90 | 48.5 | 16.5 | 11.0 | 16.0 | 8.0 |
| 2 | 93367 | F | 7.00 | 51.0 | 19.0 | 9.0 | 15.5 | 5.5 |
| GROUP MEAN | | | 6.76 | 49.7 | 17.5 | 10.3 | 16.4 | 6.1 |
| 3 | 93373 | F | 6.90 | 49.0 | 17.0 | 11.0 | 19.0 | 4.0 |
| 3 | 93374 | F | 5.90 | 48.0 | 18.0 | 11.0 | 18.0 | 5.0 |
| 3 | 93375 | F | 6.30 | 53.0 | 16.0 | 10.0 | 16.0 | 5.0 |
| 3 | 93376 | F | 5.90 | 49.0 | 17.0 | 11.0 | 19.5 | 3.5 |
| 3 | 93377 | F | 6.70 | 50.0 | 18.0 | 11.0 | 17.0 | 4.0 |
| GROUP MEAN | | | 6.34 | 49.8 | 17.2 | 10.8 | 17.9 | 4.3 |
| 5 | 93393 | F | 6.60 | 50.0 | 16.0 | 11.0 | 18.0 | 5.0 |
| 5 | 93394 | F | 6.60 | 50.0 | 18.5 | 10.5 | 17.0 | 4.0 |
| 5 | 93395 | F | 6.60 | 47.5 | 17.5 | 11.0 | 18.0 | 6.0 |
| 5 | 93396 | F | 7.10 | 46.5 | 20.0 | 9.5 | 18.0 | 6.0 |
| 5 | 93397 | F | 6.50 | 50.0 | 14.0 | 10.0 | 19.0 | 7.0 |
| GROUP MEAN | | | 6.68 | 48.8 | 17.2 | 10.4 | 18.0 | 5.6 |

TABLE NO. 3 - INDIVIDUAL BLOOD CHEMISTRY VALUES
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | TOTAL PROTEIN G% | ELECTROPHORESIS ALBUMIN % | ALPHA1 % | ALPHA2 % | BETA % | GAMMA % |
|---|---|---|---|---|---|---|---|---|
| 6 | 93403 | F | 6.90 | 47.5 | 18.5 | 13.0 | 17.5 | 3.5 |
| 6 | 93404 | F | 6.50 | 47.0 | 19.0 | 12.0 | 16.0 | 6.0 |
| 6 | 93405 | F | 6.70 | 47.0 | 18.5 | 12.0 | 17.0 | 5.5 |
| 6 | 93406 | F | 6.50 | 47.0 | 17.0 | 11.5 | 17.5 | 7.0 |
| 6 | 93407 | F | 5.60 | 48.5 | 17.5 | 11.0 | 17.0 | 6.0 |
| GROUP MEAN | | | 6.44 | 47.4 | 18.1 | 11.9 | 17.0 | 5.6 |
| 8 | 93423 | F | 6.60 | 46.0 | 18.0 | 11.0 | 19.0 | 6.0 |
| 8 | 93424 | F | 6.60 | 50.0 | 17.0 | 10.0 | 19.0 | 4.0 |
| 8 | 93425 | F | 7.10 | 46.0 | 17.0 | 10.0 | 18.0 | 9.0 |
| 8 | 93426 | F | 6.30 | 51.5 | 19.0 | 8.0 | 16.0 | 5.5 |
| 8 | 93427 | F | 6.70 | 50.0 | 16.0 | 10.0 | 20.0 | 4.0 |
| GROUP MEAN | | | 6.66 | 48.7 | 17.4 | 9.8 | 18.4 | 5.7 |
| 9 | 93433 | F | 6.70 | 51.5 | 18.0 | 9.5 | 17.0 | 4.0 |
| 9 | 93435 | F | 7.20 | 51.0 | 19.0 | 9.0 | 18.0 | 3.0 |
| 9 | 93436 | F | 7.80 | 58.0 | 15.0 | 10.0 | 14.0 | 3.0 |
| 9 | 93437 | F | 6.70 | 49.0 | 16.0 | 10.0 | 19.0 | 6.0 |
| GROUP MEAN | | | 7.10 | 52.4 | 17.0 | 9.6 | 17.0 | 4.0 |

TABLE NO. 4 - URINE ANALYSIS
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | PH | SP.GR. | SU-GAR | PRO-TEIN | BILI-RUBIN | MICROSCOPIC FINDINGS RBC | WBC | EPITH | AMORPH CRYS | BACT | SPERM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5* | M | 8 | 1.011 | 0 | T | 0 | | | | | MANY | MANY FEW |
| 2 | 5* | M | 9 | 1.012 | 0 | 0 | 0 | | | | | MANY | MANY FEW |
| 3 | 5* | M | 9 | 1.015 | 0 | T | 0 | | | | 0-1 | MANY | MANY FEW |
| 4 | 5* | M | 8 | 1.013 | 0 | 0 | 0 | | | | | FEW | MANY |
| 5 | 5* | M | 9 | 1.013 | 0 | 0 | 0 | | | | 0-1 | MANY | MANY FEW |
| 6 | 5* | M | 8 | 1.018 | 0 | 0 | 0 | | | | | MANY | MANY |
| 7 | 5* | M | 8 | 1.012 | 0 | 0 | 0 | | | | | MANY | MANY FEW |
| 8 | 5* | M | 8 | 1.013 | 0 | 0 | 0 | | 0-1 | 0-1 | | MANY | MANY FEW |

* POOLED SAMPLE

TABLE NO. 4 - URINE ANALYSIS
SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS
WEEK 10

| GROUP NUMBER | ANIMAL NUMBER | SEX | PH | SP.GR. | SU-GAR | PRO-TEIN | BILI-RUBIN | MICROSCOPIC FINDINGS RBC | WBC | EPITH | AMORPH | CRYS | BACT | SPERM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5* | F | 7 | 1.010 | 0 | 0 | 0 | | | | | LITTLE | FEW | MANY |
| 2 | 5* | F | 7 | 1.018 | 0 | 0 | 0 | | | | | LITTLE | MANY | MANY |
| 3 | 5* | F | 7 | 1.019 | 0 | 0 | 0 | 0-1 | 0-1 | | | | FEW | MANY |
| 5 | 5* | F | 7 | 1.010 | 0 | 0 | 0 | | | | | | FEW | MANY |
| 6 | 5* | F | 7 | 1.019 | 0 | 0 | 0 | | | | | LITTLE | FEW | MANY |
| 8 | 5* | F | 7 | 1.010 | 0 | 0 | 0 | 0-1 | | 0-1 | | LITTLE | FEW | MANY |
| 9 | 5* | F | 7 | 1.010 | 0 | 0 | 0 | 0-1 | | 0-1 | | LITTLE | FEW | MANY |

* POOLED SAMPLE

D 03

TABLE NO. 5- MEAN TERMINAL BODY WEIGHTS, ORGAN WEIGHTS, ORGAN/BODY WEIGHT RATIOS, AND STANDARD DEVIATIONS FOR MALE AND FEMALE ALBINO RATS.

SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS

| | | | BODY WEIGHT | | THYROID | | | | HEART | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GROUP NUMBER | SEX | N | WEIGHT G. | S G. | WEIGHT G. | S G. | RATIO % | S % | WEIGHT G. | S G. | RATIO % | S % |
| 1 | M | 5 | 459 | 30 | 0.041 | 0.005 | 0.0090 | 0.0007 | 1.31 | 0.28 | 0.289 | 0.080 |
| 2 | M | 5 | 437 | 33 | 0.041 | 0.005 | 0.0095 | 0.0007 | 1.27 | 0.25 | 0.291 | 0.054 |
| 3 | M | 5 | 440 | 37 | 0.043 | 0.012 | 0.0098 | 0.0029 | 1.35 | 0.11 | 0.307 | 0.036 |
| 4 | M | 1 | 228 | 0 | 0.023 | 0.000 | 0.010 | 0.000 | 0.87 | 0.00 | 0.38 | 0.00 |
| 5 | M | 5 | 438 | 68 | 0.034 | 0.006 | 0.0079 | 0.0019 | 1.39 | 0.34 | 0.317 | 0.052 |
| 6 | M | 5 | 435 | 15 | 0.031 | 0.006 | 0.0072 | 0.0012 | 1.45 | 0.27 | 0.333 | 0.064 |
| 8 | M | 5 | 439 | 42 | 0.029 | 0.005 | 0.0067 | 0.0014 | 1.33 | 0.08 | 0.305 | 0.039 |
| 9 | M | 5 | 411 | 27 | 0.032 | 0.006 | 0.0077 | 0.0016 | 1.53 | 0.16 | 0.373 | 0.049 |

TABLE NO. 5- MEAN TERMINAL BODY WEIGHTS, ORGAN WEIGHTS, ORGAN/BODY WEIGHT RATIOS, AND STANDARD DEVIATIONS FOR MALE AND FEMALE ALBINO RATS.

SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS

| | | | BODY WEIGHT | | LIVER | | | | SPLEEN | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GROUP NUMBER | SEX | N | WEIGHT G. | S G. | WEIGHT G. | S G. | RATIO % | S % | WEIGHT G. | S G. | RATIO % | S % |
| 1 | M | 5 | 459 | 30 | 12.31 | 0.94 | 2.69 | 0.29 | 0.52 | 0.08 | 0.11 | 0.02 |
| 2 | M | 5 | 437 | 33 | 13.40 | 2.78 | 3.05 | 0.43 | 0.49 | 0.10 | 0.11 | 0.02 |
| 3 | M | 5 | 440 | 37 | 14.14 | 0.99 | 3.23 | 0.38 | 0.56 | 0.06 | 0.13 | 0.01 |
| 4 | M | 1 | 228 | 0 | 9.80 | 0.00 | 4.30 | 0.00 | 0.35 | 0.00 | 0.15 | 0.00 |
| 5 | M | 5 | 438 | 68 | 15.24 | 6.05 | 3.39 | 0.84 | 0.60 | 0.07 | 0.14 | 0.02 |
| 6 | M | 5 | 435 | 15 | 13.69 | 1.32 | 3.15 | 0.22 | 0.63 | 0.19 | 0.15 | 0.04 |
| 8 | M | 5 | 439 | 42 | 11.46 | 1.17 | 2.61 | 0.10 | 0.84 | 0.43 | 0.19 | 0.09 |
| 9 | M | 5 | 411 | 27 | 13.46 | 1.80 | 3.27 | 0.39 | 0.64 | 0.20 | 0.15 | 0.04 |

TABLE NO. 5- MEAN TERMINAL BODY WEIGHTS, ORGAN WEIGHTS, ORGAN/BODY WEIGHT RATIOS, AND STANDARD DEVIATIONS FOR MALE AND FEMALE ALBINO RATS.

SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS

| | | | BODY WEIGHT | | KIDNEYS | | | | ADRENALS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GROUP NUMBER | SEX | N | WEIGHT G. | S G. | WEIGHT G. | S G. | RATIO % | S % | WEIGHT G. | S G. | RATIO % | S % |
| 1 | M | 5 | 459 | 30 | 2.97 | 0.34 | 0.648 | 0.074 | 0.071 | 0.006 | 0.016 | 0.00 |
| 2 | M | 5 | 437 | 33 | 2.91 | 0.44 | 0.662 | 0.047 | 0.064 | 0.011 | 0.015 | 0.00 |
| 3 | M | 5 | 440 | 37 | 3.39 | 0.24 | 0.772 | 0.050 | 0.068 | 0.004 | 0.016 | 0.00 |
| 4 | M | 1 | 228 | 0 | 1.82 | 0.00 | 0.798 | 0.000 | 0.042 | 0.000 | 0.018 | 0.00 |
| 5 | M | 5 | 438 | 68 | 3.00 | 0.51 | 0.684 | 0.033 | 0.060 | 0.013 | 0.014 | 0.00 |
| 6 | M | 5 | 435 | 15 | 2.85 | 0.30 | 0.657 | 0.067 | 0.057 | 0.004 | 0.013 | 0.00 |
| 8 | M | 5 | 439 | 42 | 3.03 | 0.20 | 0.692 | 0.047 | 0.053 | 0.005 | 0.012 | 0.00 |
| 9 | M | 5 | 411 | 27 | 3.47 | 0.18 | 0.846 | 0.072 | 0.071 | 0.008 | 0.017 | 0.00 |

452105

TABLE NO. 5- MEAN TERMINAL BODY WEIGHTS, ORGAN WEIGHTS, ORGAN/BODY WEIGHT RATIOS, AND STANDARD DEVIATIONS FOR MALE AND FEMALE ALBINO RATS.

SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS

| GROUP NUMBER | SEX | N | BODY WEIGHT G. | S G. | TESTES WEIGHT G. | S G. | RATIO % | S % |
|---|---|---|---|---|---|---|---|---|
| 1 | M | 5 | 459 | 30 | 4.95 | 0.57 | 1.08 | 0.09 |
| 2 | M | 5 | 437 | 33 | 4.83 | 0.37 | 1.11 | 0.11 |
| 3 | M | 5 | 440 | 37 | 4.53 | 0.67 | 1.03 | 0.10 |
| 4 | M | 1 | 228 | 0 | 3.60 | 0.00 | 1.58 | 0.00 |
| 5 | M | 5 | 438 | 68 | 4.70 | 0.65 | 1.08 | 0.06 |
| 6 | M | 5 | 435 | 15 | 4.89 | 0.25 | 1.13 | 0.03 |
| 8 | M | 5 | 439 | 42 | 4.06 | 0.94 | 0.920 | 0.179 |
| 9 | M | 5 | 411 | 27 | 4.49 | 0.76 | 1.10 | 0.20 |

D07

TABLE NO. 5- MEAN TERMINAL BODY WEIGHTS, ORGAN WEIGHTS, ORGAN/BODY WEIGHT RATIOS, AND STANDARD DEVIATIONS FOR MALE AND FEMALE ALBINO RATS.

SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS

| | | | BODY WEIGHT | | THYROID | | | | HEART | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GROUP NUMBER | SEX | N | WEIGHT G. | S G. | WEIGHT G. | S G. | RATIO % | S % | WEIGHT G. | S G. | RATIO % | S % |
| 1 | F | 5 | 266 | 34 | 0.025 | 0.006 | 0.0094 | 0.0024 | 0.77 | 0.03 | 0.29 | 0.03 |
| 2 | F | 5 | 247 | 15 | 0.024 | 0.001 | 0.0097 | 0.0010 | 0.72 | 0.10 | 0.29 | 0.04 |
| 3 | F | 5 | 248 | 20 | 0.023 | 0.005 | 0.0091 | 0.0017 | 0.94 | 0.33 | 0.38 | 0.11 |
| 5 | F | 5 | 246 | 16 | 0.029 | 0.009 | 0.012 | 0.004 | 0.76 | 0.12 | 0.31 | 0.05 |
| 6 | F | 5 | 259 | 13 | 0.028 | 0.005 | 0.011 | 0.002 | 0.84 | 0.17 | 0.32 | 0.06 |
| 8 | F | 5 | 270 | 16 | 0.032 | 0.004 | 0.012 | 0.001 | 0.86 | 0.09 | 0.32 | 0.04 |
| 9 | F | 4 | 262 | 21 | 0.029 | 0.007 | 0.011 | 0.003 | 0.75 | 0.14 | 0.29 | 0.04 |

TABLE NO. 5- MEAN TERMINAL BODY WEIGHTS, ORGAN WEIGHTS, ORGAN/BODY WEIGHT RATIOS, AND STANDARD DEVIATIONS FOR MALE AND FEMALE ALBINO RATS.

SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS

| GROUP NUMBER | SEX | N | BODY WEIGHT G. | S G. | LIVER WEIGHT G. | S G. | LIVER RATIO % | S % | SPLEEN WEIGHT G. | S G. | SPLEEN RATIO % | S % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F | 5 | 266 | 34 | 6.90 | 0.54 | 2.61 | 0.28 | 0.46 | 0.05 | 0.18 | 0.04 |
| 2 | F | 5 | 247 | 15 | 6.33 | 0.75 | 2.56 | 0.23 | 0.41 | 0.03 | 0.16 | 0.02 |
| 3 | F | 5 | 248 | 20 | 7.03 | 0.51 | 2.83 | 0.04 | 0.35 | 0.08 | 0.14 | 0.03 |
| 5 | F | 5 | 246 | 16 | 7.06 | 1.43 | 2.87 | 0.62 | 0.43 | 0.12 | 0.17 | 0.04 |
| 6 | F | 5 | 259 | 13 | 7.69 | 0.57 | 2.97 | 0.16 | 0.45 | 0.06 | 0.17 | 0.03 |
| 8 | F | 5 | 270 | 16 | 7.53 | 0.72 | 2.79 | 0.16 | 0.45 | 0.06 | 0.17 | 0.02 |
| 9 | F | 4 | 262 | 21 | 8.17 | 1.21 | 3.11 | 0.26 | 0.58 | 0.11 | 0.22 | 0.05 |

TABLE NO. 5- MEAN TERMINAL BODY WEIGHTS, ORGAN WEIGHTS, ORGAN/BODY WEIGHT RATIOS, AND STANDARD DEVIATIONS FOR MALE AND FEMALE ALBINO RATS.

SPRAGUE DAWLEY RATS RECEIVING AVASTAB AND THERMOLITE FOR 13 WEEKS

| GROUP NUMBER | SEX | N | BODY WEIGHT | | KIDNEYS | | | | ADRENALS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WEIGHT G. | S G. | WEIGHT G. | S G. | RATIO % | S % | WEIGHT G. | S G. | RATIO % | S % |
| 1 | F | 5 | 266 | 34 | 1.72 | 0.19 | 0.648 | 0.040 | 0.074 | 0.010 | 0.028 | 0.002 |
| 2 | F | 5 | 247 | 15 | 1.63 | 0.12 | 0.662 | 0.051 | 0.077 | 0.013 | 0.031 | 0.004 |
| 3 | F | 5 | 248 | 20 | 1.72 | 0.21 | 0.690 | 0.040 | 0.074 | 0.005 | 0.030 | 0.002 |
| 5 | F | 5 | 246 | 16 | 1.56 | 0.11 | 0.635 | 0.049 | 0.073 | 0.008 | 0.030 | 0.003 |
| 6 | F | 5 | 259 | 13 | 1.83 | 0.15 | 0.704 | 0.030 | 0.085 | 0.005 | 0.033 | 0.003 |
| 8 | F | 5 | 270 | 16 | 1.77 | 0.14 | 0.656 | 0.031 | 0.086 | 0.011 | 0.032 | 0.005 |
| 9 | F | 4 | 262 | 21 | 2.29 | 0.18 | 0.880 | 0.118 | 0.100 | 0.013 | 0.0382 | 0.0042 |

HISTOPATHOLOGICAL EVALUATION OF MALE AND FEMALE RATS

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93348<br>Group 1<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal pericholangitis. |
| Kidney: | |
| No abnormalities observed. | Minimal focal chronic interstitial nephritis.<br>Minimal granularity of tubular epithelial cytoplasm. |
| **Animal No. 93349<br>Group 1<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal focal mononuclear cell infiltration. |
| Kidney: | |
| No abnormalities observed. | Slight tubular vacuolation and epithelial granularity. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93350<br>Group 1<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal individualization of hepatocytes. |
| Kidney: | |
| No abnormalities observed. | Slight cytoplasmic granularity and vacuolation. |
| Spleen: | |
| Surface appeared rough. | Not remarkable. |
| **Animal No. 93351<br>Group 1<br>Male** | |
| Liver: | |
| No abnormalities observed. | Not remarkable. |
| Kidney: | |
| No abnormalities observed. | Slight cytoplasmic granularity.<br>Slight tubular and glomerular vacuolation.<br>Dark eosinophilic casts were present in occassional tubules. |

D 12



| GROSS | MICROSCOPIC |
|---|---|
| Animal No. 93352<br>Group 1<br>Male | |
| Liver: | |
| No abnormalities observed. | Occassional hepatocyte nuclei had a dark staining pyknotic appearance. |
| Kidney: | |
| No abnormalities observed. | Minimal granularity of tubular epithelial cytoplasm. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93358<br>Group 2<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal focal nonsuppurative hepatitis.<br>Minimal nonsuppurative pericholangitis.<br>Minimal nuclear pyknosis. |
| Kidney: | |
| Pelvis of one kidney dilated. | Slight unilateral pelvic dilatation.<br>Slight diffuse tubular and glomerular vacuolation.<br>Slight epithelial granularity. |
| **Animal No. 93359<br>Group 2<br>Male** | |
| Liver: | |
| Dark red with pale brown areas.<br>Lobes thickened. | Minimal nuclear pyknosis. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic granularity. |
| Lung: | |
| Dark pink with red cyst-like areas. | Slight peribronchial and perivascular lymphoid hyperplasia. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93359<br>Group 2<br>Male** | |
| **Continued** | |
| Lung - continued | Slight medial vascular hypertrophy. |
| | Slight focal interstitial pneumonitis. |
| | Slight medial vacuolation. |
| **Animal No. 93360<br>Group 2<br>Male** | |
| Liver: | |
| No abnormalities observed. | Slight nuclear pyknosis. |
| Kidney: | |
| Dark red zone between cortex | Slight nuclear pyknosis. |
| and medulla. | Slight cytoplasmic granularity. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93361<br>Group 2<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| Kidney: | |
| No abnormalities observed. | Slight cytoplasmic granularity.<br>Minimal tubular and glomerular vacuolation. |
| **Animal No. 93362<br>Group 2<br>Male** | |
| Liver: | |
| No abnormalities observed. | Slight nuclear pyknosis. |
| Kidney: | |
| Medulla dark red. | Minimal nuclear pyknosis.<br>Slight cytoplasmic granularity. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93368<br>Group 3<br>Male** | |
| Liver: | |
| No abnormalities observed. | Slight diffuse nuclear pyknosis. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic granularity.<br>Slight tubular and glomerular vacuolation. |
| **Animal No. 93369<br>Group 3<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal nonsuppurative pericholangitis.<br>Slight centrolobular hepatocyte vacuolation.<br>Minimal diffuse nuclear pyknosis. |
| Kidney: | |
| Pelvis dilated. | Slight dilated pelvis. |
| Dark red zone between cortex and medulla. | Slight diffuse cytoplasmic granularity and nuclear pyknosis. |
| Lung: | |
| Dark red areas on all lobes. | Slight peribronchial and perivascular lymphoid hyperplasia. |

E 03



| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93370<br>Group 3<br>Male** | |
| Liver: | |
| No abnormalities observed. | Slight centrolobular hepatocyte vacuolation.<br>There were occassional centrolobular accumulations of mononuclear cells. |
| Kidney: | |
| No abnormalities observed. | Minimal nuclear pyknosis.<br>Minimal cast formation.<br>Minimal tubular and glomerular vacuolation.<br>Minimal cytoplasmic granularity. |
| **Animal No. 93371<br>Group 3<br>Male** | |
| Liver: | |
| No abnormalities observed. | Slight diffuse pyknosis.<br>Minimal focal mononuclear cell infiltration.<br>Minimal nonsuppurative pericholangitis. |
| Kidney: | |
| Cortex wide. | Minimal nuclear pyknosis.<br>Slight cytoplasmic granularity. |

E 04



| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93372<br>Group 3<br>Male** | |
| Liver: | |
| No abnormalities observed. | No section. |
| Kidney: | |
| No abnormalities observed. | No section. |
| Lung: | |
| Dark red areas on all lobes. | No section. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93378<br>Group 4<br>Male** | |
| Liver: | |
| No abnormalities observed. | No section. |
| Kidney: | |
| Medulla dark pink. | No section. |
| Adrenal: | |
| Dark red. | No section. |
| **Animal No. 93379<br>Group 4<br>Male** | |
| Liver: | |
| No abnormalities observed. | Not remarkable. |
| Kidney: | |
| Appeared small and had a pink raised zone between cortex and medulla. | Moderate nuclear pyknosis.<br>Moderate vacuolation of cytoplasm of occassiona tubules. |
| Adrenal: | |
| Dark red. | Moderate diffuse hemorrhage. |
| Lung: | |
| Dark red areas on all lobes. | Moderate congestion. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93379<br>Group 4<br>Male** | |
| **Continued** | |
| **Spleen:** | |
| Appeared small. | Had a contracted appearance with some cellular depletion. |
| **Animal No. 93380<br>Group 4<br>Male** | |
| **Liver:** | |
| Dark red. | Not remarkable. |
| **Kidney:** | |
| Medulla dark pink. | Slight nuclear pyknosis and cytoplasmic vacuolation in scattered collections of tubules. |
| **Adrenal:** | |
| Dark red. | Slight focal hemorrhage. |

E 07



| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93381<br>Group 4<br>Male** | |
| **Liver:** | |
| No abnormalities observed. | Not remarkable. |
| **Kidney:** | |
| No abnormalities observed. | Not remarkable. |
| **Adrenal:** | |
| Appeared dark red. | Moderate cortical hemorrhage. |
| **Animal No. 93382<br>Group 4<br>Male** | |
| **Liver:** | |
| No abnormalities observed. | Slight diffuse hepatocyte vacuolation. |
| **Kidney:** | |
| No abnormalities observed. | Moderate diffuse cytoplasmic granularity. |
| | Minimal cytoplasmic and glomerular vacuolation. |
| **Adrenal:** | |
| Appeared small. | Appeared to be within normal limits. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93388<br>Group 5<br>Male** | |
| Liver: | |
| No abnormalities observed. | Not remarkable. |
| Kidney: | |
| No abnormalities observed. | Slight cast formation. |
| Adrenal: | |
| Appeared small. | Appeared to be within normal limits. |
| **Animal No. 93389<br>Group 5<br>Male** | |
| Liver: | |
| Dark purple. | Slight diffuse nuclear pyknosis. |
| Kidney: | |
| Dark red zone between cortex and medulla. | Slight focal chronic interstitial nephritis.<br>Slight diffuse nuclear pyknosis and cytoplasmic granularity.<br>Slight cast formation. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93390<br>Group 5<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| Kidney: | |
| Dark red zone between cortex and medulla. | Minimal diffuse nuclear pyknosis.<br>Minimal cytoplasmic vacuolation. |
| **Animal No. 93391<br>Group 5<br>Male** | |
| Liver: | |
| Caudate lobe firm. | Minimal nuclear pyknosis. |
| Kidney: | |
| Had a greenish tinge. | Slight tubular epithelial vacuolation.<br>Slight cytoplasmic granularity.<br>Minimal cast formation. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93392<br>Group 5<br>Male** | |
| Liver: | |
| Appeared enlarged. | Slight peripheral lobular hepatocyte vacuola |
| | Slight peripheral lobular nuclear pyknosis. |
| Kidney: | |
| Dark red zone between cortex and medulla. | Minimal focal chronic interstitial nephritis |
| | Slight nuclear pyknosis. |
| | Slight cytoplasmic granularity. |
| Spleen: | |
| Surface rough. | Not remarkable. |
| Lung: | |
| Dark red. | Minimal peribronchial and perivascular lymphoid hyperplasia. |

E 11



| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93398<br>Group 6<br>Male** | |
| Liver: | |
| No abnormalities observed. | Slight diffuse hepatocyte enlargement.<br>Minimal bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Not remarkable. |
| Spleen: | |
| Surface rough. | Not remarkable. |
| **Animal No. 93399<br>Group 6<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal diffuse hepatocyte enlargement.<br>Minimal bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Slight vacuolation of tubular epithelial cells at the cortical medullary junction.<br>Minimal focal regenerative tubular epithelium. |
| Spleen: | |
| Surface rough. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93400<br>Group 6<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal hepatocyte enlargement.<br>Slight bile duct proliferation and non-suppurative pericholangitis. |
| Kidney: | |
| No abnormalities observed. | Not remarkable. |
| **Animal No. 93401<br>Group 6<br>Male** | |
| Liver: | |
| No abnormalities observed. | Slight bile duct proliferation.<br>Minimal hepatocyte enlargement. |
| Kidney: | |
| No abnormalities observed. | Slight cast formation. |

E 13



| GROSS | MICROSCOPIC |
|---|---|

Animal No. 93402
Group 6
Male

Liver:

No abnormalities observed.

Minimal bile duct proliferation.

Minimal nuclear pyknosis.

Minimal hepatocyte enlargement.

Kidney:

No abnormalities observed.

Minimal cast formation.

E 14



| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93408<br>Group 7<br>Male** | |
| **Liver:** | |
| Contained yellow areas on all lobes. | There were large areas in which there was complete necrosis of all hepatic elements. There was also moderately severe proliferation of bile ducts with an associated mild mixed inflammatory cell infiltrate. |
| **Kidney:** | |
| No abnormalities observed. | Moderate tubular vacuolation and nuclear pyknosis. There was an enlargement of epithelial size at the cortical medullary junction with a suggestion of associated necrosis. |
| **Adrenal:** | |
| Dark red. | Moderately severe hemorrhage of one adrenal. |
| **Stomach:** | |
| Contained dark red fluid. | There was focal denudation of the surface epithelium with underlying congestion. |

| GROSS | MICROSCOPIC |
|---|---|
| Animal No. 93409<br>Group 7<br>Male | |
| Liver: | |
| Dark red. | There was a large area in which there was complete necrosis of hepatic elements.<br>Moderate bile duct proliferation. |
| Kidney: | |
| Poor differentiation between cortex and medulla. | Moderately severe nuclear pyknosis and cytoplasmic vacuolation.<br>There was a focal area in which there was prominent granularity of cytoplasmic epithelium and necrosis.<br>Minimal hypertrophy of epithelial cells at the cortical medullary junction. |
| Adrenal: | |
| Dark red. | Moderately severe hemorrhage and necrosis. |

F 02



| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93410<br>Group 7<br>Male** | |
| Liver: | |
| Margins were transluscent. | There were large areas composed of eosinophilic homogeneous material, presumeably representing complete necrosis of hepatic elements. |
| | Minimal bile duct proliferation. |
| Kidney: | |
| Medulla wide. | Moderately severe tubular vacuolation. |
| Outer edge thin. | Moderate nuclear pyknosis. |
| | Slight hypertrophy of tubular epithelial cells at the cortical medullary junction. |
| Adrenal: | |
| Dark red. | Moderate hemorrhage. |
| Urinary Bladder: | |
| Distended and walls thickened. | Epithelium desquamated, presumeably due to autolysis. |
| Brain: | |
| Soft and appeared pale. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93411<br>Group 7<br>Male** | |
| Liver: | |
| No abnormalities observed. | There were small focal areas of necrosis.<br>Minimal bile duct proliferation. |
| Kidney: | |
| Medulla appeared dark red. | Moderate nuclear pyknosis and tubular epithelial vacuolation. |
| Adrenal: | |
| Appeared dark red. | Slight congestion. |

F 04



| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93412<br>Group 7<br>Male** | |
| Liver: | |
| Margins transluscent. | Slight enlargement of hepatocytes primarily in the peripheral portions of the lobules.<br>Minimal proliferation of bile ducts.<br>Moderate diffuse congestion. |
| Kidney: | |
| Medulla dark red. | Moderately severe nuclear pyknosis.<br>Slight cytoplasmic granularity and vacuolation.<br>Slight hypertrophy of occassional tubular epithelial cells. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93418<br>Group 8<br>Male** | |
| Liver: | |
| No abnormalities observed. | Not remarkable. |
| Kidney: | |
| No abnormalities observed. | Not remarkable. |
| Spleen: | |
| Surface rough. | Not remarkable. |
| **Animal No. 93419<br>Group 8<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Minimal mineral deposition. |
| Spleen: | |
| Surface appeared rough. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93420<br>Group 8<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal hepatocyte enlargement. |
| Kidney: | |
| No abnormalities observed. | Not remarkable. |
| **Animal No. 93421<br>Group 8<br>Male** | |
| Liver: | |
| No abnormalities observed. | Not remarkable. |
| Kidney: | |
| No abnormalities observed. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93422<br>Group 8<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal bile duct proliferation. There was a suggestion of diffuse hepatocyte enlargement. |
| Kidney: | |
| No abnormalities observed. | Minimal focal interstitial nephritis. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93428<br>Group 9<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal diffuse hepatocyte enlargement. |
| | Minimal bile duct proliferation. |
| Kidney: | |
| Cortex wide. | Moderate chronic interstitial nephritis |
| Medulla yellowish. | and regenerative tubular epithelium. |
| Cut surface striated. | Slight mineral deposition at the cortical |
| | medullary junction. |
| Spleen: | |
| Appeared rough. | Moderate pigment deposition. |
| Lung: | |
| Dark red areas on all lobes. | Moderate congestion. |
| | Slight medial vascular hypertrophy. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93429<br>Group 9<br>Male** | |
| Liver: | |
| No abnormalities observed. | Slight diffuse hepatocyte enlargement. |
| Kidney: | |
| Cortex wide. | Slight focal chronic interstitial nephritis |
| Medulla narrow and dark tan. | and regenerative epithelium. |
| **Animal No. 93430<br>Group 9<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal hepatocyte enlargement. |
| | Minimal bile duct proliferation. |
| Kidney: | |
| Cortex wide. | Moderate chronic interstitial nephritis |
| Medulla narrow and dark tan | and regenerative tubular epithelium. |
| with cyst-like areas. | There were occassional dilated tubules. |
| Lung: | |
| Dark red areas on all lobes. | Moderate peribronchial and perivascular |
| | lymphoid hyperplasia. |
| | Minimal focal interstitial pneumonitis. |

F 10



| GROSS | MICROSCOPIC |
|---|---|

Animal No. 93431
Group 9
Male

Liver:

Caudate lobe firm and dark red.

One section, presumeably representing the caudate lobe, was essentially completely necrotic with small numbers of viable hepatocytes present in portal areas.

In the same area, there was moderate bile duct proliferation and a mixed inflammatory cell infiltrate.

In another more representative liver section, there was minimal diffuse hepatocyte enlargement.

Kidney:

Cortex wide.

Medulla yellowish-pink with small cyst-like areas.

Moderately severe chronic interstitial nephriti and regenerative tubular epithelium.

Moderate tubular dilatation.

Slight mineral deposition.

F 11



| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93432<br>Group 9<br>Male** | |
| Liver: | |
| Lobes appeared thickened. | Minimal enlargement of hepatocytes which were somewhat more apparent in the central portions of the liver lobule. |
| Kidney: | |
| Cortex wide.<br>Medulla yellowish-pink with cystic areas. | Moderate chronic interstitial nephritis with regenerative epithelium and tubular dilatation. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93438<br>Group 10<br>Male** | |
| Liver: | |
| No abnormalities observed. | Slight diffuse hepatocyte enlargement. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic vacuolation and nuclear pyknosis of scattered tubules. |
| Adrenal: | |
| Appeared dark red. | Minimal focal hemorrhage. |
| Pituitary: | |
| Appeared dark red. | Moderate congestion. |
| **Animal No. 93439<br>Group 10<br>Male** | |
| Liver: | |
| No abnormalities observed. | Minimal diffuse hepatocyte enlargement. |
| Kidney: | |
| Outer medulla dark red. | Moderate enlargement of tubular epithelial cells at the cortical medullary junction. There was also nuclear pyknosis and cytoplasmic vacuolation of cells at the cortical medullary junction. |
| Spleen: | |
| Appeared small and pale. | Moderate lymphoid depletion. |

F 13



| GROSS | MICROSCOPIC |
|---|---|
| Animal No. 93439<br>Group 10<br>Male<br><br>Continued | |
| Adrenal: | |
| Dark pinkish-grey. | Minimal focal vacuolation of occassional cortical epithelial cells. |
| Pituitary: | |
| Dark red. | Moderate congestion. |
| Brain: | |
| Surface covered with dark red blood-like fluid. | Slight congestion. |
| Vessel appeared dilated. | |
| Stomach: | |
| Distended with gas. | Not remarkable. |
| Small Intestine: | |
| Distended with gas. | Not remarkable. |

F 14



| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93440<br>Group 10<br>Male** | |
| Liver: | |
| No abnormalities observed. | Moderately severe diffuse nuclear pyknosis and karyorrhexis. |
| Kidney: | |
| No abnormalities observed. | Autolysis. |
| Lung: | |
| Dark red and collapsed. | Moderate congestion. |
| **Animal No. 93441<br>Group 10<br>Male** | |
| Liver: | |
| Margins transluscent. | Not remarkable. |
| All lobes muddy-red color. | |
| Kidney: | |
| Medulla dark red. | Minimal focal regenerative epithelium. |
| | Moderate diffuse nuclear pyknosis and tubular epithelial vacuolation. |
| | Slight cast formation. |
| Adrenal: | |
| Dark red. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93442<br>Group 10<br>Male** | |
| Liver: | |
| No abnormalities observed. | Moderately severe diffuse nuclear pyknosis and karyorrhexis. |
| Kidney: | |
| No abnormalities observed. | Autolysis. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93353<br>Group 1<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight diffuse nuclear pyknosis. |
| Kidney: | |
| No abnormalities observed. | Slight nuclear pyknosis. |
| | Minimal cytoplasmic granularity. |
| Lung: | |
| Dark red areas on all lobes. | Aspirated blood. |
| **Animal No. 93354<br>Group 1<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal focal nonsuppurative hepatitis. |
| | Minimal diffuse nuclear pyknosis. |
| | Minimal nonsuppurative pericholangitis. |
| | Minimal bile duct proliferation. |
| Kidney: | |
| Pelvis dilated. | Slight dilated pelvis. |
| | Minimal chronic interstitial nephritis. |
| | Slight nuclear pyknosis. |
| Spleen: | |
| Surface appeared rough. | Moderate deposition of brown pigment throughout the parenchyma. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93355<br>Group 1<br>Female** | |
| Liver: | |
| No abnormalities observed. | Moderate diffuse nuclear pyknosis.<br>Minimal bile duct proliferation. |
| Kidney: | |
| Greenish tinge. | Slight granularity of tubular epithelial cytoplasm.<br>Slight nuclear pyknosis. |
| **Animal No. 93356<br>Group 1<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal focal nonsuppurative hepatitis.<br>Slight diffuse nuclear pyknosis. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic granularity. |

| GROSS | MICROSCOPIC |
|---|---|

Animal No. 93357
Group 1
Female

Liver:

No abnormalities observed.

Slight diffuse nuclear pyknosis.

Minimal focal mononuclear cell infiltration.

Kidney:

No abnormalities observed.

Minimal cytoplasmic granularity.

Minimal nuclear pyknosis.

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93363<br>Group 2<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Minimal nuclear pyknosis.<br>Slight cytoplasmic granularity. |
| **Animal No. 93364<br>Group 2<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic granularity. |
| Spleen: | |
| Surface appeared rough. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93365<br>Group 2<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic granularity. |
| Spleen: | |
| Surface appeared rough. | Not remarkable. |
| **Animal No. 93366<br>Group 2<br>Female** | |
| Liver: | |
| No abnormalities observed. | Not remarkable. |
| Kidney: | |
| Dilated pelvis. | Slight cytoplasmic granularity. |
| Lung: | |
| Dark red areas on all lobes. | Aspirated blood.<br>Slight peribronchial and perivascular lymphoid hyperplasia. |

| GROSS | MICROSCOPIC |
|---|---|
| Animal No. 93367<br>Group 2<br>Female | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis.<br>Minimal nonsuppurative pericholangitis. |
| Kidney: | |
| No abnormalities observed. | Slight cytoplasmic granularity. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93373<br>Group 3<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| | Minimal bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Minimal focal chronic interstitial nephritis. |
| | Minimal cytoplasmic granularity. |
| **Animal No. 93374<br>Group 3<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight nuclear pyknosis. |
| | Slight bile duct proliferation. |
| | Minimal amount of nonsuppurative pericholangit |
| Kidney: | |
| Dark brown zone at cortical medullary junction. | Slight diffuse cytoplasmic granularity. |
| Pancreas: | |
| Brownish color with small areas. | Appeared to be within normal limits. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93375<br>Group 3<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal bile duct proliferation.<br>Minimal focal nonsuppurative hepatitis. |
| Kidney: | |
| No abnormalities observed. | Slight cytoplasmic granularity. |
| Pancreas: | |
| Brown with small white areas. | Tissue appeared to be within normal limits. |
| **Animal No. 93376<br>Group 3<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Minimal diffuse cytoplasmic granularity. |
| Pancreas: | |
| Brown with small white area. | The cytoplasm was somewhat more prominent in the areas immediately around the islets. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93377<br>Group 3<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight bile duct proliferation. |
| Kidney: | |
| Greenish tinge. | Slight pelvic dilatation. |
| Pelvis dilated. | Minimal cytoplasmic granularity. |
| Lung: | |
| Dark red areas on all lobes. | Aspirated blood. |
| Pancreas: | |
| Brown with small white area. | Appeared to be within normal limits. |
| Uterus: | |
| Distended with clear fluid. | Distended lumen. |

G 11



| GROSS | MICROSCOPIC |
|---|---|
| Animal No. 93383<br>Group 4<br>Female | |
| Liver: | |
| No abnormalities observed. | No section. |
| Kidney: | |
| Appeared dark red. | Minimal nuclear pyknosis and cytoplasmic vacuolation in occassional scattered tubules. |
| Adrenal: | |
| Appeared black in color. | Moderate hemorrhage. |
| Lung: | |
| Bright red in color. | Moderate congestion. |
| Stomach: | |
| Pyloric portion appeared red. | Minimal mucosal hemorrhage. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93384<br>Group 4<br>Female** | |
| Liver: | |
| Appeared black. | Slight diffuse nuclear pyknosis.<br>Moderate bile duct proliferation with an associated mixed inflammatory cell infiltrate. |
| Kidney: | |
| Dark red. | Moderate nuclear pyknosis and cytoplasmic vacuolation. |
| Adrenal: | |
| Black. | Moderately severe hemorrhage.<br>Moderate nuclear pyknosis and karyorrhexis. |
| Lung: | |
| Dark red. | Slight congestion. |
| Brain: | |
| Surface covered with a small amount of dark red material. | Slight congestion. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93385<br>Group 4<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight diffuse nuclear pyknosis and karyorrhexis. |
| Kidney: | |
| No abnormalities observed. | Moderate nuclear pyknosis and cytoplasmic vacuolation. |
| Adrenal: | |
| Appeared black. | Moderately severe hemorrhage. |
| Lung: | |
| Dark red. | Moderate congestion. |
| Stomach: | |
| Pyloric portion appeared red. | Slight mucosal congestion. |
| **Animal No. 93386<br>Group 4<br>Female** | |
| Liver: | |
| No abnormalities observed. | Not remarkable. |
| Kidney: | |
| No abnormalities observed. | Minimal nuclear pyknosis and cytoplasmic vacuolation. |
| Adrenal: | |
| Dark red. | Slight congestion. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93386<br>Group 4<br>Female** | |
| **Continued** | |
| Mesenteric Lymph Node: | |
| Dark in color. | Moderate hemorrhage. |
| **Animal No. 93387<br>Group 4<br>Female** | |
| Liver: | |
| Had friable consistency. | Not remarkable. |
| Kidney: | |
| No abnormalities observed. | Minimal nuclear pyknosis and cytoplasmic vacuolation. |
| Adrenal: | |
| Dark red. | Slight focal hemorrhage. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93393<br>Group 5<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal bile duct proliferation.<br>Minimal diffuse nuclear pyknosis. |
| Kidney: | |
| No abnormalities observed. | Slight cytoplasmic granularity. |
| **Animal No. 93394<br>Group 5<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal diffuse nuclear pyknosis.<br>Minimal bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic granularity. |
| Pancreas: | |
| Brown with small white areas. | Appeared to be within normal limits. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93395<br>Group 5<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis.<br>Minimal bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Minimal focal regenerative tubular epithelium.<br>Minimal cytoplasmic granularity. |
| Lung: | |
| Dark red areas on all lobes. | Aspirated blood.<br>Slight peribronchial and perivascular lymphoid hyperplasia.<br>Slight focal interstitial pneumonitis with epithelial hyperplasia.<br>Moderate medial vascular hypertrophy. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93396<br>Group 5<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic granularity. |
| Lung: | |
| Dark red areas on all lobes. | Aspirated blood. |
| Pancreas: | |
| Brown with small white areas. | Appeared to be within normal limits. |
| **Animal No. 93397<br>Group 5<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal focal nonsuppurative hepatitis. |
| Kidney: | |
| Dark red zone at cortical medullary junction. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93403<br>Group 6<br>Female** | |
| Liver: | |
| No abnormalities observed. | Not remarkable. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic granularity. |
| **Animal No. 93404<br>Group 6<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal bile duct proliferation.<br>Minimal focal mononuclear cell infiltration. |
| Kidney: | |
| Medulla dark pink. | Slight cytoplasmic granularity. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93405<br>Group 6<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal diffuse nuclear pyknosis.<br>Minimal bile duct proliferation. |
| Kidney: | |
| No abnormalities observed. | Slight cytoplasmic granularity. |
| **Animal No. 93406<br>Group 6<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal bile duct proliferation. |
| Kidney: | |
| Cortex wide.<br>Medulla dark pink. | Minimal cytoplasmic granularity. |
| **Animal No. 93407<br>Group 6<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal nonsuppurative pericholangitis.<br>Slight bile duct proliferation. |
| Kidney: | |
| Dark brown zone at cortical medullary junction. | Slight cytoplasmic granularity. |

| GROSS | MICROSCOPIC |
|---|---|
| Animal No. 93407<br>Group 6<br>Female<br><br>Continued | |
| Uterus: | |
| Distended with clear fluid. | Distended lumen. |
| Skin: | |
| Area of cutaneous irritation on the right side of the neck. | Moderate dermatitis with surface exudation and acanthosis. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93413<br>Group 7<br>Female** | |
| Liver: | |
| Mottled with yellow areas on all lobes. | Moderately severe bile duct proliferation with associated focal areas of necrosis and a mixed inflammatory cell infiltrate. |
| Kidney: | |
| Medulla appeared dark red. | Slight enlargement of tubular epithelial cells at the cortical medullary junction. Minimal nuclear pyknosis and cytoplasmic vacuolation. |
| Adrenal: | |
| Appeared dark red. | Moderate diffuse hemorrhage. |
| **Animal No. 93414<br>Group 7<br>Female** | |
| Liver: | |
| All lobes thickened. Margins rounded. Lateral and caudate lobes adhered to each other. | Severe diffuse bile duct proliferation with associated fibrosis and inflammatory cell infiltration. There were occassional small focal areas of necrosis of the parenchyma. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93414<br>Group 7<br>Female<br><br>Continued** | |
| Kidney: | |
| Dark red zone between cortex and medulla. | Moderate nuclear pyknosis.<br>Slight cytoplasmic vacuolation. |
| **Animal No. 93415<br>Group 7<br>Female** | |
| Liver: | |
| No abnormalities observed. | Moderate bile duct proliferation with associated necrosis and inflammatory cell infiltration.<br>There were also occassional focal areas of complete necrosis of the hepatic parenchyma. |
| Kidney: | |
| Medulla appeared dark red. | Moderate diffuse nuclear pyknosis and cytoplasmic vacuolation. |
| Adrenal: | |
| Appeared dark red. | Moderate hemorrhage. |
| Small Intestine: | |
| Appeared red. | Not remarkable. |
| Pancreas: | |
| No abnormalities observed. | A moderate mixed inflammatory cell infiltrate. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93415<br>Group 7<br>Female** | |
| Continued | |
| Large Intestine: | |
| Appeared red in color. | Not remarkable. |
| **Animal No. 93416<br>Group 7<br>Female** | |
| Liver: | |
| Yellow raised area near margin on right lateral lobe. | There were several moderate sized areas of complete necrosis of the hepatic parenchyma. Slight bile duct proliferation with some associated necrosis. |
| Kidney: | |
| Appeared dark red. | Moderate diffuse nuclear pyknosis and cytoplasmic vacuolation. |
| Adrenal: | |
| Appeared dark red. | Moderately severe hemorrhage. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93417<br>Group 7<br>Female** | |
| Liver: | |
| Yellowish tinge.<br>Margins transluscent. | There were several large areas in which there was complete necrosis of hepatic elements.<br>Moderate bile duct proliferation. |
| Kidney: | |
| Dark red zone between cortex and medulla.<br>Medulla dark pink. | Slight enlargement of tubular epithelial cells of the cortical medullary junction with a small amount of associated necrosis. |
| Adrenal: | |
| Dark red. | Moderately severe hemorrhage. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93423<br>Group 8<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal focal mononuclear cell infiltration.<br>Slight nuclear pyknosis. |
| Kidney: | |
| Cortex pitted. | Minimal cytoplasmic granularity. |
| Lung: | |
| Dark red areas on all lobes. | Slight peribronchial lymphoid hyperplasia.<br>Aspirated blood. |
| Ovaries: | |
| Cyst present. | A clear cystic space was present around the ovarian tissue. |
| **Animal No. 93424<br>Group 8<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| Kidney: | |
| Dark brown zone at cortical medullary junction. | Slight cytoplasmic granularity. |
| Lung: | |
| Dark red area on all lobes. | Moderate peribronchial and perivascular lymphoid hyperplasia.<br>Slight congestion. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93425<br>Group 8<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight nuclear pyknosis. |
| Kidney: | |
| Medulla dark pink. | Minimal cytoplasmic granularity. |
| Lung: | |
| Dark red areas on all lobes. | Aspirated blood. |
| **Animal No. 93426<br>Group 8<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight nuclear pyknosis.<br>Minimal bile duct proliferation.<br>Minimal focal mononuclear cell infiltration. |
| Kidney: | |
| No abnormalities observed. | Minimal cytoplasmic granularity. |
| Pancreas: | |
| Brown with small white areas. | Appeared to be within normal limits. |

A 14



| GROSS | MICROSCOPIC |
|---|---|
| Animal No. 93427<br>Group 8<br>Female | |
| Liver: | |
| No abnormalities observed. | Not remarkable. |
| Kidney: | |
| Dark red zone at cortical medullary junction. | Slight cytoplasmic granularity.<br>Minimal nuclear pyknosis. |
| Lung: | |
| Dark red areas on all lobes. | Moderate peribronchial and perivascular lymphoi hyperplasia.<br>Aspirated blood. |
| Pancreas: | |
| Brown with small white areas. | Minimal focal nonsuppurative interstitial pancreatitis. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93433<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| Kidney: | |
| Cortex appeared wide. | Minimal chronic interstitial nephritis |
| Medulla was yellowish-tan. | and regenerative epithelium. |
| Cut surface appeared striated. | Minimal cytoplasmic granularity. |
| **Animal No. 93434<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight peripheral lobular hepatocyte vacuolation. |
| | Minimal enlargement of occassional hepatocytes. |
| Kidney: | |
| Striated raised grey area | Moderately severe nuclear pyknosis and |
| between cortex and medulla. | cytoplasmic vacuolation. |
| Wall of pelvis dilated. | |
| Lung: | |
| Left lobe dark red in color. | Moderate hemorrhage. |
| Brain: | |
| Soft consistency. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93434<br>Group 9<br>Female<br><br>Continued** | |
| Stomach: | |
| Dark red in color. | Not remarkable. |
| Intestines: | |
| Dark red in color. | Not remarkable. |
| **Animal No. 93435<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| Kidney: | |
| Cortex wide. | Minimal chronic interstitial nephritis and |
| Medulla appeared yellowish-tan. | regenerative epithelium. |
| Cut surface appeared striated. | Slight cytoplasmic granularity. |
| Adrenal: | |
| Appeared enlarged. | Slight diffuse vacuolation. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93436<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal focal nonsuppurative hepatitis. |
| | Slight nuclear pyknosis. |
| Kidney: | |
| Outer medulla pitted. | Slight chronic nephritis and regenerative |
| Pelvis contained small white | epithelium. |
| firm granular areas. | Slight granular cytoplasm. |
| | Slight mineral deposition. |
| Adrenal: | |
| Appeared enlarged. | Not remarkable. |
| **Animal No. 93437<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal focal nonsuppurative hepatitis. |
| Kidney: | |
| Greenish tinge. | Minimal dilated pelvis. |
| Surface of cortex appeared rough. | Minimal chronic interstitial nephritis. |
| Pelvis dilated. | Slight cytoplasmic granularity. |
| Cortex narrow. | |

| GROSS | MICROSCOPIC |
|---|---|
| Animal No. 93437<br>Group 9<br>Female<br><br>Continued | |
| Lung: | |
| Dark red areas on all lobes. | Slight peribronchial and perivascular lymphoid hyperplasia.<br><br>Aspirated blood. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93443<br>Group 10<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| Kidney: | |
| Cortex wide. | Moderate nuclear pyknosis and cytoplasmic |
| Outer medulla contained a pink raised zone. | vacuolation primarily in the inner cortex. |
| Adrenal: | |
| Dark red. | Slight congestion. |
| Spleen: | |
| Appeared small. | Slight lymphoid depletion. |
| Brain: | |
| Surface covered with a dark red substance. | Slight congestion. |
| Ovaries and Uterus: | |
| Appeared very small. | A cross section of uterus appeared small, but within normal limits. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93444<br>Group 10<br>Female** | |
| Liver: | |
| No abnormalities observed. | No section. |
| Kidney: | |
| No abnormalities observed. | No section. |
| **Animal No. 93445<br>Group 10<br>Female** | |
| Liver: | |
| No abnormalities observed. | Autolysis. |
| Kidney: | |
| No abnormalities observed. | Autolysis. |
| Lung: | |
| Dark red and collapsed. | Autolysis. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93446<br>Group 10<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight diffuse karyorrhexis. |
| Kidney: | |
| Appeared enlarged. | Slight nuclear pyknosis and cytoplasmic |
| Outer medulla had a dark | vacuolation. |
| pink raised zone. | Minimal enlargement of tubular epithelial |
| | cells at the cortical medullary junction. |
| Adrenal: | |
| Dark red. | Slight hemorrhage. |
| Spleen: | |
| Appeared small. | Slight lymphoid depletion. |
| Urinary Bladder: | |
| Lining dark pink. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No.: 93447<br>Group 10<br>Female** | |
| **Liver:** | |
| No abnormalities observed. | Moderate diffuse nuclear karyorrhexis. |
| **Kidney:** | |
| No abnormalities observed. | Autolysis. |
| **Adrenal:** | |
| Dark red. | Not remarkable. |
| **Brain:** | |
| No abnormalities observed. | Slight congestion. |
| **Spleen:** | |
| Appeared small. | Autolysis. |
| **Lung:** | |
| Dark red areas on all lobes. | Moderate congestion. |
| **Ovaries and Uterus:** | |
| Appeared very small. | Incomplete section. |

KEY FOR INCIDENCE TABLE

P = Present

N = No Section

A = Autolysis

X = Not Remarkable

1 = Minimal

2 = Slight

3 = Moderate

4 = Moderately Severe/High

5 = Severe/High

Project No. 452-105

DETAILED HISTOPATHOLOGY INCIDENCE TABLE

| Males | Group 1 | | | | | Group 2 | | | | | Group 3 | | | | | Group 4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Animal No. | 93348 | 93349 | 93350 | 93351 | 93352 | 93358 | 93359 | 93360 | 93361 | 93362 | 93368 | 93369 | 93370 | 93371 | 93372 | 93378 | 93379 | 93380 | 93381 | 93382 |
| LIVER | | | | X | | | | | | | | | | N | | N | X | X | X | |
| Pericholangitis/Nonsup | 1 | | | | | 1 | | | | | | 1 | | 1 | | | | | | |
| Pericholangitis/Subacute | | | | | | | | | | | | | | | | | | | | |
| Mono Infilt/General | | 1 | | | | | | | | | | | | 1 | | | | | | |
| Mono Infilt/Central | | | | | | | | | | | | | 2 | | | | | | | 2 |
| Vacuolation/Diffuse | | | | | | | | | | | | 2 | 2 | | | | | | | |
| Vacuolation/Central | | | | | | | | | | | | | | | | | | | | |
| Bile Duct Proliferation | | | 1 | | | | | | | | | | | | | | | | | |
| Individual Hepatocytes | | | | | | | | | | | | | | | | | | | | |
| Portal Fibrosis | | | | | 2 | 1 | 1 | 2 | 1 | 2 | | 2 | 1 | | 2 | | | | | |
| Pyknotic Nuclei | | | | | | | | | | | | | | | | | | | | |
| Karyorrhexis | | | | | | 1 | | | | | | | | | | | | | | |
| Hepatitis | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | |
| Necrosis/Caudate | | | | | | | | | | | | | | | | | | | | |
| Hepatocytomegaly | | | | | | | | | | | | | | | | | | | | |
| KIDNEY | | | | | | | | | | | | | | N | | N | | | X | |
| Interstitial Nephritis | 1 | | | | | | | | | | | | | | | | | | | |
| Dilated Pelvis | | | | | | 2 | | | | | | 2 | | | | | | | | |
| Pyknotic Nuclei | | | | | | | | 2 | | 1 | | 2 | 1 | 1 | | | 3 | 2 | | |
| Granular Cytoplasm | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | | | | | | 3 |
| Vacuolated Cytoplasm | | 2 | 2 | 2 | | 2 | | | 1 | | 2 | | 1 | | | | 3 | 2 | | 1 |
| Casts | | | | 2 | | | | | | | | | 1 | | | | | | | |
| Cellular Hypertrophy C/M | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | |
| Tubular Epithelial Hypertrophy | | | | | | | | | | | | | | | | | | | | |
| Regenerative Epithelium | | | | | | | | | | | | | | | | | | | | |
| Mineral Deposition | | | | | | | | | | | | | | | | | | | | |
| Tubular Dilatation | | | | | | | | | | | | | | | | | | | | |
| PITUITARY | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | |
| BRAIN | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | |
| MESENTERIC LYMPH NODE | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | |

| Males | Animal No. | Group 1 | | | | Group 2 | | | | Group 3 | | | | Group 4 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93348 | 93349 | 93350 | 93351 | 93352 | 93358 | 93359 | 93360 | 93361 | 93362 | 93368 | 93369 | 93370 | 93371 | 93372 | 93378 | 93379 | 93380 | 93381 | 93382 |
| SPLEEN | | | | | X | | | | | | | | | | | | | | | | |
| Lymphoid Depletion | | | | | | | | | | | | | | | | | 2 | | | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | |
| LUNG | | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | 3 | | | | |
| Peribronchial Lymph Hyper | | | | | | | | 2 | | | | | 2 | | | | | | | | |
| Perivascular Lymph Hyper | | | | | | | | 2 | | | | | 2 | | | | | | | | |
| Medial Hypertrophy | | | | | | | | 2 | | | | | | | | | | | | | |
| Interstitial Pneumonitis | | | | | | | | 2 | | | | | | | | | | | | | |
| Medial Vacuolation | | | | | | | | 2 | | | | | | | | | | | | | |
| Aspirated Blood | | | | | | | | | | | | | | | | | | | | | |
| OVARY AND UTERUS | | | | | | | | | | | | | | | | | | | | | |
| Distended Lumen | | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | |
| ADRENAL | | | | | | | | | | | | | | | | | | | | | X |
| Hemorrhage | | | | | | | | | | | | | | | | | 3 | 2 | 3 | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| STOMACH | | | | | | | | | | | | | | | | | | | | | |
| Epithelium Denuded | | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | | | | | |
| INTESTINE | | | | | | | | | | | | | | | | | | | | | |
| URINARY BLADDER | | | | | | | | | | | | | | | | | | | | | |
| PANCREAS | | | | | | | | | | | | | | | | | | | | | |
| Pancreatitis | | | | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | | | |

# B 12



| Males | Animal No. | Group 1 | | | | | Group 5 | | | | | Group 6 | | | | | Group 7 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93348 | 93349 | 93350 | 93351 | 93352 | 93388 | 93389 | 93390 | 93391 | 93392 | 93398 | 93399 | 93400 | 93401 | 93402 | 93408 | 93409 | 93410 | 93411 | 93412 |
| LIVER | | | | | X | | | X | | | | | | | | | | | | | |
| Pericholangitis/Nonsup | | 1 | | | | | | | | | | | | | 2 | | | | | | |
| Pericholangitis/Subacute | | | | | | | | | | | | | | | | | 2 | | | | |
| Mono Infilt/General | | | 1 | | | | | | | | | | | | | | | | | | |
| Mono Infilt/Central | | | | | | | | | | | 2 | | | | | | | | | | |
| Vacuolation/Diffuse | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Central | | | | | | | | | | | | 1 | 1 | 2 | 2 | 1 | 4 | 3 | 1 | 1 | 1 |
| Bile Duct Proliferation | | | | 1 | | | | | | | | | | | | | | | | | |
| Individual Hepatocytes | | | | | | | | | | | | | | | | | | | | | |
| Portal Fibrosis | | | | | 2 | | | 2 | 1 | 1 | 2 | | | | 1 | | | | | | |
| Pyknotic Nuclei | | | | | | | | | | | | | | | | | | | | | |
| Karyorrhexis | | | | | | | | | | | | | | | | | | | | | |
| Hepatitis | | | | | | | | | | | | | | | | | 5 | 5 | 5 | 2 | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Necrosis/Caudate | | | | | | | | | | | | 2 | 1 | 1 | 1 | 1 | | | | | 2 |
| Hepatocytomegaly | | | | | | | | | | | | | | | | | | | | | |
| KIDNEY | | | | | | | | | | | | | | | | | | | | | |
| Interstitial Nephritis | | | | | | | | | | | | X | | X | | | | | | | |
| Dilated Pelvis | | 1 | | | | | | 2 | | | 1 | | | | | | | | | | |
| Pyknotic Nuclei | | | | | | | | 2 | 1 | | 2 | | | | | | 3 | 4 | 3 | 3 | 4 |
| Granular Cytoplasm | | 1 | 2 | 2 | 2 | 1 | | 2 | | 2 | 2 | | | | | | | 3 | | | 2 |
| Vacuolated Cytoplasm | | | 2 | 2 | 2 | | | | 1 | 2 | | | 2 | | | | 3 | 4 | 4 | 3 | 2 |
| Casts | | | | | 2 | | | 2 | 2 | 1 | | | | | 2 | 1 | | | | | |
| Cellular Hypertrophy C/M | | | | | | | | | | | | | | | | | 2 | 1 | 2 | | |
| Necrosis | | | | | | | | | | | | | | | | | 2 | 3 | | | |
| Tubular Epithelial Hypertrophy | | | | | | | | | | | | | | | | | | | | | 2 |
| Regenerative Epithelium | | | | | | | | | | | | | 1 | | | | | | | | |
| Mineral Deposition | | | | | | | | | | | | | | | | | | | | | |
| Tubular Dilatation | | | | | | | | | | | | | | | | | | | | | |
| PITUITARY | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| BRAIN | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | X | | | |
| MESENTERIC LYMPH NODE | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | |

| Males | Animal No. | Group 1 | | | | | Group 5 | | | | | Group 6 | | | | | Group 7 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93348 | 93349 | 93350 | 93351 | 93352 | 93388 | 93389 | 93390 | 93391 | 93392 | 93398 | 93399 | 93400 | 93401 | 93402 | 93408 | 93409 | 93410 | 93411 | 93412 |
| SPLEEN | | | | | X | | | | | | X | X | X | | | | | | | | |
| Lymphoid Depletion | | | | | | | | | | | | | | | | | | | | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | |
| LUNG | | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | | | | | |
| Peribronchial Lymph Hyper | | | | | | | | | | | 1 | | | | | | | | | | |
| Perivascular Lymph Hyper | | | | | | | | | | | 1 | | | | | | | | | | |
| Medial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Interstitial Pneumonitis | | | | | | | | | | | | | | | | | | | | | |
| Medial Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| Aspirated Blood | | | | | | | | | | | | | | | | | | | | | |
| OVARY AND UTERUS | | | | | | | | | | | | | | | | | | | | | |
| Distended Lumen | | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | |
| ADRENAL | | | | | | | X | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | 4 | 4 | 3 | | |
| Necrosis | | | | | | | | | | | | | | | | | | 4 | | | |
| Congestion | | | | | | | | | | | | | | | | | | | 2 | | |
| Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| STOMACH | | | | | | | | | | | | | | | | | | | | | |
| Epithelium Denuded | | | | | | | | | | | | | | | | | 2 | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | 2 | | | | |
| INTESTINE | | | | | | | | | | | | | | | | | | | | | |
| URINARY BLADDER | | | | | | | | | | | | | | | | | | | A | | |
| PANCREAS | | | | | | | | | | | | | | | | | | | | | |
| Pancreatitis | | | | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | | | |

B 14



| Males | Animal No. | Group 1 | | | | | Group 8 | | | | | Group 9 | | | | | Group 10 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93348 | 93349 | 93350 | 93351 | 93352 | 93418 | 93419 | 93420 | 93421 | 93422 | 93428 | 93429 | 93430 | 93431 | 93432 | 93438 | 93439 | 93440 | 93441 | 93442 |
| LIVER | | | | | X | | X | | X | | | | | | | | | | | | X |
| Pericholangitis/Nonsup | | 1 | | | | | | | | | | | | | | | | | | | |
| Pericholangitis/Subacute | | | | | | | | | | | | | | | 2 | | | | | | |
| Mono Infilt/General | | | | 1 | | | | | | | | | | | | | | | | | |
| Mono Infilt/Central | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Diffuse | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Central | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct Proliferation | | | | | | | | 1 | | 1 | | 1 | | 1 | 3 | | | | | | |
| Individual Hepatocytes | | | | 1 | | | | | | | | | | | | | | | | | |
| Portal Fibrosis | | | | | | | | | | | | | | | | | | | | | |
| Pyknotic Nuclei | | | | | 2 | | | | | | | | | | | | | | 4 | | 4 |
| Karyorrhexis | | | | | | | | | | | | | | | | | | | 4 | | 4 |
| Hepatitis | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Necrosis/Caudate | | | | | | | | | | | | | | | 5 | | | | | | |
| Hepatocytomegaly | | | | | | | | 1 | | 1 | | 1 | 2 | 1 | 1 | 1 | 2 | 1 | | | |
| KIDNEY | | | | | | | X | | X | X | | | | | | | | | A | | A |
| Interstitial Nephritis | | 1 | | | | | | | | | 1 | 3 | 2 | 3 | 4 | 3 | | | | | |
| Dilated Pelvis | | | | | | | | | | | | | | | | | | | | | |
| Pyknotic Nuclei | | | | | | | | | | | | | | | | | 1 | 2 | | 3 | |
| Granular Cytoplasm | | 1 | 2 | 2 | 2 | 1 | | | | | | | | | | | | | | | |
| Vacuolated Cytoplasm | | | 2 | 2 | 2 | | | | | | | | | | | | 1 | 2 | | 3 | |
| Casts | | | | | 2 | | | | | | | | | | | | | | | 2 | |
| Cellular Hypertrophy C/M | | | | | | | | | | | | | | | | | | 3 | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Tubular Fpithelial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Regenerative Fpithelium | | | | | | | | | | | | 3 | 2 | 3 | 4 | 3 | | | | 1 | |
| Mineral Deposition | | | | | | | | 1 | | | | 2 | | | 2 | | | | | | |
| Tubular Dilatation | | | | | | | | | | | | | | 2 | 3 | 3 | | | | | |
| PITUITARY | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | 3 | 3 | | | |
| BRAIN | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | 2 | | | |
| MESENTERIC LYMPH NODE | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93433<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| Kidney: | |
| Cortex appeared wide. | Minimal chronic interstitial nephritis |
| Medulla was yellowish-tan. | and regenerative epithelium. |
| Cut surface appeared striated. | Minimal cytoplasmic granularity. |
| **Animal No. 93434<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight peripheral lobular hepatocyte vacuolation. |
| | Minimal enlargement of occassional hepatocytes. |
| Kidney: | |
| Striated raised grey area | Moderately severe nuclear pyknosis and |
| between cortex and medulla. | cytoplasmic vacuolation. |
| Wall of pelvis dilated. | |
| Lung: | |
| Left lobe dark red in color. | Moderate hemorrhage. |
| Brain: | |
| Soft consistency. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93434<br>Group 9<br>Female<br><br>Continued** | |
| Stomach: | |
| Dark red in color. | Not remarkable. |
| Intestines: | |
| Dark red in color. | Not remarkable. |
| **Animal No. 93435<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| Kidney: | |
| Cortex wide. | Minimal chronic interstitial nephritis and |
| Medulla appeared yellowish-tan. | regenerative epithelium. |
| Cut surface appeared striated. | Slight cytoplasmic granularity. |
| Adrenal: | |
| Appeared enlarged. | Slight diffuse vacuolation. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93436<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal focal nonsuppurative hepatitis. |
| | Slight nuclear pyknosis. |
| Kidney: | |
| Outer medulla pitted. | Slight chronic nephritis and regenerative |
| Pelvis contained small white | epithelium. |
| firm granular areas. | Slight granular cytoplasm. |
| | Slight mineral deposition. |
| Adrenal: | |
| Appeared enlarged. | Not remarkable. |
| **Animal No. 93437<br>Group 9<br>Female** | |
| Liver: | |
| No abnormalities observed. | Minimal focal nonsuppurative hepatitis. |
| Kidney: | |
| Greenish tinge. | Minimal dilated pelvis. |
| Surface of cortex appeared rough. | Minimal chronic interstitial nephritis. |
| Pelvis dilated. | Slight cytoplasmic granularity. |
| Cortex narrow. | |

| GROSS | MICROSCOPIC |
|---|---|

Animal No. 93437
Group 9
Female

Continued

| | |
|---|---|
| Lung: | |
| Dark red areas on all lobes. | Slight peribronchial and perivascular lymphoid hyperplasia. |
| | Aspirated blood. |

| GROSS | MICROSCOPIC |
|---|---|
| Animal No. 93443<br>Group 10<br>Female | |
| Liver: | |
| No abnormalities observed. | Minimal nuclear pyknosis. |
| Kidney: | |
| Cortex wide.<br>Outer medulla contained a pink raised zone. | Moderate nuclear pyknosis and cytoplasmic vacuolation primarily in the inner cortex. |
| Adrenal: | |
| Dark red. | Slight congestion. |
| Spleen: | |
| Appeared small. | Slight lymphoid depletion. |
| Brain: | |
| Surface covered with a dark red substance. | Slight congestion. |
| Ovaries and Uterus: | |
| Appeared very small. | A cross section of uterus appeared small, but within normal limits. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93444<br>Group 10<br>Female** | |
| Liver: | |
| No abnormalities observed. | No section. |
| Kidney: | |
| No abnormalities observed. | No section. |
| **Animal No. 93445<br>Group 10<br>Female** | |
| Liver: | |
| No abnormalities observed. | Autolysis. |
| Kidney: | |
| No abnormalities observed. | Autolysis. |
| Lung: | |
| Dark red and collapsed. | Autolysis. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No. 93446<br>Group 10<br>Female** | |
| Liver: | |
| No abnormalities observed. | Slight diffuse karyorrhexis. |
| Kidney: | |
| Appeared enlarged. | Slight nuclear pyknosis and cytoplasmic |
| Outer medulla had a dark | vacuolation. |
| pink raised zone. | Minimal enlargement of tubular epithelial |
| | cells at the cortical medullary junction. |
| Adrenal: | |
| Dark red. | Slight hemorrhage. |
| Spleen: | |
| Appeared small. | Slight lymphoid depletion. |
| Urinary Bladder: | |
| Lining dark pink. | Not remarkable. |

| GROSS | MICROSCOPIC |
|---|---|
| **Animal No.: 93447<br>Group 10<br>Female** | |
| Liver: | |
| No abnormalities observed. | Moderate diffuse nuclear karyorrhexis. |
| Kidney: | |
| No abnormalities observed. | Autolysis. |
| Adrenal: | |
| Dark red. | Not remarkable. |
| Brain: | |
| No abnormalities observed. | Slight congestion. |
| Spleen: | |
| Appeared small. | Autolysis. |
| Lung: | |
| Dark red areas on all lobes. | Moderate congestion. |
| Ovaries and Uterus: | |
| Appeared very small. | Incomplete section. |

KEY FOR INCIDENCE TABLE

P = Present

N = No Section

A = Autolysis

X = Not Remarkable

1 = Minimal

2 = Slight

3 = Moderate

4 = Moderately Severe/High

5 = Severe/High

KEY FOR INCIDENCE TABLE

P = Present

N = No Section

A = Autolysis

X = Not Remarkable

1 = Minimal

2 = Slight

3 = Moderate

4 = Moderately Severe/High

5 = Severe/High

Project No. 452-105

DETAILED HISTOPATHOLOGY INCIDENCE TABLE

| Males | Group 1 | | | | | Group 2 | | | | | Group 3 | | | | | Group 4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Animal No. | 93348 | 93349 | 93350 | 93351 | 93352 | 93358 | 93359 | 93360 | 93361 | 93362 | 93368 | 93369 | 93370 | 93371 | 93372 | 93378 | 93379 | 93380 | 93381 | 93382 |
| LIVER | | | | X | | | | | | | | | | | N | | N | X | X | X |
| Pericholangitis/Nonsup | 1 | | | | | | 1 | | | | | | 1 | 1 | | | | | | |
| Pericholangitis/Subacute | | | | | | | | | | | | | | | | | | | | |
| Mono Infilt/General | | 1 | | | | | | | | | | | | 1 | | | | | | |
| Mono Infilt/Central | | | | | | | | | | | | | 2 | | | | | | | 2 |
| Vacuolation/Diffuse | | | | | | | | | | | | 2 | 2 | | | | | | | |
| Vacuolation/Central | | | | | | | | | | | | | | | | | | | | |
| Bile Duct Proliferation | | | 1 | | | | | | | | | | | | | | | | | |
| Individual Hepatocytes | | | | | | | | | | | | | | | | | | | | |
| Portal Fibrosis | | | | | 2 | | 1 | 1 | 2 | 1 | 2 | | 2 | 1 | 2 | | | | | |
| Pyknotic Nuclei | | | | | | | | | | | | | | | | | | | | |
| Karyorrhexis | | | | | | | 1 | | | | | | | | | | | | | |
| Hepatitis | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | |
| Necrosis/Caudate | | | | | | | | | | | | | | | | | | | | |
| Hepatocytomegaly | | | | | | | | | | | | | | | | | | | | |
| KIDNEY | | | | | | | | | | | | | | | N | | N | | X | |
| Interstitial Nephritis | 1 | | | | | | | | | | | | | | | | | | | |
| Dilated Pelvis | | | | | | | 2 | | | | | 2 | | | | | | | | |
| Pyknotic Nuclei | | | | | | | | 2 | | 1 | | 2 | 1 | 1 | | | 3 | 2 | | |
| Granular Cytoplasm | 1 | 2 | 2 | 2 | 1 | | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | | | | | 3 |
| Vacuolated Cytoplasm | | 2 | 2 | 2 | | | 2 | | 1 | | 2 | | 1 | | | | 3 | 2 | | 1 |
| Casts | | | | 2 | | | | | | | | | 1 | | | | | | | |
| Cellular Hypertrophy C/M | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | |
| Tubular Epithelial Hypertrophy | | | | | | | | | | | | | | | | | | | | |
| Regenerative Epithelium | | | | | | | | | | | | | | | | | | | | |
| Mineral Deposition | | | | | | | | | | | | | | | | | | | | |
| Tubular Dilatation | | | | | | | | | | | | | | | | | | | | |
| PITUITARY | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | |
| BRAIN | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | |
| MESENTERIC LYMPH NODE | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | |

# B 11



| Males | Group 1 | | | | | Group 2 | | | | | Group 3 | | | | | Group 4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Animal No. | 93348 | 93349 | 93350 | 93351 | 93352 | 93358 | 93359 | 93360 | 93361 | 93362 | 93368 | 93369 | 93370 | 93371 | 93372 | 93378 | 93379 | 93380 | 93381 | 93382 |
| SPLEEN | | | | X | | | | | | | | | | | | | | | | |
| Lymphoid Depletion | | | | | | | | | | | | | | | | | 2 | | | |
| Pigment | | | | | | | | | | | | | | | | | | | | |
| LUNG | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | 3 | | | |
| Peribronchial Lymph Hyper | | | | | | | 2 | | | | | 2 | | | | | | | | |
| Perivascular Lymph Hyper | | | | | | | 2 | | | | | 2 | | | | | | | | |
| Medial Hypertrophy | | | | | | | 2 | | | | | | | | | | | | | |
| Interstitial Pneumonitis | | | | | | | 2 | | | | | | | | | | | | | |
| Medial Vacuolation | | | | | | | 2 | | | | | | | | | | | | | |
| Aspirated Blood | | | | | | | | | | | | | | | | | | | | |
| OVARY AND UTERUS | | | | | | | | | | | | | | | | | | | | |
| Distended Lumen | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | |
| ADRENAL | | | | | | | | | | | | | | | | | | | | X |
| Hemorrhage | | | | | | | | | | | | | | | | | 3 | 2 | 3 | |
| Necrosis | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | |
| Vacuolation | | | | | | | | | | | | | | | | | | | | |
| STOMACH | | | | | | | | | | | | | | | | | | | | |
| Epithelium Denuded | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | | | | |
| INTESTINE | | | | | | | | | | | | | | | | | | | | |
| URINARY BLADDER | | | | | | | | | | | | | | | | | | | | |
| PANCREAS | | | | | | | | | | | | | | | | | | | | |
| Pancreatitis | | | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | | |

| Males | Animal No. | Group 1 | | | | | Group 5 | | | | | Group 6 | | | | | Group 7 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93348 | 93349 | 93350 | 93351 | 93352 | 93388 | 93389 | 93390 | 93391 | 93392 | 93398 | 93399 | 93400 | 93401 | 93402 | 93408 | 93409 | 93410 | 93411 | 93412 |
| LIVER | | | | X | | | X | | | | | | | | | | | | | | |
| Pericholangitis/Nonsup | | 1 | | | | | | | | | | | | | 2 | | | | | | |
| Pericholangitis/Subacute | | | | | | | | | | | | | | | | | 2 | | | | |
| Mono Infilt/General | | | 1 | | | | | | | | | | | | | | | | | | |
| Mono Infilt/Central | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Diffuse | | | | | | | | | | 2 | | | | | | | | | | | |
| Vacuolation/Central | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct Proliferation | | | | | | | | | | | | 1 | 1 | 2 | 2 | 1 | 4 | 3 | 1 | 1 | 1 |
| Individual Hepatocytes | | | 1 | | | | | | | | | | | | | | | | | | |
| Portal Fibrosis | | | | | | | | | | | | | | | | | | | | | |
| Pyknotic Nuclei | | | | | 2 | | | 2 | 1 | 1 | 2 | | | | 1 | | | | | | |
| Karyorrhexis | | | | | | | | | | | | | | | | | | | | | |
| Hepatitis | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | 5 | 5 | 5 | 2 | |
| Necrosis/Caudate | | | | | | | | | | | | | | | | | | | | | |
| Hepatocytomegaly | | | | | | | | | | | | 2 | 1 | 1 | 1 | 1 | | | | | 2 |
| KIDNEY | | | | | | | | | | | | X | | X | | | | | | | |
| Interstitial Nephritis | | 1 | | | | | | 2 | | | 1 | | | | | | | | | | |
| Dilated Pelvis | | | | | | | | | | | | | | | | | | | | | |
| Pyknotic Nuclei | | | | | | | | 2 | 1 | | 2 | | | | | | 3 | 4 | 3 | 3 | 4 |
| Granular Cytoplasm | | 1 | 2 | 2 | 2 | 1 | | 2 | | 2 | 2 | | | | | | | 3 | | | 2 |
| Vacuolated Cytoplasm | | | 2 | 2 | 2 | | | | 1 | 2 | | | 2 | | | | 3 | 4 | 4 | 3 | 2 |
| Casts | | | | | 2 | | 2 | 2 | | 1 | | | | | 2 | 1 | | | | | |
| Cellular Hypertrophy C/M | | | | | | | | | | | | | | | | | 2 | 1 | 2 | | |
| Necrosis | | | | | | | | | | | | | | | | | 2 | 3 | | | |
| Tubular Epithelial Hypertrophy | | | | | | | | | | | | | | | | | | | | | 2 |
| Regenerative Epithelium | | | | | | | | | | | | 1 | | | | | | | | | |
| Mineral Deposition | | | | | | | | | | | | | | | | | | | | | |
| Tubular Dilatation | | | | | | | | | | | | | | | | | | | | | |
| PITUITARY | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| BRAIN | | | | | | | | | | | | | | | | | | | X | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| MESENTERIC LYMPH NODE | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | |

| Males | Animal No. | Group 1 | | | | | Group 5 | | | | | Group 6 | | | | | Group 7 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93348 | 93349 | 93350 | 93351 | 93352 | 93388 | 93389 | 93390 | 93391 | 93392 | 93398 | 93399 | 93400 | 93401 | 93402 | 93408 | 93409 | 93410 | 93411 | 93412 |
| SPLEEN | | | | | X | | | | | X | | X | X | | | | – | | | | |
| Lymphoid Depletion | | | | | | | | | | | | | | | | | | | | | |
| Pigment | | | | | | | | | | | | | | | | | | | | | |
| LUNG | | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | | | | | |
| Peribronchial Lymph Hyper | | | | | | | | | | 1 | | | | | | | | | | | |
| Perivascular Lymph Hyper | | | | | | | | | | 1 | | | | | | | | | | | |
| Medial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Interstitial Pneumonitis | | | | | | | | | | | | | | | | | | | | | |
| Medial Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| Aspirated Blood | | | | | | | | | | | | | | | | | | | | | |
| OVARY AND UTERUS | | | | | | | | | | | | | | | | | | | | | |
| Distended Lumen | | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | |
| ADRENAL | | | | | | | X | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | 4 | 4 | 3 | | |
| Necrosis | | | | | | | | | | | | | | | | | | 4 | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | 2 | |
| Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| STOMACH | | | | | | | | | | | | | | | | | | | | | |
| Epithelium Denuded | | | | | | | | | | | | | | | | | 2 | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | 2 | | | | |
| INTESTINE | | | | | | | | | | | | | | | | | | | | | |
| URINARY BLADDER | | | | | | | | | | | | | | | | | | | | A | |
| PANCREAS | | | | | | | | | | | | | | | | | | | | | |
| Pancreatitis | | | | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | | | |

| Males | Animal No. | Group 1 | | | | | Group 8 | | | | | Group 9 | | | | | Group 10 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93348 | 93349 | 93350 | 93351 | 93352 | 93418 | 93419 | 93420 | 93421 | 93422 | 93428 | 93429 | 93430 | 93431 | 93432 | 93438 | 93439 | 93440 | 93441 | 93442 |
| LIVER | | | | | X | | X | | X | | | | | | | | | | X | | |
| Pericholangitis/Nonsup | | 1 | | | | | | | | | | | | | | | | | | | |
| Pericholangitis/Subacute | | | | | | | | | | | | | | | 2 | | | | | | |
| Mono Infilt/General | | | | 1 | | | | | | | | | | | | | | | | | |
| Mono Infilt/Central | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Diffuse | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Central | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct Proliferation | | | | | | | | 1 | | 1 | | 1 | | 1 | 3 | | | | | | |
| Individual Hepatocytes | | | | 1 | | | | | | | | | | | | | | | | | |
| Portal Fibrosis | | | | | | | | | | | | | | | | | | | | | |
| Pyknotic Nuclei | | | | | 2 | | | | | | | | | | | | | | 4 | | 4 |
| Karyorrhexis | | | | | | | | | | | | | | | | | | | 4 | | 4 |
| Hepatitis | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Necrosis/Caudate | | | | | | | | | | | | | | | 5 | | | | | | |
| Hepatocytomegaly | | | | | | | | 1 | | 1 | | 1 | 2 | 1 | 1 | 1 | 2 | 1 | | | |
| KIDNEY | | | | | | | X | | X | X | | | | | | | | | A | | A |
| Interstitial Nephritis | | 1 | | | | | | | | 1 | | 3 | 2 | 3 | 4 | 3 | | | | | |
| Dilated Pelvis | | | | | | | | | | | | | | | | | | | | | |
| Pyknotic Nuclei | | | | | | | | | | | | | | | | | 1 | 2 | | 3 | |
| Granular Cytoplasm | | 1 | 2 | 2 | 2 | 1 | | | | | | | | | | | | | | | |
| Vacuolated Cytoplasm | | | 2 | 2 | 2 | | | | | | | | | | | | 1 | 2 | | 3 | |
| Casts | | | | | 2 | | | | | | | | | | | | | | | 2 | |
| Cellular Hypertrophy C/M | | | | | | | | | | | | | | | | | | 3 | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Tubular Fpithelial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Regenerative Fpithelium | | | | | | | | | | | | 3 | 2 | 3 | 4 | 3 | | | | 1 | |
| Mineral Deposition | | | | | | | | 1 | | | | 2 | | | 2 | | | | | | |
| Tubular Dilatation | | | | | | | | | | | | | | 2 | 3 | 3 | | | | | |
| PITUITARY | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | 3 | 3 | | | |
| BRAIN | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | 2 | | | |
| MESENTERIC LYMPH NODE | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | |

C 01



| Males | Group 1 | | | | | Group 8 | | | | | Group 9 | | | | | Group 10 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Animal No. | 93348 | 93349 | 93350 | 93351 | 93352 | 93418 | 93419 | 93420 | 93421 | 93422 | 93428 | 93429 | 93430 | 93431 | 93432 | 93438 | 93439 | 93440 | 93441 | 93442 |
| SPLEEN | | | X | | | X | X | | | | | | | | | | | | | |
| Lymphoid Depletion | | | | | | | | | | | | | | | | | 3 | | | |
| Pigment | | | | | | | | | | | 3 | | | | | | | | | |
| LUNG | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | 3 | | | | | | | 3 | | |
| Peribronchial Lymph Hyper | | | | | | | | | | | | | 3 | | | | | | | |
| Perivascular Lymph Hyper | | | | | | | | | | | | | 3 | | | | | | | |
| Medial Hypertrophy | | | | | | | | | | | 2 | | | | | | | | | |
| Interstitial Pneumonitis | | | | | | | | | | | | | 1 | | | | | | | |
| Medial Vacuolation | | | | | | | | | | | | | | | | | | | | |
| Aspirated Blood | | | | | | | | | | | | | | | | | | | | |
| OVARY AND UTERUS | | | | | | | | | | | | | | | | | | | | |
| Distended Lumen | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | |
| ADRENAL | | | | | | | | | | | | | | | | | | | | X |
| Hemorrhage | | | | | | | | | | | | | | | | | 1 | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | |
| Vacuolation | | | | | | | | | | | | | | | | | 1 | | | |
| STOMACH | | | | | | | | | | | | | | | | | X | | | |
| Epithelium Denuded | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | | | | |
| INTESTINE | | | | | | | | | | | | | | | | | X | | | |
| URINARY BLADDER | | | | | | | | | | | | | | | | | | | | |
| PANCREAS | | | | | | | | | | | | | | | | | | | | |
| Pancreatitis | | | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | | |

C 02



| Females | Animal No. | Group 1 | | | | | Group 2 | | | | | Group 3 | | | | | Group 4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93353 | 93354 | 93355 | 93356 | 93357 | 93363 | 93364 | 93365 | 93366 | 93367 | 93373 | 93374 | 93375 | 93376 | 93377 | 93383 | 93384 | 93385 | 93386 | 93387 |
| LIVER | | | | | | | | | | X | | | | | | | N | | | | X |
| Pericholangitis/Nonsup | | | 1 | | | | | | | 1 | | | 1 | | | | | | | | |
| Pericholangitis/Subacute | | | | | | | | | | | | | | | | | | 3 | | | |
| Mono Infilt/General | | | | | 1 | | | | | | | | | | | | | | | | |
| Mono Infilt/Central | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Diffuse | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Central | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct Proliferation | | | 1 | 1 | | | | 1 | 1 | 2 | | | 1 | 2 | 1 | 2 | 2 | | 3 | | |
| Individual Hepatocytes | | | | | | | | | | | | | | | | | | | | | |
| Portal Fibrosis | | | | | | | | | | | | | | | | | | | | | |
| Pyknotic Nuclei | | | 2 | 1 | 3 | 2 | 2 | | | | 1 | | 1 | 2 | | | | | 2 | 2 | |
| Karyorrhexis | | | | | | | | | | | | | | | | | | | | 2 | |
| Hepatitis | | | 1 | | 1 | | | | | | | | | | 1 | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Necrosis/Caudate | | | | | | | | | | | | | | | | | | | | | |
| Hepatocytomegaly | | | | | | | | | | | | | | | | | | | | | |
| KIDNEY | | | | | | | | | | | | | | | | | | | | | |
| Interstitial Nephritis | | | 1 | | | | | | | | | | 1 | | | | | | | | |
| Dilated Pelvis | | | 2 | | | | | | | | | | | | | 2 | | | | | |
| Pyknotic Nuclei | | 2 | 2 | 2 | | 1 | | 1 | | | | | | | | | 1 | 3 | 3 | 1 | 1 |
| Granular Cytoplasm | | 1 | | 2 | 1 | 1 | | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | | | | |
| Vacuolated Cytoplasm | | | | | | | | | | | | | | | | | 1 | 3 | 3 | 1 | 1 |
| Casts | | | | | | | | | | | | | | | | | | | | | |
| Cellular Hypertrophy C/M | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Tubular Epithelial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Regenerative Epithelium | | | | | | | | | | | | | | | | | | | | | |
| Mineral Deposition | | | | | | | | | | | | | | | | | | | | | |
| Tubular Dilatation | | | | | | | | | | | | | | | | | | | | | |
| PITUITARY | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| BRAIN | | | | | | | | | | | | | | | | | | 2 | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| MESENTERIC LYMPH NODE | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | 3 |

| Females | Animal No. | Group 1 | | | | | Group 2 | | | | | Group 3 | | | | | Group 4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93353 | 93354 | 93355 | 93356 | 93357 | 93363 | 93364 | 93365 | 93366 | 93367 | 93373 | 93374 | 93375 | 93376 | 93377 | 93383 | 93384 | 93385 | 93386 | 93387 |
| SPLEEN | | | | | | | X | X | | | | | | | | | | | | | |
| Lymphoid Depletion | | | | | | | | | | | | | | | | | | | | | |
| Pigment | | | 3 | | | | | | | | | | | | | | | | | | |
| LUNG | | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | 3 | 2 | 3 | | |
| Perihronchial Lymph Hyper | | | | | | | | | 2 | | | | | | | | | | | | |
| Perivascular Lymph Hyper | | | | | | | | | 2 | | | | | | | | | | | | |
| Medial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Interstitial Pneumonitis | | | | | | | | | | | | | | | | | | | | | |
| Medial Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| Aspirated Blood | | | P | | | | | | P | | | | | | P | | | | | | |
| OVARY AND UTERUS | | | | | | | | | | | | | | | | | | | | | |
| Distended Lumen | | | | | | | | | | | | | | | P | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | |
| ADRENAL | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | 3 | 4 | 4 | | 2 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | 2 | |
| Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| STOMACH | | | | | | | | | | | | | | | | | | | | | |
| Epithelium Denuded | | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | 1 | | 2 | | |
| INTESTINE | | | | | | | | | | | | | | | | | | | | | |
| URINARY BLADDFP | | | | | | | | | | | | | | | | | | | | | |
| PANCREAS | | | | | | | | | | | | X | X | | X | | | | | | |
| Pancreatitis | | | | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | 2 | | | | | | | |

C 04



| Females | Animal No. | Group 1 | | | | | Group 5 | | | | | Group 6 | | | | | Group 7 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93353 | 93354 | 93355 | 93356 | 93357 | 93393 | 93394 | 93395 | 93396 | 93397 | 93403 | 93404 | 93405 | 93406 | 93407 | 93413 | 93414 | 93415 | 93416 | 93417 |
| LIVER | | | | | | | | | | | | | | | X | | | | | | |
| Pericholangitis/Nonsup | | | 1 | | | | | | | | | | | | | 1 | | | | | |
| Pericholangitis/Subacute | | | | | | | | | | | | | | | | | | 4 | 5 | 3 | |
| Mono Infilt/General | | | | | 1 | | | | | | | | 1 | | | | | | | | |
| Mono Infilt/Central | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Diffuse | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Central | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct Proliferation | | | 1 | 1 | | | | 1 | 1 | 1 | 2 | | 1 | 1 | 1 | 2 | | 4 | 5 | 3 | 2 | 3 |
| Individual Hepatocytes | | | | | | | | | | | | | | | | | | | | | |
| Portal Fibrosis | | | | | | | | | | | | | | | | | | | 5 | | |
| Pyknotic Nuclei | | 2 | 1 | 3 | 2 | 2 | | 1 | 1 | 1 | | | | 1 | | | | | | | |
| Karyorrhexis | | | | | | | | | | | | | | | | | | | | | |
| Hepatitis | | | 1 | | 1 | | | | | | 1 | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | 4 | 2 | 3 | 3 5 |
| Necrosis/Caudate | | | | | | | | | | | | | | | | | | | | | |
| Hepatocytomegaly | | | | | | | | | | | | | | | | | | | | | |
| KIDNEY | | | | | | | | | | | X | | | | | | | | | | |
| Interstitial Nephritis | | | 1 | | | | | | | | | | | | | | | | | | |
| Dilated Pelvis | | | 2 | | | | | | | | | | | | | | | | | | |
| Pyknotic Nuclei | | 2 | 2 | 2 | | 1 | | | | | | | | | | | | 2 | 3 | 3 | 3 |
| Granular Cytoplasm | | 1 | | 2 | 1 | 1 | | 2 | 1 | 1 | 1 | | 1 | 2 | 2 | 1 | 2 | | | | |
| Vacuolated Cytoplasm | | | | | | | | | | | | | | | | | | 2 | 2 | 3 | 3 |
| Casts | | | | | | | | | | | | | | | | | | | | | |
| Cellular Hypertrophy C/M | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | 2 |
| Tubular Epithelial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Regenerative Epithelium | | | | | | | | | 1 | | | | | | | | | | | | |
| Mineral Deposition | | | | | | | | | | | | | | | | | | | | | |
| Tubular Dilatation | | | | | | | | | | | | | | | | | | | | | |
| PITUITARY | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| BRAIN | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| MESENTERIC LYMPH NODE | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | |

C 05



| Females | Animal No. | Group 1 | | | | | Group 5 | | | | | Group 6 | | | | | Group 7 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93353 | 93354 | 93355 | 93356 | 93357 | 93393 | 93394 | 93395 | 93396 | 93397 | 93403 | 93404 | 93405 | 93406 | 93407 | 93413 | 93414 | 93415 | 93416 | |
| SPLEEN | | | | | | | | | | | | | | | | | | | | | |
| Lymphoid Depletion | | | | | | | | | | | | | | | | | | | | | |
| Pigment | | | | 3 | | | | | | | | | | | | | | | | | |
| LUNG | | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | | | | | |
| Peribronchial Lymph Hyper | | | | | | | | | 2 | | | | | | | | | | | | |
| Perivascular Lymph Hyper | | | | | | | | | 2 | | | | | | | | | | | | |
| Medial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Interstitial Pneumonitis | | | | | | | | | 2 | | | | | | | | | | | | |
| Medial Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| Aspirated Blood | | | P | | | | | P | P | | | | | | | | | | | | |
| OVARY AND UTERUS | | | | | | | | | | | | | | | | | | | | | |
| Distended Lumen | | | | | | | | | | | | | P | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | |
| ADRENAL | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| STOMACH | | | | | | | | | | | | | | | | | | | | | |
| Epithelium Denuded | | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | | | | | |
| INTESTINE | | | | | | | | | | | | | | | | | | | | | |
| URINARY BLADDER | | | | | | | | | | | | | | | | | | | | | |
| PANCREAS | | | | | | | | X | | | | | | | | | | | | | |
| Pancreatitis | | | | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | | | |

LIVE
Per
Per
Mono
Mono
Vacuol
Vacuol
Bile Du
Individu
Portal F
Pyknotic
Karyorhex
Hepatitis
Necrosis
Necrosis/Cau
Hepatocytomeg

KIDNEY
Interstitial Nep
Dilated Pelvis
Pyknotic Nuclei
Granular Cytoplasm
Vacuolated Cytoplas
Casts
Cellular Hypertrophy
Necrosis
Tubular Epithelial Hyp
Regenerative Epithelium
Mineral Deposition
Tubular Dilatation

PITUITARY
Congestion

BRAIN
Congestion

MESENTERIC LYMPH NODE
Hemorrhage

| Females | Animal No. | Group 1 | | | | | Group 8 | | | | | Group 9 | | | | | Group 10 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93353 | 93354 | 93355 | 93356 | 93357 | 93423 | 93424 | 93425 | 93426 | 93427 | 93433 | 93434 | 93435 | 93436 | 93437 | 93443 | 93444 | 93445 | 93446 | 93447 |
| LIVER | | | | | | | | | | X | | | | | | | | N A | | | |
| Pericholangitis/Nonsup | | | 1 | | | | | | | | | | | | | | | | | | |
| Pericholangitis/Subacute | | | | | | | | | | | | | | | | | | | | | – |
| Mono Infilt/General | | | | | 1 | | 1 | | | 1 | | | | | | | | | | | |
| Mono Infilt/Central | | | | | | | | | | | | | | | | | | | | | |
| Vacuolation/Diffuse | | | | | | | | | | | | | 2 | | | | | | | | |
| Vacuolation/Central | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct Proliferation | | | 1 | 1 | | | | | | 1 | | | | | | | | | | | |
| Individual Hepatocytes | | | | | | | | | | | | | | | | | | | | | |
| Portal Fibrosis | | | | | | | | | | | | | | | | | | | | | |
| Pyknotic Nuclei | | 2 | 1 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | | 1 | | 1 | 2 | | 1 | | | | |
| Karyorrhexis | | | | | | | | | | | | | | | | | | | | | |
| Hepatitis | | | 1 | | 1 | | | | | | | | | 1 | 1 | | | | | 2 | 3 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Necrosis/Caudate | | | | | | | | | | | | | | | | | | | | | |
| Hepatocytomegaly | | | | | | | | | | | | | 1 | | | | | | | | |
| KIDNEY | | | | | | | | | | | | | | | | | | | | | |
| Interstitial Nephritis | | | 1 | | | | | | | | | | | | | | | N A | | A | |
| Dilated Pelvis | | | 2 | | | | | | | | | 1 | | 1 | 2 | 1 | | | | | |
| Pyknotic Nuclei | | 2 | 2 | 2 | | 1 | | | | 1 | | | 4 | | | 1 | | 3 | | 2 | |
| Granular Cytoplasm | | 1 | | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | | 2 | 2 | 2 | | | | | |
| Vacuolated Cytoplasm | | | | | | | | | | | | | 4 | | | | | 3 | | 2 | |
| Casts | | | | | | | | | | | | | | | | | | | | | |
| Cellular Hypertrophy C/M | | | | | | | | | | | | | | | | | | | | 1 | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Tubular Epithelial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Regenerative Epithelium | | | | | | | | | | | | 1 | | 1 | 2 | | | | | | |
| Mineral Deposition | | | | | | | | | | | | | | | 2 | | | | | | |
| Tubular Dilatation | | | | | | | | | | | | | | | | | | | | | |
| PITUITARY | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | |
| BRAIN | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | X | | | | | 2 | | 2 | |
| MESENTERIC LYMPH NODE | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | |

C 07



| Females | Animal No. | Group 1 | | | | | Group 8 | | | | | Group 9 | | | | | Group 10 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 93353 | 93354 | 93355 | 93356 | 93357 | 93423 | 93424 | 93425 | 93426 | 93427 | 93433 | 93434 | 93435 | 93436 | 93437 | 93443 | 93444 | 93445 | 93446 | 93447 |
| SPLEEN | | | | | | | | | | | | | | | | | | | | | A |
| Lymphoid Depletion | | | | | | | | | | | | | | | | | | 2 | | 2 | |
| Pigment | | | 3 | | | | | | | | | | | | | | | | | | |
| LUNG | | | | | | | | | | | | | | | | | | | | A | |
| Congestion / Hemo | | | | | | | | 2 | | | | | 3 | | | | | | | | 3 |
| Peribronchial Lymph Hyper | | | | | | | 2 | 3 | | 3 | | | | | | 2 | | | | | |
| Perivascular Lymph Hyper | | | | | | | | 3 | | 3 | | | | | | 2 | | | | | |
| Medial Hypertrophy | | | | | | | | | | | | | | | | | | | | | |
| Interstitial Pneumonitis | | | | | | | | | | | | | | | | | | | | | |
| Medial Vacuolation | | | | | | | | | | | | | | | | | | | | | |
| Aspirated Blood | | P | | | | | P | P | | P | | | | | | P | | | | | |
| OVARY AND UTERUS | | | | | | | | | | | | | | | | | | X | | | N |
| Distended Lumen | | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | |
| ADRENAL | | | | | | | | | | | | | | | X | | | | | | X |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 2 | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | 2 | | | |
| Vacuolation | | | | | | | | | | | | | 2 | | | | | | | | |
| STOMACH | | | | | | | | | | | | X | | | | | | | | | |
| Epithelium Denuded | | | | | | | | | | | | | | | | | | | | | |
| Congestion/Hemo | | | | | | | | | | | | | | | | | | | | | |
| INTESTINE | | | | | | | | | | | | X | | | | | | | | | |
| URINARY BLADDER | | | | | | | | | | | | | | | | | | | | X | |
| PANCREAS | | | | | | | | | X | | | | | | | | | | | | |
| Pancreatitis | | | | | | | | | | 1 | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | | | |