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

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES
JAN 24 1986

MEMORANDUM

SUBJECT: EPA File Symbol 352-UUN
DuPont Krovar II DF Herbicide

FROM: Deloris F. Graham DGH 1/31/86 E 1/31/86
Technical Support Section
Fungicide-Herbicide Branch
Registration Division (TS-767C)

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

Applicant: E.I. duPont de Nemours & Co., Inc.
Agricultural Chemicals Department
Barley Mill Plaza
Wilmington, DE 19898

Active Ingredient:
Bromacil [5-bromo-3-sec-butyl-6-methyluracil] 53%
Diuron [3-(3,4-dichlorophenyl)-1, 1-dimethylurea] 27%
Inert Ingredients 20%

Background:

Acute Oral, Acute Dermal, Eye Irritation, Dermal Sensitization Study and Skin Irritation Studies and particle size information to support waiver of acute inhalation study. Studies conducted by DuPont's Haskell Laboratory and Hazleton Labs. Data under Accession Number 257745. Method of support not indicated.

Recommendations:

FHB/TSS finds the studies submitted acceptable to support conditional registration of this product. Based on the information

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heading "Precautionary Statements" and "Hazard to Humans" and not placed under the subheading "Direction for Use."

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Review:

(1) Acute Oral Toxicity Study; Haskell Laboratory; Report No. 60-85; February 1, 1985.

Procedure: Three groups consisting of ten male rats each received one of the following doses: 2,000, 3,000 or 5,000 mg/kg. Three other groups consisting of ten female rats each received one of the following doses: 1,000, 2,000 or 3,000 mg/kg. Observations were made for 14 days post treatment. Three dying and three surviving rats per dose where necropsied where possible.

Results: At 1,000 mg/kg, 3/10F died; at 2,000 mg/kg, 8/10F and 3/10M died; at 3,000 mg/kg, 9/10F and 8/10M died; at 5,000 mg/kg, 10/10M died. Clinical signs reported included lumpiness, low posture, ataxia, righting reflex, labored breathing, clear and red discharge from eyes, salivation, partially closed eyes, yellow and/or brown stained perineum

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lethargy, red discharge from nose ~~and~~ or mouth and slight to severe weight loss. Necropsy reports revealed eye lesions characterized by cloudy ~~and~~ anterior chambers and one instance corneal ulcers were noted; lung discoloration; small, bilateral seminal vesicles; stomach distended with brown oily liquid; autolysis; chromodacryorrhea, bilateral, periocular; perineum moderately stained brown; thymus discoloration; urinary bladder, dilatation, yellow; renal pelvis - dilatation, slight to moderate; spleen deformed; yellow discharge from oral and nasal cavity. LD50 for males was reported to be 2,333 mg/Kg with 95% confidence limits between 1,711 and 2,849 mg/Kg. LD50 for females reported to be 1,323 mg/Kg with 95% confidence limits between 661 and 1,805 mg/Kg.

Study Classification: Core Guideline Data

Toxicity Category: III - CAUTION

(2) Acute Dermal Toxicity Study: ~~Hazleton~~ Stillmeadow Laboratory; ~~Report~~ Project No. ~~[illegible]~~ 201-S01; March 20, 1985.

Procedure: Based on range finding study five male and five female rabbits received a 2000 mg/Kg dose under occlusive wrap for 24 hour exposure period. Observations made for 14 days post treatment.

Results: No mortalities recorded. Concomitant

Study Classification: Core Guideline Data

Toxicity Category: III - CAUTION

(2) Acute Dermal Toxicity Study: Hazleton Laboratory; Project No. 201-800; March 20, 1985.

Procedure:

Based on range finding study five male and five female rabbits received a 2000 mg/kg dose under occlusive wrap for 24-hour exposure period. Observations made for 14 days posttreatment.

Results:

No mortalities reported. Anorexia, soft feces, erythema, and test material adhering to skin were reported. LD_{50} reported to be greater than 2000 mg/kg.

Study Classification: Core Guideline Data

Toxicity Category: III - CAUTION

(3) Eye Irritation Study: Hazleton Laboratories, Inc.; Project No. 201-798; March 20, 1985.

Procedure:

Nine rabbits received 67 mg aliquot of the test material in one eye each. The treated eyes of three of these rabbits were washed for 1 minute with warm water, 2 seconds posttreatment. Observations made at 24, 48, and 72 hours and 4 and 7 days after treatment.

Results:

At 24 hours posttreatment; 5/6 animals of the unwashed group had corneal opacity and 3/3 animals of the washed group did not (3/6=5, 1/6=10, 1/6=15) (3/3=0); 4/6 iris irritation (4/6=5); 6/6+3/3 conjunctive redness (6/6=2) (2/3=1, 1/3=2); 6/6+1/3 conjunctive chemosis (3/6=1, 3/6=2) (1/3=1); 5/6 conjunctive discharge (4/6=1, 1/6=2).

At day 4, 1/6 corneal opacity (1/6=5); 5/6 had redness (5/6=1). All corneal opacity and other irritation had cleared by day 7.

Study Classification: Core Guideline Data

Toxicity Category: III - CAUTION

(4) Skin Irritation Study: Hazleton Laboratories, Inc.; Project No. 201-799; February 5, 1985.

Procedure:

Six New Zealand rabbits received 0.5 g of the test material at two abraded and two intact skin sites per rabbit under occlusive wrap for 24-hour exposure period. Observations made at 24, 48, and 72 hours after treatment.

Results:

At 24 hours posttreatment, 4/6 had slight erythema (scores of 1). At 72 hours, erythema had cleared in all but 2/6 animals (scores of 1).

Study Classification: Core Guideline Data

Toxicity Category: IV - CAUTION

(5) Dermal Sensitization Study: Hazleton Laboratories, Inc.; Project No. 201-797; March 5, 1985.

Procedure:

Two groups consisting of 10 guinea pigs each were treated with one of the following: test material or saline. Based on a range finding study of the test material concentrations of 7.5 percent or 75 percent were used for primary irritation treatment. Two test sites per animal in test and control groups received a single application of the 7.5 percent or 75 percent at one test site each. The resulting score to be compared with challenge scores. The same 20 animals received a 0.05 intradermal injection for test group and 0.1 mL intradermal injection for saline control group once a week for 4 weeks during induction phase. Thirteen days after fourth induction phase application a challenge dose was applied. The test and control animals were exposed to the same challenge dose. Observations made at 24 and 48 hours after primary irritation and challenge dose and at 24 hours after each induction phase application.

Results:

Slight erythema reported in 2/10 animals of test group during primary phase at site treated with 75 percent. Slight to mild erythema noted in all test animals after 24 hours after each induction phase application. Slight erythema reported in 1/10 animals at 24 hours after first challenge dose of test group. Therefore, a week later a second challenge dose was administered and no irritation was produced. No irritation produced in control groups at all. Therefore, it was concluded that this product did not produce a sensitizing response.

Study Classification: Core Guideline Data

Toxicity Category: Nonsensitizing

DIURON SCIENTIFIC REVIEWS

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