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

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

JUN 18 1986

MEMORANDUM

SUBJECT: EPA File Symbol 38167-U
Setre 3 lb Copper Flowable Fungicide

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

TO: Henry Jacoby, PM 21
Fungicide-Herbicide Branch
Registration Division (TS-767C)

APPLICANT: Setre Chemical Company
5100 Poplar, Suite 3200
Memphis, TN 38137

ACTIVE INGREDIENTS:
Cupric hydroxide 37.5%
INERT INGREDIENTS: 62.5%

BACKGROUND:

The applicant has submitted an acute oral, acute dermal, acute inhalation, primary eye irritation, primary skin irritation, and a dermal sensitization study. The studies were conducted by Stillmeadow, Inc. The data Accession Number is 260997. The method of support was not indicated.

RECOMMENDATIONS:

FHB/TSS finds the studies acceptable to support registration provided the product tested was 38167-U. If the product tested was 38167-U, then the registrant can verify this in writing to the product manager. If the product tested was not 38167-U, then the data must be returned to TSS to determine whether it is acceptable to support registration. The signal word is "DANGER" based on the primary eye irritation study.

LABELING:

1. The signal word must be changed from "CAUTION" to "DANGER."

2. The Statement of Practical Treatment for eye exposure must be moved from the side panel to the front panel and appear in close proximity to the signal word. Other Statements of Practical Treatment can remain on the side panel provided a referral statement appears on the front panel.

3. Add the following sentence to the Statement of Practical Treatment for dermal exposure: "Get medical attention if irritation persists."

4. Revise precautionary statements as follows:

> Causes irreversible eye damage. Harmful or fatal if swallowed or inhaled. Do not get in eyes or on clothing. Wear goggles, face shield or safety glasses. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

5. This product must be packaged in Child-Resistant Packaging.

REVIEW:

(1) Acute Dermal Toxicity Study: Stillmeadow, Inc.; Project No. 3590-85; May 14, 1985.

PROCEDURE:

Five male and five female New Zealand White rabbits each received 2020 mg/kg of test material applied to a previously shaven test site on each animal's trunk. Test sites were covered with occlusive wrap for 24 hours. After exposure, wrapping was removed and tests sites were washed with tap water. Animals were observed for 30 minutes, 3 and 6 hours after treatment and once daily thereafter for 14 days. Body weights were recorded on days 0, 7, and 14. All animals were necropsied.

RESULTS:

No deaths occurred. The LD_{50} for males and females was reported to be > 2020 mg/kg. Two females exhibited lacrimation which cleared by 6 hours postexposure. No abnormalities were noted at necropsy.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: Category III - CAUTION.

(2) Acute Oral Toxicity Study: Stillmeadow, Inc.; Project No. 3589-85; June 24, 1985.

PROCEDURE:

Six groups of five male and five female Sprague-Dawley rats were administered a single dose of test material by oral intubation as follows: 750, 1250, 1500, 2000, 3000, or 5020 mg/kg. Animals were observed three times on the day of treatment and once daily thereafter for 14 days. Animals were weighed prior to treatment and on days 7 and 14. All animals were necropsied at study conclusion.

RESULTS:

At 750 mg/kg, 1/5 females died. At 1250 mg/kg, 2/5 males died. At 1500 mg/kg, 2/5 males and 4/5 females died. At 2000 mg/kg, 5/5 males and 5/5 females died. At 3000 mg/kg, 3/5 males and 5/5 females died. At 5020 mg/kg, 5/5 males and 5/5 females died. The LD_{50} for males was reported to be 1610 (1069.7 to 2423) mg/kg. The LD_{50} for females was reported to be 1291.2 (952.7 to 1750) mg/kg.

Toxic symptoms included decrease in activity, ataxia, body tremors, constricted pupils, diarrhea, dilated pupils, emaciation, exophthalmos, gasping, lacrimation, melanuria, mucoid diarrhea, nasal discharge, piloerection, polyuria, ptosis, respiratory gurgle, and salivation. Gross necropsy revealed gastrointestinal tract distended with gas, discoloration of the gastrointestinal tract contents, testes retracted into abdominal cavity, serosal blood vessels pronounced along gastrointestinal tract, discoloration of lungs, discoloration of adrenal glands, enlarged adrenal glands and urinary bladder empty.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: Category III - CAUTION.

(3) Acute Inhalation Toxicity Study: Stillmeadow, Inc.; Project No. 3594-85; November 15, 1985.

PROCEDURE:

Five male and five female Sprague-Dawley rats were exposed in a 200 L stainless steel dynamic flow inhalation chamber for 4 hours to an aerosol generated from a 60.0 percent v/v suspension of the liquid test material in deionized water. The mean

concentration of 1.59 mg/L was measured analytically and gravimetrically once/hour. Animals were observed at least once daily for 14 days. Body weights were recorded prior to exposure and on days 7 and 14. All animals were necropsied.

RESULTS:

No deaths occurred. The LC_{50} for males and females was reported to be > 1.59 mg/L. Toxic symptoms observed were decreased in activity, ataxia, bradypnea, body tremors, constricted pupils, dilated pupils, nasal discharge, piloerection, polyuria, ptosis, salivation, and swollen neck. Gross necropsy revealed lungs mottled dark red, red, tan, and white.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: Category III - CAUTION.

(4) Primary Eye Irritation Study: Stillmeadow, Inc.; Project 3591-85; April 8, 1985.

PROCEDURE:

Nine New Zealand White rabbits received 0.1 ml of test material which was instilled into the conjunctival sac of the right eye of each animal. The treated eye was held shut for 1 second. Three out of nine treated eyes were washed with room temperature deionized water for 1 minute 30 seconds after treatment. The untreated eye served as control. Eye irritation was scored at 1, 24, 48, and 72 hours and at 4, 7, 10, 13, 16, 19, and 21 days after treatment. Treated eyes were examined using fluorescein sodium ophthalmic solution after the 24-hour observation. All treated eyes which exhibited positive fluorescein staining were reexamined at each consecutive observation period.

RESULTS:

Eye irritation in the unwashed group was scored as follows: at 24 hours, corneal opacity (2/6 = 15, 2/6 = 10), fluorescein staining (1/6 - positive, > 1/4 < 1/2), iris irritation (4/6 = 5), conjunctivae redness (4/6 = 2, 2/6 = 3), chemosis (3/6 = 3, 3/6 = 2), and discharge (1/6 = 3, 5/6 = 2); at 7 days, corneal opacity (1/6 = 20, 2/6 = 15, 1/6 = 10), iris irritation (1/6 = 10, 2/6 = 5), conjunctivae redness (2/6 = 2, 4/6 = 1), chemosis (2/6 = 2, 2/6 = 1), and discharge (1/6 = 1); at 16 days, corneal opacity (1/6 = 20, 1/6 = 10), iris irritation (1/6 = 5), conjunctivae redness (2/6 = 1), and chemosis (2/6 = 1); at 21 days, corneal opacity (1/6 = 10, 1/6 = 5), conjunctivae redness (2/6 = 1), and chemosis (2/6 = 1).

Eye irritation in the washed group was scored as follows: at 24 hours, corneal opacity (1/3 = 15), iris irritation (1/3 = 10), conjunctivae redness (2/3 = 3, 1/3 = 2), chemosis (2/3 = 3, 1/3 = 2), and discharge (2/3 = 2, 1/3 = 1); at 7 days, corneal opacity (1/3 = 10), iris irritation (1/3 = 5), conjunctivae redness (2/3 = 1), and chemosis (1/3 = 2); at 16 days, conjunctivae redness (1/3 = 1), and chemosis (1/3 = 1); and at 21 days, conjunctivae redness (1/3 = 1).

STUDY CLASSIFICATION: Core Guidelin Data.

TOXICITY CATEGORY: Category I - DANGER.

(5) Primary Skin Irritation Study: Stillmeadow, Inc.; Project No. 3592-85; March 26, 1985.

PROCEDURE:

Six New Zealand White rabbits were clipped free of hair on the dorsal trunk area and 24 hours later, each animal received 0.5 ml of test material applied to a clipped test site. Each test site was kept under occlusive wrap for 4 hours. After exposure, each test site was washed with room temperature tap water. Skin irritation was scored at 1, 24, 48 and 72 hours after washing.

RESULTS:

At 1 hour, 2/6 animals exhibited very slight erythema and 5/6 exhibited very slight edema. At 24 hours, 1/6 animals exhibited very slight erythema and 4/6 animals exhibited very slight edema. At 48 hours, 1/6 animals exhibited very slight edema. All irritation had cleared by 72 hours.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: Category IV - CAUTION.

(6) Dermal Sensitization Study: Stillmeadow, Inc.; Project No. 3593-85; April 23, 1985.

PROCEDURE:

Two groups of 10 Hartley-Albino guinea pigs received 6-hour induction treatments on days 0, 2, 5, 7, 9, 12, 14, 16, 19, 21, and 25 consisting of 0.5 ml of 0.05 percent w/v solution of 2,4-dinitrochlorobenzene (DNCB) in ethanol for the positive control group and 0.5 ml of 10.0 percent v/v solution of test

material in deionized water for the test group. Animals were clipped and depilated during induction treatments as necessary. Animals were restrained during exposure. Two weeks after the last induction treatment, animals received a challenge dose identical to an induction dose applied to the original test site and a virgin test site. Skin reactions were scored 24 hours after each treatment and at 48 hours for induction treatments on days 1 and 10 and for challenge dose on day 36.

RESULTS:

After the 24-hour reading, 1/10 animals in the positive control group exhibited very slight erythema. Skin irritation in the positive control group increased in severity with each successive treatment until day 21, 10/10 animals exhibited very slight to well-defined erythema and slight to moderate edema. After challenge dose, 10/10 animals in the positive control group exhibited erythema ranging from very slight to moderate and edema ranging from very slight to slight.

The 4/5 animals in the test group exhibited very slight erythema and 1/5 exhibited very slight edema 24 hours after treatment on day 2. The skin irritation was cleared by day 5 and no further skin irritation was noted for the remainder of the induction treatments. After challenge dose, 1/10 animals displayed very slight erythema.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: Nonsensitizer.

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Page _____ is not included in this copy.

Pages 7 through 11 are not included in this copy.

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 quality control procedures.

_____ Identity of the source of product ingredients.

_____ Sales or other commercial/financial information.

X 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) _____.

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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.