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TOX-6096

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

006096

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SEP 10 1986

MEMORANDUM

SUBJECT: EPA File Symbol 352-EUP-RGT
Krovar I DF Herbicide

FROM: Deloris F. Graham DFG 9/12/86 E 9/12/86
Technical Support Section
Fungicide-Herbicide Branch
Registration Division (TS-767C)

TO: Robert J. Taylor, PM 25
Fungicide-Herbicide Branch
Registration Division (TS-767C)

APPLICANT: E.I. du Pont de Nemours & Company, Inc.
Agricultural Products Department
Walker's Mill Building
Barley Mill Plaza
Wilmington, DE 19898

ACTIVE INGREDIENTS:
Bromacil [5-bromo-3-sec-butyl-6-methyluracil] 40%
Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea] 40%
INERT INGREDIENTS: 20%

BACKGROUND:

Submitted Acute Oral, Acute Dermal, Eye Irritation, Skin Irritation, and Dermal Sensitization Studies. Acute Inhalation data were submitted to support waiver. Studies conducted by DuPont's Haskell Laboratory for Toxicology and Industrial Medicine. Data under Accession Number 264275. Method of support not indicated.

RECOMMENDATIONS:

1. FHB/TSS finds these data acceptable to support conditional registration of this product and Experimental Use Permit.

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2. Based on the particle size information submitted by applicant which states that 98 percent of the particles in this product will be between 420 to 2000 um, it is not necessary to conduct an Acute Inhalation Study.

3. The appropriate signal word is DANGER.

LABEL:

1. Precautionary labeling must be revised to include "DANGER. Causes skin damage."

2. The statement "Do not apply directly to water or wetlands" should appear under the heading "Environmental Hazards."

3. The statement "Do not contaminate water by cleaning of equipment or disposal of wastes" must appear only under the heading "Directions For Use" subheading "Storage and Disposal."

REVIEW:

(1) Acute Oral Toxicity Study: Haskell Laboratory; Report No. 749-85; February 25, 1986.

PROCEDURE:

Three groups consisting of 10 male and 10 female rats each were dosed with one of the following: 2000, 2500, or 3000 mg/kg. Another group consisting of 10 female rats only received a single 2200 mg/kg dose. Observations made for 14 days postdosing. Necropsy performed on all animals.

RESULTS:

At 2000 mg/kg, 3/10 M died; at 2200 mg/kg, 2/10 F died; at 2500 mg/kg, 4/10 M and 7/10 F died; at 3000 mg/kg, 8/10 M and 8/10 F died. Toxic signs reported included prostration, discharges from the eyes and mouth, labored breathing, and slight to severe weight loss. No abnormalities at necropsy reported. LD_{50} for males and females combined reported to be 2500 mg/kg.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: III - CAUTION.

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(2) Acute Dermal Toxicity Study: Haskell Laboratory; Report No. 165-86; March 26, 1986.

PROCEDURE:

Five male and five female rats each were treated with a 2000 mg/kg dose of the test material under occlusive wrap for a 24-hour exposure period. Observations made for 14 days post-treatment. Necropsy performed on two male and two female rabbits at the end of 14-day observation period.

RESULTS:

No mortalities reported. Toxic signs reported included - slight to severe erythema, slight to moderate edema, dry and cracked skin and appeared not to be grooming. Necropsy report revealed lesions in lungs and kidneys in one female, but was considered incidental and not test material related. Histopathology revealed increased mitotic activity in root bulb area of the hair follicle of one female and two male rabbits. LD_{50} reported to be greater than 2000 mg/kg.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: III - CAUTION.

(3) Eye Irritation Study: Haskell Laboratory; Report No. 88-86; March 13, 1986.

PROCEDURE:

Nine rabbits received 0.1 g of the test material in one eye each. The treated eyes of three of the rabbits were washed with lukewarm water for 1 minute, 20 seconds after treatment. Observations made for 7 days posttreatment.

RESULTS:

At 24 hours posttreatment, 6/6 animals of the unwashed group and 2/3 of the washed group had conjunctive redness (6/6 = 1) (2/3 = 1); 5/6 + 2/3 chemosis (5/6 = 1) (2/3 = 1) and 1/6 + 1/3 discharge (1/6 = 1) (1/3 = 2). Irritation in unwashed group had cleared by day 7 and in washed group by day 3.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: III - CAUTION.

(4) Primary Skin Irritation Study: Haskell Laboratory; Report No. 89-86; March 13, 1986.

PROCEDURE:

Six rabbits with two abraded and two intact test sites each received 0.5 g of the test material moistened with 0.2 ml saline at each site. Test sites were placed under occlusive wrap for 24-hour exposure period. Observations made for 13 days posttreatment.

RESULTS:

At 24 hours posttreatment, 6/6 rabbits had well-defined to severe erythema and edema at intact and abraded sites (scores of 2, 3, and 4); superficial necrosis also noted in most animals. At 72 hours, 6/6 rabbits had slight to severe erythema (scores of 1, 2, 3, and 4) at intact and abraded sites; slight to moderate edema (scores of 1, 2, and 3) at intact and abraded sites; superficial necrosis also noted. Primary Irritation Index for each animal ranged from 2.9 to 5.9. Mean Primary Irritation Index = 4.45. Irritation persisted in three animals through day 9 and one animal through day 10, but had cleared by day 13.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: I - DANGER.

(5) Skin Sensitization Study: Haskell Laboratory; Report No. 73-86; March 13, 1986.

PROCEDURE:

Ten male guinea pigs received 1 drop (≈ 0.05 ml) of a 40 percent and 4 percent suspensions of the test material in distilled water at shaved, intact shoulder skin sites during primary irritation phase. Two days after primary dermal application these same 10 guinea pigs received four sacral intradermal injections (1 each week) of 0.1 ml of a 1 percent suspension of test material during the induction phase. Two weeks after fourth induction application a challenge dose of 1 drop of 40 percent and 4 percent suspensions of the test material was applied. Also at challenge 10 unexposed guinea pigs were dosed (control groups). Observations made at 24 and 48 hours after each application.

RESULTS:

Primary dermal application produced slight irritation in most animals at 40 percent suspension, but no irritation produced at 4 percent suspension. During induction phase slight to severe erythema and edema produced throughout induction period; blanching and necrotic center also noted. At challenge, slight irritation produced in four animals at 40 percent concentration

and in one animal at 4 percent concentration. At challenge of control group five animals had slight irritation at 40 percent suspension and two animals at 4 percent suspension. Therefore, due to irritation produced, this product is not considered a sensitizing agent, but is considered a primary irritant.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: Nonsensitizing.

DIURON SCIENTIFIC REVIEWS

Page _____ is not included in this copy.

Pages 6 through 8 are not included in this copy.

The material not included contains the following type of information:

___ Identity of product inert ingredients

___ Identity of product impurities

___ Description of the product manufacturing process

___ Description of product quality control procedures

___ Identity of the source of product ingredients

___ Sales or other commercial/financial information

___ A draft product label

___ The product confidential statement of formula

___ Information about a pending registration action

___ FIFRA registration data

___ The document is a duplicate of page(s) _____

___ The document is not responsive to the request

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.