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

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

~~JUN 22 1987~~

MEMORANDUM

SUBJECT: EPA Registration No. 241-295
Arsenal Herbicide 0.5G

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

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

APPLICANT: American Cyanamid Company
Agricultural Research Division
P.O. Box 400
Princeton, NJ 08540

ACTIVE INGREDIENT:
Imazapyr (2-4,5-dihydro-4-methyl-4-(1-methylethyl)-
5-oxo-1H-imidazol-2-yl-3-pyridinecarboxylic acid . . . 0.5%
INERT INGREDIENTS: 99.5%

BACKGROUND:

The registrant has submitted acute oral, acute dermal, primary eye, and primary skin irritation studies as requested by the TSS review dated November 7, 1986. The studies were conducted by American Cyanamid Company. The MRID Number is 400703-01. The method of support is owner submission.

RECOMMENDATION:

FHB/TSS finds the data acceptable and the signal word is "CAUTION."

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2

Although the full battery of data was not submitted, it is not required since in an earlier TSS review of February 24, 1987, TSS found that data on the 5G formulation was acceptable to support the 0.5G formulation (241-295).

LABELING: No revisions necessary.

REVIEW:

- (1) Acute Oral Toxicity Study: American Cyanamid Company;
Report No. A86-57; January 22, 1987.

PROCEDURE:

Five male and five female Charles River rats were administered a single oral dose of 5000 mg/kg of test material dispersed in a 20% w/v solution of corn oil. Animals were observed daily for 14 days. Body weights were recorded prior to dosing and at 7 and 14 days. Animals were necropsied at study conclusion.

RESULTS:

No deaths occurred. The LD₅₀ was reported to be > 5000 mg/kg. Animals exhibited diuresis. No abnormalities were noted at necropsy.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: IV - CAUTION.

- (2) Acute Dermal Toxicity Study: American Cyanamid Company;
Report No. A86-57, January 22, 1987.

PROCEDURE:

Five male and five female albino rabbits were shaved and 24 hours later, each animal received a topical application of 2000 mg/kg of test material applied to the shaven ventral area of each animal. The test sites were covered with occlusive wrap for 24 hours. After exposure, the wrap was removed and the test site wiped with moistened gauze. Animals were placed in restraining collars. Animals were observed for 14 days and necropsied at study conclusion.

RESULTS:

One out of five females died. The LD₅₀ was reported to be > 2000 mg/kg. The one mortality exhibited a listless and anorexic behavior, prostration, and then death. No toxic symptoms were observed in the other animals. Gross necropsy

005493

3

revealed no abnormalities in any of the survivors. The one mortality appeared emaciated and death was reported to be attributed to incurrent infection rather than test material.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: III - CAUTION.

- (3) Primary Eye Irritation Study: American Cyanamid Company;
Report No. A86-57; January 22, 1987.

PROCEDURE:

Six New Zealand White rabbits each received 100 mg of test material which was instilled in the conjunctival sac of the right eye. After instillation of the test material, the eyelids were held shut for 5 seconds. The left eye served as a control. After 24 hours of exposure, the treated eyes were rinsed with tap water. Eye irritation was scored at 1, 24, and 48 hours.

RESULTS:

Eye irritation was scored as follows: at 24 hours, conjunctivae irritation (1/6 = 12, 2/6 = 6, 1/6 = 2); and at 48 hours, all irritation cleared.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: III - CAUTION..

- (4) Primary Skin Irritation Study: American Cyanamid Company;
Report No. A86-57; January 22, 1987.

PROCEDURE:

Six New Zealand White rabbits were shaved. Twenty-four hours later, each animal received 0.5 g of test material applied to a test site on the shaven dorsal surface. Test sites were covered with occlusive wrap for 4 hours. After exposure, the wrap was removed and the test site cleaned with water. Skin irritation was scored at 4, 24, 48, and 72 hours.

RESULTS: No irritation was observed.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: IV - CAUTION.

3

005993

ARSENAL herbicide 0.5 Gramule

ACTIVE INGREDIENT:

Imazapyr (2- 4,5-dihydro-4-methyl-4-(1-methylethy)-5-oxo-1H-imidazol-2-yl -3-pyridinecarboxylic acid). 0.5%

INERT INGREDIENT 99.5%

TOTAL. 100.0%

EPA Reg.No.241-

EPA Est.No.

KEEP OUT OF REACH OF CHILDREN

CAUTION!

See side Panel for Additional Precautionary Statements

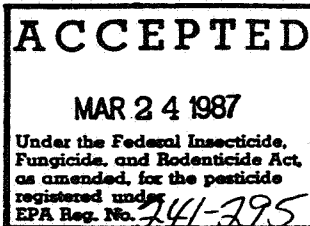
PRECAUTION

AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta la haya sido explicada ampliamente.

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.

Net Contents: 10 pounds*
(4.54 Kilograms)

AMERICAN CYANAMID COMPANY
AGRICULTURAL DIVISION
WAYNE, NJ 07470



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005993

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS

CAUTION!

Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

FIRST AID

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Flush with plenty of water. Get medical attention if irritation persists.

PHYSICAL AND CHEMICAL HAZARDS

ARSENAL granules should be mixed and stored only in lined paper bags, stainless steel, fiberglass, plastic and plastic-lined steel containers.

DO NOT mix, or store ARSENAL granules in unlined steel (except stainless steel) containers.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to any body of water. DO NOT contaminate water by cleaning of equipment or disposal of waste.

STORAGE AND DISPOSAL

PROHIBITIONS: DO NOT store below 10°F. DO NOT contaminate water, food or feed by storage or disposal.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

005993

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use of application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company warrants only that the material contained herein confirms to the chemical description on the label and is reasonable fit for the use therein described when used in accordance with the directions of use, subject to the risks referred to above.

Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits or values of any other special or indirect damages.

American Cyanamid Company makes no other express or implied warranty, including other express or implied warranty of FITNESS or of MERCHANTABILITY.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

A preemergence application of ARSENAL granular is recommended for control of most annual and perennial grasses and broadleaf weeds. ARSENAL granular may be applied anytime during the growing season before weeds have emerged.

APPLICATION INSTRUCTIONS

Uniformly apply with properly calibrated aerial or ground equipment at a rate of 1.0 lbs ae/A (200 lbs of product per acre).