US EPA ARCHIVE DOCUMENT

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TXR-002435

284

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

002435

DATE: April 29, 1980

SUBJECT: EPA Registration No. 524-312
Randox: Caswell #284

FROM: Deloris Graham
FHB/TSS

TO: Robert Taylor
Product Manager (25)

Applicant: Monsanto Agricultural Products Co.
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166

Active Ingredients: N,N-diallyl-2-chloroacetamide.....92%

Inert Ingredients:.....8%

Background:

As requested in Mr. Johnson's letter of October 17, 1977 the Younger Lab. data for this registered product were to be validated or resubmitted. An Acute Oral, Acute Dermal, Eye and Skin Irritation studies conducted by Bio/dynamics, Inc. of East Millstone, N.J. were submitted. The studies are under Accession Number 241302.

Recommendation:

1. The Acute Oral, Acute Dermal, Eye and Skin Irritation Studies are acceptable to support a conditional registration of an 85.2% product; Randox Technical is a 92% product. For future submissions, please note:

   a. In the Acute Oral Study individual necropsy reports for all animals LD50 and 95% confidence levels for males and females must be submitted

   b. In the Acute Dermal Study individual necropsy reports on all animals LD50 and 95% confidence levels for males and females must be submitted separately must be used

   c. In the Eye Irritation Study 9 rabbits, 6 rabbits with unwashed eyes and 3 rabbits with washed eyes.

   d. In the Skin Irritation Study, 2 abraded and 2 intact sites per animals must be used.

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EPA FORM 1320-6 (REV. 3-76)

2. The Acute Inhalation Study must be validated or a new Acute Inhalation Study must be submitted.

3. Under an alternate method of support, the Acute Oral, Acute Dermal, Eye and Skin Irritation studies would not be acceptable because the formulation tested must be identical under the Alternate Method. Since the material tested was 85.2% CDAA and the formulated product is 92% CDAA, these products are not identical.

4. FHB/TSS finds the Acute Oral, Acute Dermal, Eye and Skin Irritation [illegible] acceptable in lieu of the previously submitted Younger Labs.

5. As determined by the data submitted the appropriate signal word is DANGER.

Labeling: [illegible]

1. The appropriate signal word is DANGER.

2. There must be a heading "PRECAUTIONARY STATEMENTS" with the subheading "HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS" followed by a statement similar to the following:

> DANGER. Corrosive, causes eye and skin irritation. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. Wash thoroughly before reuse. Do not contaminate seed, feed and foodstuffs.

3. Under the heading PRECAUTIONARY STATEMENT, ~~you must have~~ the subheading "Environmental Hazards" with the following statements.

> "This product is toxic to fish and wildlife. Do not contaminate water by cleaning of equipment or disposal of wastes".

4. The "First Aid" statement ~~should~~ be revised as follows. Please note that the preferred heading is "Statement of Practical Treatment".

> In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Call a physician. Remove contaminated clothing and shoes. Wash clothing thoroughly before reuse. If swallowed, get immediate medical attention.

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5. You must have a "STORAGE AND DISPOSAL" heading with appropriate statements. Please see enclosed Storage and Disposal statements.

6. The statement "It is a violation of Federal law to use this product in a manner inconsistent with its labeling." must be added immediately below the heading "Directions for Use".

7. Please see enclosed labeling procedure and format.

Review:

1. Acute Oral Toxicity Study: Bio/dynamics, Inc., May 8, 1979: Project No. 4967-77.

Procedure: Five groups, each group consisting of 5M and 5F Sprague - Dawley rats (200 to 265g) were dosed at one of the following levels: 0.14, 0.21, 0.26, 0.34 and 0.43g-AI/Kg of 85.2% CDAA Technical. Body weights were recorded. Observations were made at 0-2 and 4-6 hours following dosing and daily thereafter for 14 days. A necropsy was performed on all animals which died during the study.

Results: No deaths at 0.14g-AI/Kg; at 0.21 g-AI/Kg, 1/5F; at 0.26, 1/5M and 4/5F; at 0.34, 4/5M and 3/5F; at 0.43, 4/5M and 4/5F animals died. All surviving animals gained weight. Symptoms observed included ataxia, fine and coarse tremors, red nasal discharge, respiratory rate increase and decrease, urinary staining, piloerection, motor activity decrease and increase, clear nasal discharge, red oral discharge, labored breathing, red and clear ocular discharge, cyanosis, prostration, hypothermia, clear oral discharge, irritability.

Necropsy of animals revealed urinary staining of abdomen; red nasal discharge; red oral discharge; clear oral discharge; fecal staining of abdomen; chromodacryorrhea; clear nasal discharge; soft stool; lungs: dark red patches; bright red, mottled; liver: mottled, clear edges, dark red and pale tan, tan and brown; stomach: distended with gas, pronounced vascularization of the pyloric region; contains large amount of clear fluid; mucosa red, dark red area on pyloric region; wall thickened, yellowish red; lining red; mucosa 40% black; thin walled raised cyst; red and yellow areas, contains thick yellow-red fluid; spleen: dark red, dark and small; small and pale; kidneys: pale; adrenals: red. LD50 is 0.29 g-AI/Kg (0.266g/Kg) with 95% confidence limits of 0.25 to 0.33g-AI/Kg.

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Study Classification: Core Minimum Data. Must submit individual necropsy reports for all animals.

Toxicity Category: II-WARNING

2. Acute Dermal Toxicity Study: Bio/dynamics, Inc., May 17, 1979; Project No. 4968-77.

Procedure: Four groups, each group consisting of 2M and 2F New Zealand white rabbits (2.0 to 3.0Kg) were administered one of the following doses: 0.50, 0.71, 1.00 and 1.40g/Kg of CDAA technical 85.2% under occlusive wrap for 24 hours. Half the animals (1M and 1F) abraded. Observations were made at 0-2 and 4-6 hours following dosing and daily thereafter for 14 days. Body weights were recorded. Necropsies were performed on animals that died during the study.

Results: At a dose level of 0.5 g/Kg, 1M died; at 0.71 g/Kg and 1.00g/Kg, 1M and 1F died; at 1.4g/Kg, 2M and 1F animals died. Half the surviving animals gained weight. Symptoms included lethargy, clear nasal discharge, soft stool, ataxia, piloerection, fecal staining of abdomen. Severe erythema and edema in all except 1 animal which had severe to moderate erythema and edema. Areas of purple skin in some animals.

Necropsies revealed clear oral discharge; fecal and urinary staining of abdomen; abdominal ~~viscera~~ filled with clear and red fluid; cavity filled with brown fluid; white filled with clear fluid, distended with gas; liver: mottled, mottled with dark red edges, brown patches; lobe has dark red patches; mottled with light edges, light patches; intestines: white with yellow fluid, distended with gas; lungs: red patches; spleen: black, dark, pale light in color; bladder: red-yellow fluid; clear nasal discharge. LD50 is 0.83g/Kg with 95% confidence limits of 0.34 to 1.32g/Kg.

Study Classification: Core Minimum Data. Must submit individual necropsy reports for all animals and LD50 and 95% confidence levels for males and females separately.

Toxicity Category: II-WARNING

3. Eye Irritation Study: Bio/dynamics, Inc., August 6, 1979; Project No. 4969-77.

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Procedure: Six New Zealand white rabbits received 0.1 ml of 85.2% CDAA technical into one eye. Observations were made on days 1, 2, 3, 4, 7, 10 and 14.

Results: At day 1, 6/6 animals had corneal opacity (3/6=30, 2/6=40, 1/6=45); 4/6 animals had iris irritation (1/6=5, 3/6=10); 2/6 animals could not be scored for iris irritation due to severity of corneal response. 6/6 animals had conjunctival redness (6/6=3), chemosis (4/6=3, 2/6=4) and discharge (1/6=1, 2/6=2, 3/6=3). Necrosis present in all animals. Corneal opacity worsened in all animals by day 4 (2/6=60, 4/6=80); iris irritation persisting in 4/6 animals (1/6=5, 3/6=10); 6/6 animals had conjunctival redness (6/6=3); chemosis (3/6=3, 3/6=4), and discharge (3/6=1, 3/6=2). Severe corneal opacity, iris irritations and conjunctival irritation persisted through day 14. Other symptoms observed include pannus, alopecia and purulent discharge.

Study Classification: Core Minimum Data. Must use 9 rabbits, 6 rabbits with unwashed eyes and 3 rabbits with washed eyes.

Toxicity Category: I-DANGER

4. Skin Irritation Study: Bio/dynamics, Inc., August 6, 1979; Project No. 4970-77.

Procedure: Six New Zealand white rabbits (2.30 to 3.00 Kg) received a 0.5 ml dose of 85.2% CDAA Technical at 1 abraded and 1 intact site per animal under occlusive wrap for 24 hours. Observations were made at 24 and 72 hours.

Results: At 24 hours moderate to severe erythema and edema at both abraded and intact sites in all animals. At 72 hours, well defined to severe erythema and edema at both abraded and intact sites in all animals. Primary dermal irritation index = 7.4.

Study Classification: Core Minimum Data. Must use 2 abraded and 2 intact sites per animal.

Toxicity Category: I-DANGER

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RanDOX® Technical

SELECTIVE HERBICIDE

ACCEPTED
SEP 25 1974
UNDER THE FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT FOR ECONOMIC POISON REGISTERED UNDER NO. 524-312 SUBJECT TO ATTACHED COMMENTS.

RECEIVED
17 SEP 1974
REGISTRATION DIVISION PESTICIDES EPA

For use by manufacturers in preparation of herbicides.

Keep out of reach of children.

WARNING!

CAUSES EYE AND SKIN IRRITATION.
HARMFUL IF ABSORBED THROUGH SKIN.
MAY BE HARMFUL IF SWALLOWED.

Do not get in eyes, on skin or on clothing.
Wash thoroughly after handling.

FIRST AID: IN CASE OF CONTACT, immediately flush eyes or skin with plenty of water for a least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash clothing before reuse.

Avoid contamination of seed, feed and foodstuffs. and wildlife.
This product is toxic to fish/ Do not contaminate water by cleaning of equipment or disposal of wastes.

ACTIVE INGREDIENT:	
N,N-Diallyl-2-chloroacetamide	92%
INERT INGREDIENTS:	8%
	100%

EPA Reg. No. 524-312

In case of an emergency involving this product, Call Collect, day or night, (314) 694-1000.

LOT NO. _____ PACKER _____ NET _____ LB.

MONSANTO COMPANY, ST. LOUIS, MISSOURI 63166, U.S.A.

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