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Review Section II, Toxicology Branch II (7509C)

DATA EVALUATION RECORD

STUDY TYPE: Acute Oral Toxicity - Rat
OPPTS 870.1100 [§81-1]

DP BARCODE: D232846
P.C. CODE: 090301
Case: 819319

SUBMISSION CODE: S517496
ID No.: 090301
CASWELL No.: 549C

TEST MATERIAL (PURITY): DPX-X1179-507, (29.1% methomyl a.i.)

SYNONYMS: Lannate®LV; Ethanimidothioic acid, N-[[(methylamino)-carbonyl]oyl]-methyl ester

CITATION: Sarver, J W. Acute Oral Toxicity Study with DPX-X1179-507 (Lannate®LV) in Male and Female Rats. E.I.du Pont de Nemours and Company, Haskell Laboratory for Toxicology and Industrial Medicine, Newark, DE. Lab Report No. 967-96. December 12, 1996. MRID# 44181302. Unpublished.

SPONSOR: E.I.du Pont de Nemours and Company, Newark, DE

EXECUTIVE SUMMARY: In an acute oral toxicity study (MRID 44181302), groups of fasted, 7-8 weeks old, Crl:CD®BR rats (5/sex/group) were given a single oral dose of DPX-X1179-507 (Lannate®LV) (29.1 % methomyl a.i.) in deionized water at doses of 20, 40, 60 or 100 mg/kg and observed for 14 days.

Oral LD_{50} Males = 89 mg/kg (61-44,000 mg/kg)
Female = 49 mg/kg (23-87 mg/kg)

DPX-X1179-507 (Lannate®LV) is **TOXICITY CATEGORY I** based on the LD_{50} in females.

Treatment-related signs of toxicity included tremors, salivation, wet perineum, hunched over posture, red ocular or oral discharge, piloerection, red-stained mouth, nose, or face and wet chin.

This study is classified **Acceptable** and satisfies the guideline requirement for an acute oral toxicity study (81-1) in the rat.

COMPLIANCE: Signed and dated GLP, Quality Assurance, Data Confidentiality, and Flagging statements were provided.

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I. MATERIALS AND METHODS

A. MATERIALS:

1. Test Material: DPX-X1179-507 (Lannate®LV)
   Description: Clear brown liquid
   Lot/Batch #: R941006-01
   Purity: 29.1% methomyl a.i. and 71% inert ingredients
   CAS #: 16752-77-5 for methomyl

2. Vehicle: Deionized water

3. Test animals: Species: rats
   Strain: Crl:CD®BR
   Age and/or weight at dosing: 7-8 weeks, males: 209-236 g; females: 200-207 g
   Source: Charles River Laboratories, Raleigh, NC
   Acclimation period: 1 week
   Diet: Purina® certified Rodent Chow®, ad libitum
   Water: Tap water, ad libitum
   Environmental conditions: Temperature: 23 ± 1 °C
   Humidity: 50 ± 10%
   Air changes: Not provided
   Photoperiod: 12 hrs light/dark

B. STUDY DESIGN and METHODS:

1. In life dates - start: 9/5/96 end: 10/1/96

2. Animal assignment and treatment - Animals were assigned to the test groups (5/sex) as noted in table 1. Rats were given a single dose by intragastric intubation at dosages of 20, 40, 60 or 100 mg/kg in deionized water then observed daily for 14 days. Animals were weighed daily except on weekends. Survivors were sacrificed and a necropsy was performed.

TABLE 1. Doses, mortality/animals treated

Dose (mg/kg)	Males (Day of death)	Females (Day of death)
20	0/5 (-)	0/5
40	0/5 (-)	1/5 (1)
60	1/5 (1)	4/5 (1)
100	3/5 (1)	5/5 (1)

Data extracted from pages 31-38 of the report.

3. Statistics - The oral LD_{50} was calculated using the method of Finney[1].

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II. RESULTS AND DISCUSSION:

A. Mortality is given in table 1. The incidence of mortality increased with dose, with all deaths occurring on day 1. The oral LD_{50} (95% C.I.) for fasted males is 89 mg/kg (61 to 44,000 mg/kg). The oral LD_{50} (95% C.I.) for fasted females is 49 mg/kg (23 to 87 mg/kg)

B. Clinical observations - The following clinical observations were extracted from the report, "all male and female rats, from all dose groups, exhibited tremors within 7 minutes after dosing. All female rats from the 20 mg/kg dose group and all male rats from the 100 mg/kg dose group also exhibited salivation within 7 minutes after dosing. These signs had subsided in all rats by one hour after dosing except one female from the 40 mg/kg dose group which still exhibited tremors and salivation. Two males and one female from the 60 mg/kg dose group exhibited salivation, and one male from the 100 mg/kg dose group exhibited tremors and salivation. Other clinical signs of toxicity observed at the one-hour observation or on the day following dosing included wet perineum, hunched over posture, red ocular or oral discharge, piloerection, red-stained mouth, nose, or face and wet chin."

C. Body Weight - Body weight gain was not affected in animals surviving to Day 14.

D. Necropsy - The gross observation for rats found dead were nonspecific and no target organs were identified. No abnormalities were found in rats sacrificed at the end of the 14-day observation period.

E. Deficiencies - No significant deficiencies were noted.

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

Sign-off date: 02/21/97
DP Barcode: D232846
HED DOC Number: "NONE"
Toxicology Branch: TB2

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