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EPA Reviewer: Whang Phang, Ph.D. Signature: Whang Phang
Review Section III, Toxicology Branch II Date: 9/14/93
Health Effects Division (H7509C)
EPA Section Head: James Rowe, Ph.D. Signature: James N. Rowe
Review Section III, Toxicology Branch II Date: 9/15/93
Health Effects Division (H7509C)

DATA EVALUATION REPORT

STUDY TYPE: Acute oral toxicity in rats

EPA Registration No.: 057978-G

Tox Chem. No.:

MRID No.: 424845-01

PC Number: 128972

TEST MATERIAL: Suttocide A, 50% solution (Integra 44)

SYNONYM(S): Sodium hydroxymethylglycinate

SPONSOR: Sutton Laboratories, Inc., Chatham, NJ

STUDY NUMBER: MB 92-1554 A

TESTING FACILITY: MB Research Laboratories, Inc., Spinnerstown, PA

TITLE OF REPORT: Single Dose Oral Toxicity in Rats/LD_{50} in Rats: Suttocide A 50% Solution

AUTHOR(S): D.R. Cerven

STUDY COMPLETED: June 27, 1992; amended final report submitted: September 10, 1992

CONCLUSIONS: Estimated acute oral LD_{50} in males: 2300 mg/kg
(95% confidence interval 1600-3300 mg/kg)
Estimated acute oral LD_{50} in females: 2100 mg/kg
(95% confidence interval 1600-2800 mg/kg)
Estimated acute oral LD_{50} in sexes combined: 2100 mg/kg
(95% confidence interval 1600-2800 mg/kg)

CORE CLASSIFICATION: Core Guideline. This study satisfies the requirements of Guideline Series 81-1 for an acute oral toxicity study. It is recommended, however, that future submissions provide a full description of the environmental conditions under which the test animals have been maintained.

TOXICITY CATEGORY: III

A. MATERIALS

Test Compound: Suttocide A, 50% solution (Integra 44)

Identification number: Lot number SA-118
Active ingredient: Sodium hydroxymethylglycinate (See DER 2-99/276, MRID No. 424845-03 for purity and formulation information for lot number SA-118.)
Formulation: 49.8% sodium hydroxymethylglycinate, [redacted]
Purity: 49.8%
Physical description: Clear liquid
Specific gravity: 1.27 g/mL
Receipt date: May 4, 1992
Storage conditions: Room temperature and humidity
Stability: Not reported

Dose levels: 1000, 2500, 3200, and 5000 mg/kg, administered as received
Dosing volume: 0.17-1.1 mL

Controls: None

Test Animals

Species: Rat
Strain: Wistar albino
Source: Ace Animals (location not specified)
Sex: Male and female
Age: Not reported
Weight (at initiation): Males, 250-275 g; females, 201-225 g
Housing: 5 animals/cage
Number of animals/dose: 10 (5/sex)

Environmental conditions: Temperature: Not reported
Humidity: Not reported
Air changes per hour: Not reported
Photoperiod: 12 hours

B. TEST PERFORMANCE

Animals fasted: 16-20 hours prior to dosing

Dosing: Single oral gavage administration

Observation period: 14 days

Observation frequency: Animals were observed for signs of toxicity at 1, 2, and 4 hours postdosing, and once daily thereafter for 14 days; animals were observed for mortality twice daily.

Body weight interval: Days 0, 7, and 14, or at discovery of early death

Gross pathology: YES X ; NO ____

Histopathology: YES ____; NO X

INERT INGREDIENT INFORMATION IS NOT INCLUDED

C. REPORTED RESULTS

Mortality: Mortality results are summarized below.

Dosage (mg/kg)	Number Dead/Number Tested		
	Males	Females	Combined
1000	0/5	0/5	0/10
2500	3/5	4/5	7/10
3200	4/5	5/5	9/10
5000	5/5	5/5	10/10

All unscheduled deaths occurred during the first 24 hours postexposure.

Clinical Observations: Lethargy, ataxia and diarrhea occurred in all of the high-dose animals and in many animals exposed to 2500 and 3200 mg/kg at a similar incidence throughout all dose groups. Piloerection was also frequently observed in the high-dose animals. In animals that died prior to sacrifice, signs of toxicity that were observed less frequently included dyspnea, ptosis, flaccid muscle tone, prostration, and coma. Animals that survived treatment appeared normal by day 2, with the exception of one male in the 1000-mg/kg group that had chromodacryorrhea on days 9 and 13-14 and ptosis on days 13-14.

Body Weights: Slight, dose-related decreases in body weight gains were noted in treated males but not females. Among animals that survived treatment, the males gained an average of 47% (range 25-60%) and females gained an average of 30% (range 20-35%) of their initial weights.

Gross Necropsy: In animals that died prior to sacrifice, discoloration was noted in the intestines (red or yellow), lungs (red), liver (pale or darker than normal), and spleen and/or pancreas (darker than normal). The intestines of some animals were distended with gas or mucus. The nose/mouth region of many of the animals that died was wet, and brown staining of the anogenital region was reported frequently in these animals. There were no macroscopic abnormalities reported in any animals that survived treatment.

LD_{50} Determination: The estimated acute oral LD_{50}, calculated by probit analysis, was 2300 mg/kg (95% confidence interval 1600-3300 mg/kg) in males and 2100 mg/kg (95% confidence interval 1600-2800 mg/kg) in females; the estimated acute oral LD_{50} in sexes combined was 2100 mg/kg (95% confidence interval 1600-2800 mg/kg). These values correspond to Toxicity Category: III.

D. REVIEWERS' COMMENTS: The reviewers agree with the study author's interpretation of the reported findings. Suttocide A, 50% solution was moderately toxic to rats exposed to a single dose of the compound, and the estimated acute oral LD_{50} for both sexes combined was approximately 2100 mg/kg. Dose levels ≥2500 mg/kg caused high mortality preceded by clinical signs of CNS toxicity (e.g., lethargy, ataxia, diarrhea); dose-related decreases in body weight gains in treated males were also

noted. In general, clinical signs of toxicity in animals that survived treatment subsided by day 2.

The following reporting deficiencies were noted, but were judged not to have affected the outcome of the study:

- The age of the study animals was not reported; however, based on the body weights of the animals, it appears that the animals were young adults.

- A full description of the environmental conditions in the animal room, including the temperature, humidity and number of air changes per hour, was not provided. The report did indicate that the animal room was temperature controlled.

E. QUALITY ASSURANCE MEASURES: Was the test performed under GLPs? Yes. (A quality assurance statement, signed and dated September 10, 1992, was submitted.)