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E. I. du Pont de Nemours and Co., Inc.
Haskell Laboratory for Toxicology and Industrial Medicine
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HASKELL LABORATORY REPORT NO. 584-84 [redacted]

Material Tested	Haskell No.
[redacted]	15,388

MEDIAN LETHAL DOSE (LD50) OF [redacted] IN RATS

SUMMARY

Single doses of [redacted] were administered by intragastric intubation to male rats. The LD50 was determined to be 1900 mg/kg of body weight. Clinical signs were noted in lethally and non-lethally dosed animals. Deaths occurred within 6 days after dosing. This material is considered slightly toxic when administered as a single oral dose (i.e., LD50 between 500 and 5000 mg/kg).

INTRODUCTION

The purpose of this test was to determine the LD50 for [redacted] in rats. The LD50 is defined as that dose which, when administered as a single dose, is expected to kill 50% of dosed animals within 14 days of dosing. While the evaluation of clinical signs of abnormality and gross pathologic changes observed after dosing are useful in assessing the toxicity of a test material, these data are not used in the calculation of the LD50.

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MATERIALS AND METHODS

A. Animal Husbandry

Male, 7-week-old, Crl:CD®(SD)BR rats were received from Charles River Breeding Laboratories, Kingston, New York. Rats were housed singly in suspended, stainless steel, wire-mesh cages. Each rat was assigned a unique identification number which was recorded on a card affixed to the cage. Animal rooms were maintained on a timer-controlled 12 hour/12 hour light/dark cycle; the relative humidity range was 32-58% and the temperature range was 23-26°C. Purina Certified Rodent Chow® #5002 and water were available ad libitum. Rats were quarantined, weighed, and observed for general health approximately one week prior to testing. Rats were 8 weeks old when dosed.

B. Protocol

Single oral doses of the test material were made up as suspensions in Mazola® corn oil. Doses were administered to 4 groups of 10 male rats. Later in the day, rats were checked for clinical signs of toxicity. The surviving rats were weighed and observed daily, weekends excluded, during a 14-day recovery period and then sacrificed. The LD50 values were calculated from the mortality data using the method of D. J. Finney.[1]

C. Test Material

Form: White to tan powder
Purity: [redacted]
Stability: The material was assumed to be stable under the conditions of this study.
Composition: [redacted]
Synonyms:
Submitted by: Polymer Products Department
Washington Works

D. Raw Data and Final Report Storage

All raw data and the final report will be stored in the archives of Haskell Laboratory for Toxicology and Industrial Medicine, E. I. du Pont de Nemours and Co., Inc., Newark, Delaware, or in the Du Pont Hall of Records, Wilmington, Delaware.

RESULTS

A. Dosing Information and Mortality Data

The dosing information, fasted mean body weights, and mortality ratios are given below:

Dose (mg/kg)	Average Body Weight (s)	Suspension (mg/mL)	Average Dose (mL)	Mortality Ratio
1200	254	200	1.5	0/10
1500	241	200	1.8	4/10
1800	243	200	2.2	6/10
2000	243	200	2.4	4/10

The LD50 for male rats was 1869 mg/kg with a 95% confidence interval of 1617-3343 mg/kg and a slope of 6.9 probits/log (mg/kg).

B. Clinical Signs

Non-Lethal Doses: Commonly observed clinical signs included ruffled fur, hyperactivity, limpness, hunched posture and a brown discharge from the nose.

Lethal Doses: Commonly observed clinical signs included brown or yellow stained and/or wet perineum, hunched posture, diarrhea, red, yellow and/or brown discharges from the eyes, nose and mouth and moderate to severe weight loss (i.e., 5-15% of body weight) generally lasting from 1-6 days after dosing. Other clinical signs included ruffled fur, hyperactivity, limpness, rapid and/or labored breathing, limp noise, ataxia, hair loss, low posture, general paralysis and lethargy. Deaths occurred within 3-6 days after dosing.

CONCLUSION

The LD50 for [redacted] was determined to be 1900 mg/kg of body weight under the conditions of this test. This material is considered slightly toxic when administered in single oral doses to male rats (i.e., LD50 between 500 and 5000).

Acknowledgement:

Bruce A. Burgess and Rayanne L. Ferenz also participated in this study.

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[1]Finney, D. J., Probit Analysis, 3d Ed., Cambridge University Press, 1971.

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