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Document Processing Center (TS-790)
Office of Toxic Substances
Environmental Protection Agency
401 M St. S.W.
Washington, D.C. 20460
Attn: Section 8(e) Coordinator

Subject: TSCA Section 8(e) Submission

Dear Sir/Madam:

[] is submitting the attached studies to the Environmental Protection Agency (EPA) pursuant to Toxic Substances Control Act (TSCA) Section 8(e). These studies do not involve effects in humans.

[] has already submitted summaries concerning these studies to your office on June 7, 1993. The titles of the enclosed studies are An Acute Oral Toxicity Study in Rats with [Di/Mono] Methyltin Chlorides Solution, An Acute Dermal Toxicity Study in Rabbits with [Di/Mono] Methyltin Chlorides Solution, An Acute Oral Toxicity Study in Rats with [Mono/Di] Methyltin Chlorides Solution, and An Acute Dermal Toxicity Study in Rabbits with [Mono/Di] Methyltin Chlorides Solution.

The chemical name for the subject materials are stannane, trichloromethyl- and stannane, dichlorodimethyl-. The CAS numbers for these materials are 993-16-8 and 753-73-1, respectively.

This letter and the enclosed studies contains information which is considered confidential business information of [] A sanitized copy of the cover letter and studies is enclosed.

Further questions regarding this submission may be directed to me at []

Sincerely,

[]
Enclosure

**AN ACUTE ORAL TOXICITY STUDY IN RATS WITH
[DI/MONO] METHYLTIN CHLORIDES SOLUTION**

FINAL REPORT

Author

Rusty E. Rush, M.S., LAT

Study Completed on

July 21, 1993

Performing Laboratory

Springborn Laboratories, Inc. (SLS)
Life Sciences Division
640 North Elizabeth Street
Spencerville, OH 45887

SLS Study No.

3255.6

[]

Submitted to

[]

Page 1 of 71

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COMPLIANCE STATEMENT

This study was conducted in compliance with the Good Laboratory Practice Regulations as described by the FDA (21 CFR Part 58) and the EPA (40 CFR Parts 160 and 792) with the following exceptions:

1. Stability, characterization and verification of the test article, maintenance of a retention sample of the test article and maintenance of records on the test article are the responsibility of the Sponsor.
2. Analyses of the certified animal feed and drinking water were performed by Purina Mills, Inc., St. Louis, MO and Lancaster Laboratories, Lancaster, PA, respectively. Although these analyses were not performed in strict compliance with the GLPs, there were no contaminants expected which would compromise the purpose of this study.



Rusty E. Rush, M.S., LAT
Study Director/Author
Springborn Laboratories, Inc.

Date 7-21-93

QUALITY ASSURANCE STATEMENT

This study was inspected by the Quality Assurance Unit and reports were submitted to management and the study director in accordance with SLS's Standard Operating Procedures as follows:

<u>Phase</u>	<u>Date</u>
Clinical Observations	03/19/93
Data Audit	05/06/93
Draft Report Review	05/07/93
Final Report Review	07/21/93
Reports to Study Director and Management	05/07/93, 07/21/93

This study was conducted in compliance with the Good Laboratory Practice Regulations as described by the FDA (21 CFR Part 58) and the EPA (40 CFR Parts 160 and 792) except as noted on the Compliance Statement.

Melissa R. Triplett
Melissa R. Triplett
Quality Assurance Auditor II

Date 7/21/93

Raymond V. Karcher
Raymond V. Karcher, B.A., LAT
Quality Assurance Supervisor

Date 7-21-93

TABLE OF CONTENTS

	<u>Page No.</u>
COMPLIANCE STATEMENT	2
QUALITY ASSURANCE STATEMENT	3
TABLE OF CONTENTS	4
SUMMARY	6
 <u>Section</u>	
I. INTRODUCTION	7
II. MATERIALS AND METHODS	7
III. EXPERIMENTAL PROCEDURES	9
IV. ANALYSIS OF DATA	10
V. MAINTENANCE OF RAW DATA AND RECORDS	11
VI. RESULTS	11
VII. CONCLUSION	12
VIII. REPORT REVIEW	13
IX. REFERENCES	14
 <u>Tables</u>	
1. Summary of Mortality	15
2. Summary of Clinical Observations (Occurrence/Animals Affected) ...	16
3. Summary of Body Weight Data	20
4. Summary of Gross Necropsy Observations	22

TABLE OF CONTENTS--(Continued)

	<u>Page No.</u>
<u>Appendices</u>	
A. Protocol and Amendment	25
B. Individual Range-Finding Study Data	30
C. Individual Clinical Observations (Positive Findings)	38
D. Individual Body Weights	50
E. Individual Gross Necropsy Observations	57
F. LD50 Calculations	68
G. SLS Personnel Responsibilities	70

SUMMARY

The single-dose oral toxicity of [Di/Mono] Methyltin Chlorides Solution was evaluated in Sprague-Dawley rats. The study was initiated with a range-finding test at levels ranging from 100 to 5000 mg/kg body weight. Following the range-finding test, an LD50 study was performed in which three groups of male and female rats received a single oral administration of the test article at graded dosage levels. Following dosing, the LD50 study rats were observed daily and weighed weekly. A gross necropsy examination was performed on all LD50 study animals at the time of death or scheduled euthanasia (day 14).

Mortality during the LD50 study occurred as follows:

Dose Level (mg/kg)	Incidence of Mortality		
	Males	Females	Combined
200	0/5	0/5	0/10
300	1/5	3/5	4/10
500	2/5	4/5	6/10

All mortality occurred by study day 4. The most notable clinical abnormalities observed during the LD50 study included decreased activity, salivation, rough haircoat, mucoid/soft stools, fecal/urine stain, hunched posture, dehydration, dark material around the facial area, decreased defecation and food consumption, gasping and rales. Body weight gain was noted for the majority of surviving animals during the test period. The most notable gross internal findings were observed in the animals that died and included dark red medulla of the kidney, dark red foci on the thymus, mottled lungs, abnormal colored mucoid/fluid contents and eroded area(s), reddened mucosa and dark red linear striations on the stomach.

Under the conditions of this test, the acute oral LD50 of [Di/Mono] Methyltin Chlorides Solution in the male rat was determined to be 546 mg/kg. In the female rat, the oral LD50 was determined to be 328 mg/kg. In the sexes combined, the oral LD50 was determined to be 409 mg/kg.

I. INTRODUCTION

This study was performed to assess the short-term toxicity of [Di/Mono] Methyltin Chlorides Solution in Sprague-Dawley rats when administered by gavage as a single oral dose. This study is intended to provide information on the potential health hazards of the test article with respect to oral exposure. Data from this study may serve as a basis for classification and/or labeling of the test article. This study was performed at Springborn Laboratories, Inc., 553 North Broadway, Spencerville, Ohio.

II. MATERIALS AND METHODS

Study Dates

GLP Initiation:	January 29, 1993
In-life Initiation:	February 24, 1993
In-life Completion:	April 15, 1993

Protocol

The study protocol and any amendments are presented in Appendix A.

Test Article

Sponsor I.D.:	[Di/Mono] Methyltin Chlorides Solution
Lot No.:	5979-06-1
Springborn I.D.:	S92.001.3255
Receipt Date:	December 18, 1992
Physical Description:	Clear colorless liquid
Storage Conditions:	Room temperature
Expiration Date:	December 8, 1993

Test Article Preparation

The test article was administered as received from the Sponsor. The density of the test article was determined to be 1.40 g/ml.

Animals and Animal Husbandry

Description: Young adult, Sprague-Dawley CrI:CD®BR VAF/Plus® rats were received at SLS from Charles River Laboratories, Inc., Portage, Michigan.

Method of Identification: Upon receipt, metal ear tags displaying unique identification numbers were used to individually identify the animals. Cage cards displaying at least the study number, animal number and sex were affixed to each cage.

Housing: The animals were housed individually in suspended stainless steel cages. All housing and care were based on the standards recommended by the Guide for the Care and Use of Laboratory Animals [1].

Environment: The desired animal room temperature and relative humidity ranges were 64-79°F and 40-70%, respectively. Environmental control equipment was monitored and adjusted as necessary to minimize fluctuations in the animal room environment. Light timers were set to maintain a 12-hour light/12-hour dark cycle. There were ten to twelve air changes in the animal room per hour. The animal room temperature and relative humidity were recorded a minimum of once daily.

Food: Purina Certified Rodent Chow #5002 was provided ad libitum to the animals throughout the study (except during fasting). The lot number and expiration date of each batch of diet used during the study were recorded. The feed was analyzed by the supplier for nutritional components and environmental contaminants. Dietary limitations for various environmental contaminants, including heavy metals, pesticides, polychlorinated biphenyls and total aflatoxin are set by the manufacturer. Within these limits, contaminants which may have been present were not expected to compromise the purpose of this study. Results of the dietary analyses (Certificates of Analysis) are provided by the manufacturer for each lot of diet. These are maintained by SLS.

Water: Municipal tap water treated by reverse osmosis or deionization (back-up system) was available to the animals ad libitum throughout the study. The purified water was supplied by an automatic watering system. Monitoring of the drinking water for contaminants was conducted by SLS and the records are available for inspection. Within generally accepted limits, contaminants which may have been present were not expected to compromise the purpose of this study.

Quarantine: Upon receipt, animals were examined, identified with metal ear tags and then quarantined for a minimum of five days.

Animal Selection: The animals chosen for study use were arbitrarily selected from healthy stock animals to avoid potential bias. All animals received a detailed pretest examination prior to dosing. Only healthy animals were chosen for study use. Females were nulliparous and nonpregnant.

III. EXPERIMENTAL PROCEDURES

Range-Finding Study

Dosing: On day -1, the animals chosen for the range-finding study were weighed and fasted overnight. On day 0, the test article was administered orally as a single dose using a ball tipped stainless steel gavage needle attached to a syringe at the following levels:

Dose Level (mg/kg)	Dose Volume (ml/kg)	Concentration (%)	No. of Animals	
			Males	Females
100	0.07	100	1	1
300	0.21	100	1	1
500	0.36	100	1	1
1000	0.71	100	1	1
2000	1.43	100	1	1
3000	2.14	100	1	1
5000	3.57	100	1	1

Individual doses were calculated based on the animal's fasted (day 0) body weight. Animals were returned to ad libitum feeding after dosing.

Clinical Observations: Range-finding animals were observed for mortality on study day 0 (postdose) and on days 1-7.

Body Weights: Individual body weights were obtained for the range-finding animals prior to fasting (day -1) and prior to dosing on study day 0.

Gross Necropsy: All range-finding animals which died spontaneously during the study or were euthanized (carbon dioxide inhalation) at study termination (day 7) were removed from study. No necropsy was performed.

LD50 Study

Dosing: On day -1, the animals chosen for the LD50 study were weighed and fasted overnight. On day 0, the test article was administered orally as a single dose using a ball tipped stainless steel gavage needle attached to a syringe at the following levels:

Dose Level (mg/kg)	Dose Volume (ml/kg)	Concentration (%)	No. of Animals	
			Males	Females
200	0.14	100	5	5
300	0.21	100	5	5
500	0.36	100	5	5

Individual doses were calculated based on the animal's fasted (day 0) body weight. Animals were returned to ad libitum feeding after dosing.

Clinical Observations: LD50 study animals were observed for clinical abnormalities a minimum of two times on study day 0 (postdose) and daily thereafter (days 1-14). A mortality check was performed twice daily, in the morning and afternoon.

Body Weights: Individual body weights were obtained for the LD50 study animals prior to fasting (day -1), prior to dosing on day 0 and for all surviving animals on days 7 and 14.

Gross Necropsy: All LD50 study animals which died spontaneously during the study or were euthanized (carbon dioxide inhalation) at study termination (day 14) were necropsied. Body cavities (cranial, thoracic, abdominal and pelvic) were opened and examined. No tissues were retained.

Protocol Deviations

The relative humidity of the animal room (35-58%) exceeded the range specified in the protocol (40-70%) during this study. The method of euthanasia for the 200 mg/kg dose level was inadvertently not documented in the raw data. These occurrences are considered to have had no adverse effect on the outcome of this study.

IV. ANALYSIS OF DATA

The LD50 and 95% confidence intervals were calculated separately for males, females and the combined sexes (when possible) using a computer adaption of the method of Litchfield and Wilcoxon [2].

Body weight means and standard deviations were calculated separately for males and females for each LD50 level administered.

V. MAINTENANCE OF RAW DATA AND RECORDS

The remaining test article was returned to the Sponsor following completion of the in-life phase of the study. All original paper data, the final report and magnetically encoded records were transferred to the SLS archives for a period of 10 years. The Sponsor will be contacted prior to final disposition of these items.

VI. RESULTS

Range-Finding Study Data

Individual Data: Appendix B

LD50 Study Data

Mortality:

Summary Data: Table 1

Individual Data: Appendix C

All mortality occurred by study day 4.

Clinical Observations:

Summary Data: Table 2

Individual Data: Appendix C

The most notable clinical abnormalities observed during the LD50 study included decreased activity, salivation, rough haircoat, mucoid/soft stools, fecal/urine stain, hunched posture, dehydration, dark material around the facial area, decreased defecation and food consumption, gasping and rales.

Body Weight Data:

Summary Data: Table 3

Individual Data: Appendix D

Body weight gain was noted for the majority of surviving animals during the test period.

Gross Necropsy:

Summary Data: Table 4
Individual Data: Appendix E

The most notable gross internal findings were observed in the animals that died and included dark red medulla of the kidney, dark red foci on the thymus, mottled lungs, abnormal colored mucoid/fluid contents and eroded area(s), reddened mucosa and dark red linear striations on the stomach.

LD50 Calculations:

Summary Data: Presented below
Individual Data: Appendix F

Sex	LD50 (mg/kg)	95% Confidence Interval (mg/kg)	Slope	95% Confidence Interval
Male	546	282 - 1057	1.71	0.62 - 4.73
Female	328	209 - 516	1.44	0.89 - 2.33
Combined	409	305 - 547	1.60	1.08 - 2.38

VII. CONCLUSION

Under the conditions of this test, the acute oral LD50 of [Di/Mono] Methyltin Chlorides Solution in the male rat was determined to be 546 mg/kg. In the female rat, the oral LD50 was determined to be 328 mg/kg. In the sexes combined, the oral LD50 was determined to be 409 mg/kg.



Rusty E. Rush, M.S., LAT
Study Director

Date 7-21-93

VIII. REPORT REVIEW

Deborah A. Douds

Deborah A. Douds, M.S.
Associate Toxicologist

Date 7/21/03

Kimberly L. Bonnette

Kimberly L. Bonnette, M.S., LATG
Toxicologist

Date 7/21/03

IX. REFERENCES

1. Guide for the Care and Use of Laboratory Animals, DHHS Publication No. (NIH) 86-23, 1985.
2. Litchfield and Wilcoxon, J. Pharmacol. Exp. Ther., 96:99-113, 1949.

TABLE 2
AN ACUTE ORAL TOXICITY STUDY IN RATS
SUMMARY OF CLINICAL OBSERVATIONS (OCCURRENCE/ANIMALS AFFECTED)

— M A L E —

	TABLE RANGE:			
	DAY 1	DAY 2	DAY 3	DAY 14
DEAD	0/ 0	1/ 1	2/ 2	
- FOUND DEAD	5/ 5	4/ 4	3/ 3	
- SCHEDULED EUTHANASIA				500
ACTIVITY	5/ 5	5/ 4	7/ 5	
- SALIVATION	0/ 0	2/ 1	0/ 0	
- RALES	0/ 0	1/ 1	1/ 1	
- ACTIVITY DECREASED	0/ 0	1/ 1	0/ 0	
- CASPING	0/ 0	0/ 0	1/ 1	
- COOL TO THE TOUCH	0/ 0	0/ 0	1/ 1	
- SLOW BREATHING	0/ 0	0/ 0	1/ 1	
- PROSTRATION	0/ 0	0/ 0	1/ 1	
EXCRETA/EMESIS	2/ 2	3/ 1	7/ 3	
- SOFT STOOLS	5/ 4	15/ 5	5/ 1	
- MUCOID STOOLS	1/ 1	1/ 1	4/ 1	
- FEW FECES	0/ 0	0/ 0	1/ 1	
- NO FECES				
BODY	10/ 5	11/ 5	21/ 3	
- ROUGH COAT				

TABLE 2
 AN ACUTE ORAL TOXICITY STUDY IN RATS
 SUMMARY OF CLINICAL OBSERVATIONS (OCCURRENCE/ANIMALS AFFECTED)

SLS STUDY NO.: 3255 6

M A L E

	TABLE RANGE:		
	DAY 1	DAY 2	DAY 3
GROUP:	200	300	500
LEVEL(MG/KG):			
BODY	3/ 1	1/ 1	5/ 1
-URINE STAIN	2/ 2	17/ 5	21/ 5
-FECAL STAIN	0/ 0	1/ 1	10/ 1
-DEHYDRATION	0/ 0	1/ 1	0/ 0
-HUNCHED POSTURE			
NOSE/MOUTH	0/ 0	0/ 0	9/ 5
-DARK MATERIAL AROUND MOUTH	0/ 0	0/ 0	5/ 2
-DARK MATERIAL AROUND NOSE			
OTHER	0/ 0	2/ 1	2/ 1
-LOW FOOD CONSUMPTION (QUALITATIVE ESTIMATE)			

TABLE 2
AN ACUTE ORAL TOXICITY STUDY IN RATS
SUMMARY OF CLINICAL OBSERVATIONS (OCCURRENCE/ANIMALS AFFECTED)

SLS STUDY NO.: 3255 6

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

	TABLE RANGE:			
	GROUP:	DAY 1	DAY 2	DAY 3
LEVEL(MG/KG):	200	300	500	
DEAD	0/ 0	3/ 3	4/ 4	
-FOUND DEAD	5/ 5	2/ 2	1/ 1	
-SCHEDULED EUTHANASIA				
ACTIVITY	5/ 5	7/ 5	8/ 5	
-SALIVATION	0/ 0	4/ 1	0/ 0	
-RALES	0/ 0	3/ 3	3/ 2	
-ACTIVITY DECREASED	0/ 0	1/ 1	2/ 1	
-POORLY GAIT	0/ 0	0/ 0	2/ 1	
-GASPING	0/ 0	0/ 0	2/ 1	
-LABORED BREATHING	0/ 0	0/ 0	2/ 1	
-TREMORS	0/ 0	2/ 2	0/ 0	
-COOL TO THE TOUCH	0/ 0	1/ 1	0/ 0	
EXCRETA/EMESIS	3/ 2	1/ 1	3/ 2	
-SOFT STOOLS	4/ 2	10/ 5	3/ 1	
-MUCOID STOOLS	3/ 3	5/ 4	2/ 1	
-FEW FECES				
BODY	11/ 5	8/ 5	8/ 1	
-ROSCHE COAT	8/ 4	4/ 1	7/ 1	
-URINE STAIN				

TABLE 2
 AN ACUTE ORAL TOXICITY STUDY IN RATS
 SUMMARY OF CLINICAL OBSERVATIONS (OCCURRENCE/ANIMALS AFFECTED)

--- FEMALE ---

	TABLE RANGE:			
	GROUP:	DAY 1	DAY 2	DAY 3
LEVEL (MG/KG):	200	300	500	500
BODY	6/ 5	12/ 4	10/ 4	10/ 4
-FECAL STAIN	0/ 0	3/ 3	6/ 1	6/ 1
-DEHYDRATION	0/ 0	2/ 2	0/ 0	0/ 0
-HUNCHED POSTURE	0/ 0	0/ 0	3/ 1	3/ 1
-URINEPT APPEARANCE				
EYES	0/ 0	0/ 0	1/ 1	1/ 1
-EYELIDS PARTIALLY CLOSED	1/ 1	0/ 0	2/ 1	2/ 1
-DARK MATERIAL AROUND EYE(S)				
NOSE/MOUTH	1/ 1	0/ 0	8/ 3	8/ 3
-DARK MATERIAL AROUND MOUTH	1/ 1	0/ 0	5/ 1	5/ 1
-DARK MATERIAL AROUND NOSE				
OTHER	0/ 0	2/ 2	1/ 1	1/ 1
-LOW FOOD CONSUMPTION (QUALITATIVE ESTIMATE)				

TABLE 3
AN ACUTE ORAL TOXICITY STUDY IN RATS
SUMMARY OF BODY WEIGHT DATA (GRAMS)

GROUP: LEVEL:	M A L E			500 MG/KG
	1 200 MG/KG	2 300 MG/KG	3 500 MG/KG	
(PREFASTED) DAY -1				
0	229 4.0 5	261 4.5 5	239 8.9 5	
7	202 2.3 5	231 3.5 5	212 7.2 5	
14	295 6.6 5	322 2.4 4	264 42.6 3	
	343 14.2 5	369 10.4 4	337 33.0 3	

TABLE 4
ACUTE ORAL TOXICITY STUDY IN RATS
SUMMARY OF GROSS NECROPSY OBSERVATIONS

	FOUND DEAD					
	MALE		FEMALE			
	1	2	1	2	3	500
NUMBER OF ANIMALS IN DOSE GROUP	5	5	5	5	5	5
NUMBER OF ANIMALS FOUND DEAD	0	1	0	3	4	4
	GROUP:		GROUP:		GROUP:	
	LEVEL (MG/KG):		LEVEL (MG/KG):		LEVEL (MG/KG):	
	200	300	200	300	500	500
SMALL INTESTINE	0	0	0	0	0	0
-YELLOWISH-ORANGE MUCOID CONTENTS	0	0	0	0	0	0
-MUCOSA STAINED ORANGE	0	1	0	0	0	0
-YELLOWISH-RED MUCOID CONTENTS	0	0	0	0	0	0
-REDDISH-ORANGE MUCOID CONTENTS	0	0	0	0	0	0
-YELLOWISH-GREEN MUCOID CONTENTS	0	0	0	0	0	0
-REDDENED MUCOSA	0	0	0	0	0	0
LARGE INTESTINE	0	0	0	0	0	0
-GREENISH-YELLOW MUCOID CONTENTS	0	0	0	0	0	0
-REDDENED MUCOSA	0	0	0	0	0	0
-GREENISH-RED MUCOID CONTENTS	0	0	0	0	0	0
BRAIN	0	0	0	0	0	0
-MENINGEAL VESSELS CONGESTED	0	0	0	0	0	0
KIDNEYS	0	0	0	0	0	0
-RENILLA - DARK RED	0	0	0	0	0	0
-SMALL	0	0	0	0	0	0
-PALE	0	0	0	0	0	0
-LOBULATED	0	0	0	0	0	0
LUNGS	0	0	0	0	0	0
-MOTTLED	0	0	0	0	0	0
STOMACH	0	0	0	0	0	0
-YELLOWISH-ORANGE MUCOID CONTENTS	0	0	0	0	0	0

TABLE 3
AN ACUTE ORAL TOXICITY STUDY IN RATS
SUMMARY OF BODY WEIGHT DATA (GRAMS)

SLS STUDY NO.: 3255 6

		FEMALE		
		1	2	3
		200 MG/KG	300 MG/KG	500 MG/KG
GROUP:	LEVEL:			
(PREFASTED)				
DAY -1				
	MEAN	273	247	231
	S.D.	23.4	9.9	7.4
	N	5	5	5
0	MEAN	254	224	210
	S.D.	21.7	8.0	8.7
	N	5	5	5
7	MEAN	299	261	234
	S.D.	20.2	-	-
	N	5	2	1
14	MEAN	309	268	285
	S.D.	24.2	-	-
	N	5	2	1

(21)

NOTE: STANDARD DEVIATION IS NOT CALCULATED WHEN N ≤ 2.

TABLE 4
ACUTE ORAL TOXICITY STUDY IN RATS
SUMMARY OF GROSS NECROPSY OBSERVATIONS

FOUND DEAD

	GROUP:					
	MALE			FEMALE		
	1 200	2 300	3 500	1 200	2 300	3 500
NUMBER OF ANIMALS IN DOSE GROUP	5	5	5	5	5	5
NUMBER OF ANIMALS FOUND DEAD	0	1	2	0	3	4
	LEVEL (MG/KG):					
STOMACH	0	0	2	0	3	3
-YELLOWISH-ORANGE FLUID CONTENTS	0	0	0	0	2	0
-FOODED AREA(S)	0	1	0	0	2	1
-REDDENED MUCOSA	0	0	2	0	1	2
-DARK RED LINEAR STRIATIONS	0	0	0	0	0	1
-GREENISH-TAN FLUID CONTENTS	0	0	0	0	0	1
-PALE GREEN AREA(S)	0	0	0	0	0	1
-BROWNISH-RED MUCOID CONTENTS	0	1	0	0	0	0
THYMUS	0	0	0	0	2	1
-DARK RED FOCI						
EXTERNAL APPEARANCE	0	0	2	0	2	2
-DRY RED CRUSTED MATERIAL AROUND NOSE AND MOUTH	0	1	0	0	1	0
-WET YELLOW MATTING - UROGENITAL AREA	0	0	1	0	1	3
-WET GREENISH-YELLOW MATTING AROUND MOUTH	0	0	0	0	2	0
-WET YELLOWISH-ORANGE MATTING - UROGENITAL AREA	0	0	0	0	1	0
-CLEAR RED MATTING AROUND NOSE	0	0	2	0	0	3
-BROWNISH-GREEN CRUSTED MATERIAL - ANOGENITAL AREA	0	0	0	0	0	0
-TAIL - OPEN LESION	0	1	0	0	0	0
-YELLOWISH-BROWN MUCOID MATERIAL - ANOGENITAL AREA	0	1	0	0	0	0
-JELLED RED MATERIAL AROUND NOSE AND MOUTH	0	1	0	0	0	0
PITUITARY GLAND	0	0	0	0	1	0
-REDDENED	0	0	0	0	0	0
NO REMARKABLE FINDINGS - ALL EXAMINED TISSUES	0	0	0	0	0	0

TABLE 4
ACUTE OPAL TOXICITY STUDY IN RATS
SUMMARY OF GROSS NECROPSY OBSERVATIONS

SCHEDULED EUTHANASIA

	GROUP: LEVEL (MG/KG):	M A L E			F E M A L E		
		1 200	2 300	3 500	1 200	2 300	3 500
NUMBER OF ANIMALS IN DOSE GROUP		5	5	5	5	5	5
NUMBER OF ANIMALS TERMINALLY EUTHANIZED		5	4	3	5	2	1
LINGS -BOTTLED		1	0	0	0	0	0
SPLEEN -GREY FOCI		1	0	0	1	0	0
NO REMARKABLE FINDINGS - ALL EXAMINED TISSUES		3	4	3	4	2	1