MEMORANDUM

SUBJECT: EPA File Symbol 352-DU
        DuPont Krovar II DP Herbicide

FROM: Deloris F. Graham  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:

- 2,4 Dl Diuron [3-(3,4-dichlorophenyl)-1-
         1-dimethylurea] ................................ 27%
- 2,4 Dl Diuron [3-(3,4-dichlorophenyl)-1-
         1-dimethylurea] ................................ 20%

Background:

Acute Oral, Acute Dermal, Eye Irritation, 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
Review:
White Oral Solubility Study: Shell 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 posttreatment. Three dying and three control surviving rats per dose were necropsied when possible.

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

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lethargy, red discharge from nose and mouth, and slight to severe ether-like odor. Necropsy revealed eye lens characteristically cloudy, and anterior chambers and one anterior corneal ulcer were noted; lung discoloration; small deliverated seminal vesicles; stomach distended with brown gritty liquid; autolysis; chro- mophorescence, bilateral perirenal, peritoneum moderately stained brown; thymus discoloration; accessory bladder discoloration; yellow renal pelvis; delatin; 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 1,771 and 2,849 mg/kg. LD50 for females reported to be 1,333 mg/kg with 95% confidence limits between 661 and 1,805 mg/kg.

Study Classification: Case Guideline Data

Acute Category: III - CAUTION

Arctic Dermal Toxicity Study: Bolland Laboratory


Procedure: Banded range finding study. Five male and five female rabbits received a 2000 mg/kg dose under occlusive wrap for 24-hour exposure period. Observation made for 14 days post treatment.

Result: No mortality reported.
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. LD₅₀ 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=0); 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


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.
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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
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.