

US EPA ARCHIVE DOCUMENT

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8/2/2000

**DATA EVALUATION REPORT**

ZIRAM 76 WG

STUDY TYPE: ACUTE GAVAGE  RAT (81-1)

Prepared for

Health Effects Division  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Prepared by

Chemical Hazard Evaluation Group  
Biomedical and Environmental Information Analysis Section  
Health Sciences Research Division  
Oak Ridge National Laboratory\*  
Oak Ridge, TN 37831  
Task Order 94-43A

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**Disclaimer**

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[ZIRAM 76 WG]

Acute Oral Study (81-1)

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Review Section IV, Toxicology Branch I (7509C)

\_\_\_\_\_, Date \_\_\_\_\_  
\_\_\_\_\_, Date \_\_\_\_\_

### DATA EVALUATION REPORT

STUDY TYPE: Acute Gavage ☒ Rat (81-1)

TOX. CHEM. NO.: 931

P.C. CODE.: 034805

MRID NO.: 42429301

TEST MATERIAL: Ziram 76 WG

SYNONYMS: Bis(dimethylcarbamodithioato-S,S')zinc; bi(dimethyldithiocarbamato)zinc; zinc dimethyldithiocarbamate; dimethyldithiocarbamic acid zinc salt; methyl cymate; Methasan; Zimate; Zirberk; Karbam White; Corozate; Fuclasin; Fuklasin; Zerlate

STUDY NUMBER: 378/1

SPONSOR: UCB S.A., Chemicals Sector, Organics Division, 326 Avenue Louise, Box 7, B-1050 Brussels, Belgium

TESTING FACILITY: Safepharm Laboratories Limited, P.O. Box 45, Derby, DE1 2BT, United Kingdom

TITLE OF REPORT: Ziram 76 WG: Acute Oral Toxicity (Limit Test) in the Rat

AUTHOR: D.J. Walker

REPORT ISSUED: July 18, 1991

EXECUTIVE SUMMARY: In an acute oral toxicity study (MRID 42429301), 5 male and 5 female Sprague-Dawley rats were given a single treatment of 2000 mg/kg Ziram 76 WG (77.4% a.i.) by gavage in 10 ml distilled water and observed for up to 14 days.

Two females died during the study. Although two males showed decreased weight gain during the first week after dosing, body weights were largely unaffected by Ziram. Hunched posture and lethargy were commonly found in both sexes on the day of dosing. In addition, ptosis was observed in two males and in the two females found dead, and one male exhibited ataxia, tiptoe gait, red/brown stains around mouth, dehydration, and decreased respiratory rate. Clinical signs continued in males up to 9 days after treatment and were no longer present 1 or 2 days after treatment in surviving females. Based on the results of the study, **the acute oral LD and female Sprague Dawley rats is greater than 2000 mg/kg.**

for male

The study is classified as **Acceptable with a Toxicity Category of III** and satisfies the requirement, §81-1, for an acute oral toxicity study in rats. Signed Quality Assurance and Good Laboratory Practice statements were present.

A. MATERIALS1. Test material: Ziram 76 WG

Description: light brown, fine granules

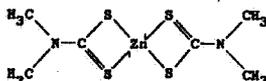
Lot/Batch #: 1407AA

Purity: 77.4% by analysis on 4/15/91

Stability: not provided

Contaminants: not specified

Structure:

2. Test animals

Species: rat

Strain: Sprague-Dawley

Age and weight at study initiation: 5-8 weeks old; 148-170 g (males), 139-155 g (females)

Source: Charles River (UK) Ltd., Manston, Kent, United Kingdom

3. Animal care

Housing: in groups up to 5 segregated by sex in solid-floor polypropylene cages

Transfer to clean cages: not reported

Food: Rat and Mouse Expanded Diet No. 1 (Special Diet Services Limited, Witham, Essex, United Kingdom) *ad libitum*

Water: *ad libitum*

Acclimation period: at least 5 days

Temperature: 20-22°C

Humidity: 47-69%

Air changes: 15 changes/hour

Photoperiod: 12 hours light/12 hours dark

B. METHODS

After an overnight fast, 5 male and 5 female rats were administered by gavage a single dose of 2000 mg/kg of Ziram as a suspension in distilled water at a volume of 10 mL/kg. [The dose was selected based on the results of a range-finding study in which groups of 1 male and 1 female rat were treated with single gavage doses of 500, 1000, or 2000 mg/kg. one female died at 500 mg/kg.] Deaths and overt signs of toxicity were recorded 0.5, 1, 2, and 4 hours after dosing and subsequently once daily for 14 days. Individual body weights were recorded on the day of treatment (day 0) and on days 7 and 14, or at death. Dosing solutions were not analyzed and test material was apparently not adjusted for purity of a.i.

All rats were necropsied and examined for gross pathology at the time of death or when killed by cervical dislocation at the termination of the 14-day study. No tissues were saved for histopathologic examination.

C. RESULTS1. Mortality

Two females were found dead one day after treatment. No other deaths occurred.

2. Clinical observations

Common signs of toxicity noted in all animals during the day of dosing included hunched posture and lethargy. Ptosis was observed in two males and in the two females found dead. The three surviving females appeared normal 1 to 2 days after treatment. Hunched posture and lethargy continued in males up to 9 days after treatment. Additionally, one male exhibited ataxia, tiptoe gait, red/brown stains around mouth, dehydration, and decreased respiratory rate. All males appeared normal 10 days after treatment.

3. Body weight

Two males had reduced body weight gains over the first week. All surviving animals showed expected body weight gains over the second week.

4. Necropsy

No effects related to treatment with Ziram were found at necropsy in the animals killed at the end of the study. The animals that died during the study had abnormally red lungs, dark liver and kidneys, and hemorrhage of the gastric mucosa. A white substance, presumed to be the test material, was present in the stomach and small intestines of these animals.

5. LD<sub>50</sub>

Based on the results of the study, the oral LD<sub>50</sub> for Sprague Dawley rats was calculated to be >2000 mg/kg, Toxicity Category III. The method for LD<sub>50</sub> calculation was not provided since the LD<sub>50</sub> was not achieved at the only dose tested, 2000 mg/kg.

6. Signed Quality Assurance and Good Laboratory Practice statements were present.

[ZIRAM 76 WG]

Acute Oral Study (81-1)

SignOff Date: 8/2/00  
DP Barcode: D172447  
HED DOC Number: 014277  
Toxicology Branch: RAB2