2-16-88

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

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

FEB - 8 1988

MEMORANDUM

SUBJECT: EPA File Symbol 192-RTI
Dexol Weed & Grass Killer Concentrate

FROM: Mary L. Waller
Technical Support Section
Fungicide-Herbicide Branch
Registration Division (TS-767C)

TO: Richard F. Mountfort, PM 23
Fungicide-Herbicide Branch
Registration Division (TS-767C)

APPLICANT: Dexol Industries
1450 West 228th Street
Torrance, CA 90501

ACTIVE INGREDIENT:

Diquat Dibromide: 6,7-dihydro-dipyrido(1,2-a: 2',1'-c)pyrazinediium dibromide	1.84%
INERT INGREDIENTS:	98.16%

BACKGROUND:

The applicant has submitted an acute oral, acute dermal, acute inhalation, primary skin irritation, primary eye irritation and dermal sensitization studies. The studies were conducted by Cosmopolitan Safety Evaluation, Inc. The MRID no. are 403599-02 through -07. The method of support was not indicated.

RECOMMENDATION:

FHB/TSS finds the data acceptable to support registration of 192-RTI. The signal word is "CAUTION."

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LABELING:

1. Remove the fifth sentence from under the Precautionary Statements and place it under the "Directions for Use."

2. Add the following sentences to the "Precautionary Statements": "Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse."

3. Revise last sentence under "Environmental Hazards" to read as follows: "Do not contaminate water when disposing of equipment washwaters."

4. Revise disposal statement to read as follows: "Securely wrap original container in several layers of newspaper and discard in trash."

REVIEW:

(1) Acute Oral Toxicity Study: Cosmopolitan Safety Evaluation, Inc.; Project I.D. no. A1776; MRID no. 403599-02; 7-15-87.

PROCEDURE:

Five male and five female Sprague-Dawley derived albino rats were each administered a single oral dose by gavage of 5.0 g/kg of test material. Animals were observed frequently during the first 5 hours and then twice daily thereafter for 14 days. Body weights were recorded prior to dosing and at 7 and 14 days. Animals were necropsied upon discovery of death or at study conclusion.

RESULTS:

One out of five females died. The LD_{50} was reported to be > 5.0 g/kg of test material. No toxic symptoms or abnormalities at necropsy were observed for the study survivors. The one female which died exhibited chromorhinorrhea and perineal staining. Death occurred by day 2. At necropsy, the female exhibited very slight congestion of the intestines, some hepatic mottling and slight pulmonary congestion.

STUDY CLASSIFICATION: Core Guideline Data

TOXICITY CATEGORY: Category IV - CAUTION

(2) Acute Dermal Toxicity Study: Cosmopolitan Safety Evaluation, Inc.; Project no. B1776; MRID no. 403599-03; 7-14-87.

PROCEDURE:

Five male and five female New Zealand white rabbits were clipped free of hair from the trunk (30% of animal). Twenty-four hours later, each animal was administered a topical application of 2.0 g/kg of test material to the previously shaven skin. The test site on each animal was covered with occlusive wrap for 24 hours of exposure. After exposure, the wrap and residual test material were removed. Animals were observed frequently on day of dosing and once daily thereafter for 14 days. Animals were necropsied upon discovery of death or at study conclusion.

RESULTS:

No deaths occurred. The LD_{50} was reported to be > 2.0 g/kg. No toxic symptoms or abnormalities at necropsy were noted. Moderate irritation was observed at test site.

STUDY CLASSIFICATION: Core Guideline Data

TOXICITY CATEGORY: Category III - CAUTION

(3) Acute Inhalation Toxicity Study: Cosmopolitan Safety Evaluation, Inc.; Project no. C1776; MRID no. 403599-04; 8-14-87.

PROCEDURE:

Two groups each consisting of five male and five female Sprague-Dawley derived rats were exposed for 4 hours in a 47.4 L exposure chamber to an actual concentration (gravimetrically measured) of either 3.9 mg/L or 2.8 mg/L of test material. A control group of five male and five female rats were treated similarly with the exception of exposure to test material. Animals were observed hourly during exposure and once daily thereafter for 14 days. Body weights were recorded prior to exposure and for survivors on days 2, 3, 4, 7 and 14. Animals were necropsied.

RESULTS:

At 2.8 mg/L, no deaths occurred. At 3.9 mg/L, 3/5 males and 4/5 females died. The LC_{50} was reported to be > 2.8 mg/L.

Toxic symptoms included labored breathing, depressed activity, chromorhinorrhea, and perineal staining. Gross necropsy revealed congested lungs, whitish thick fluid in the airways, and hepatic mottling.

STUDY CLASSIFICATION: Core Guideline Data

TOXICITY CATEGORY: Category III - CAUTION

(4) Primary Eye Irritation Study: Cosmopolitan Safety Evaluation, Inc.; Project no. 1776D; MRID no. 403599-05; 6-23-87.

PROCEDURE:

Six albino rabbits were each administered 0.1 ml of test material which was placed inside the lower eyelid of each animal's eye. The treated eye was held shut for one second after test material instillation. Eye irritation was scored at 1, 24, 48 and 72 hours and at 6 days.

RESULTS:

Eye irritation was scored as follows: at 24 hours, conjunctivae redness (6/6=1) and chemosis (6/6=1); and at 6 days, all irritation had cleared.

STUDY CLASSIFICATION: Core Guideline Data

TOXICITY CATEGORY: Category III - CAUTION

(5) Primary Dermal Irritation Study: Cosmopolitan Safety Evaluation, Inc.; report no. 1776E; MRID no. 403599-06; 6-25-87.

PROCEDURE:

Six New Zealand white rabbits were clipped free of hair on the dorsal surface. Twenty-four hours later, each animal received a topical treatment of 0.5 ml of test material which was applied to the shaven test site. The test sites were covered with occlusive wrap for 4 hours. After exposure the wrap and residual test material were removed. Skin irritation was scored at 1, 24, 48, and 72 hours and at 4, 5, 6, 7 and 8 days after exposure.

RESULTS:

At 72 hours, 2/6 animals exhibited well-defined erythema, 4/6 animals exhibited very slight erythema and 1/6 animals exhibited very slight edema.

STUDY CLASSIFICATION: Core Guideline Data

TOXICITY CATEGORY: Category III - CAUTION

(6) Dermal Sensitization Study: Cosmopolitan Safety Evaluation, Inc.; Report no. F1776; MRID no. 403599-07; 7-24-87.

PROCEDURE:

Ten albino guinea pigs were clipped free of hair on the right side. Twenty-four hours later, each animal received the first of three induction treatments which were administered once a week for three and consisted of 0.5 ml of test material placed on the previously shaven site and kept under occlusive wrap for 6 hours of exposure. Two weeks after the last induction treatment, the animals were challenged using the same dosage of test material at the previously treated site and a virgin site on the left side of each animal. Skin irritation was scored at 24 and 48 hours after each treatment. Periodically, a known sensitizer is tested under the same conditions.

RESULTS:

Animals exhibited very slight to well-defined erythema and very slight edema during induction. Animals exhibited very slight erythema at both test sites at challenge. All known sensitizers tested in the past using this procedure have demonstrated a strong sensitization reaction.

STUDY CLASSIFICATION: Core Guideline Data

TOXICITY CATEGORY: NONSENSITIZER