Case #108

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

006026

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

MAY 13 1987

SUBJECT: EPA File Symbol 1022-LGA
Pol-Nu CuRap 20

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

TO: Lois A. Rossi, Acting PM 21
Fungicide-Herbicide Branch
Registration Division (TS-767C)

APPLICANT: Chapman Chemical Company
P.O. Box 9158
Memphis, TN 38109

ACTIVE INGREDIENTS:

Copper naphthenate	18.16%
Borax (Sodium tetraborate decahydrate	40.00%
INERT INGREDIENTS:	41.84%

BACKGROUND:

The applicant has submitted an acute oral, acute dermal, primary dermal, and dermal sensitization study. The studies were conducted by Bio/dynamics, Inc. The data are not accessioned. The applicant has referenced a primary eye irritation study (Accession No. 258385). The applicant has also requested a waiver of the acute inhalation toxicity study.

RECOMMENDATION:

FHB/TSS findings are as follows:

1. The acute oral, acute dermal, primary dermal, and dermal sensitization studies are acceptable to support registration of 1022-LGA.

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2. The acute inhalation toxicity study is waived based on the registrant's statement in a May 19, 1986 letter that the product is a paste and therefore respirable particles would not be generated.

3. The primary eye irritation study conducted on 1022-518 cannot be used to support registration of 1022-LGA, at this time, because the data which were received and acknowledged by the Agency on July 9, 1985 have not been reviewed by TSS.

4. The Product Manager should submit the data on 1022-518 for review and at the same time resubmit the request that the primary eye irritation study conducted on 1022-518 be reconsidered in support of 1022-LGA.

5. The Product Manager should inform the registrant that when conducting future acute oral and acute dermal toxicity studies, at least three dose levels should be selected so that a range of toxic effects and mortality rates are observed. Data should be sufficient to produce a dose-response curve and, where possible, permit an acceptable determination of the LD_{50}.

6. The Product Manager should also inform the registrant that when conducting future dermal sensitization studies, the skin irritation scores should be provided for each animal after each induction treatment.

7. The signal word is "DANGER" based on the primary dermal irritation study.

LABELING:

1. Change the second sentence in the third paragraph under the Precautionary Statements to read as follows:

   Remove contaminated clothing and wash before reuse.

2. Additional label changes may be necessary upon submission of primary eye irritation study or review of the study referenced.

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REVIEW:

(1) Acute Oral Toxicity Study: Bio/dynamics, Inc.; Project No. 6598-86; November 26, 1986.

PROCEDURE:

Two groups of five male and five female Sprague-Dawley rats were administered by oral intubation one of two doses of 50 or 5000 mg/kg of test material suspended in 1% methyl cellulose. Animals were observed at 1, 2, and 4 hours after dosing and once daily thereafter for 14 days. Animals were weighed prior to dosing and at 7 and 14 days or at discovery of death. Animals were necropsied at study conclusion or upon discovery of death.

RESULTS:

At 50 mg/kg, no deaths occurred and at 5000 mg/kg, 4/5 males and 5/5 females died. Therefore, based on the mortality rate, the LD_{50} should be > 50 mg/kg and < 5000 mg/kg. At 5000 mg/kg, toxic symptoms observed were ataxia, nasal and oral discharge, hypopnea, wet rales, ocular discharge, urinary and fecal staining, soft stool, hypoactivity, and prostration. Gross necropsy revealed discolored lungs, testes inside the body cavity, stomach walls red or black and thickened, intestinal walls red, and test material in stomach and intestines.

STUDY CLASSIFICATION:

Core Minimum Data. See Comments under Recommendation.

TOXICITY CATEGORY: II - WARNING.

(2) Acute Dermal Toxicity Study: Bio/dynamics, Inc.; Project No. 6599-86; November 26, 1986.

PROCEDURE:

Two groups of five male and five female New Zealand White rabbits were clipped free of fur on the trunk and 24 hours later, each group received either 200 or 2000 mg/kg of test material moistened with 0.9% saline. The test material was applied to the clipped test site for 24 hours of exposure under occlusive wrap. Each group was dosed at different times. Animals were restrained during exposure. After exposure, wraps and residual material were removed. Animals were observed at 1, 2, and 4 hours after dosing and once daily thereafter for 14 days. Animals were weighed prior to dosing and at 7 and 14 days or upon discovery of death.

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RESULTS:

No deaths at 200 mg/kg. At 2000 mg/kg, 3/5 males and 4/5 females died. Therefore, based on the mortality rate, it can be assumed that the LD_{50} is > 200 mg/kg and < 2000 mg/kg. Toxic symptoms observed were ocular discharge, red eye and fecal staining in one animal, hypoactivity, partial eye closure, eschar formation and exfoliation of eschar tissue. Gross necropsy revealed discoloration of the lungs and gastrointestinal tract and changes in the liver and/or spleen.

STUDY CLASSIFICATION:

Core Minimum Data. See comments under Recommendation.

TOXICITY CATEGORY: II - WARNING.

(3) Primary Dermal Irritation Study: Bio/dynamics, Inc.; Project No. 6600-86; October 30, 1986.

PROCEDURE:

Six New Zealand White rabbits were clipped free of fur on the back. Twenty-four hours later, each animal received 0.5 ml of test material applied topically to the clipped test site and kept under occlusive wrap for 4 hours. Animals were restrained during exposure. After exposure, wrap and residual test material were removed. Skin irritation was scored at 30 minutes, 24, 48, and 72 hours, and at 7, 10, and 14 days.

RESULTS:

At 72 hours, 6/6 animals exhibited severe erythema which persisted through day 14. At 72 hours, 1/6 animals exhibited eschar formation with necrosis. At day 14, 6/6 animals exhibited necrosis and eschar formation and 3/6 exhibited exfoliation.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: I - DANGEP.

(4) Dermal Sensitization Study: Bio/dynamics, Inc.; Project No. 6601-86; September 30, 1986.

PROCEDURE:

Two groups of five male and five female guinea pigs received induction treatments once a week for 3 weeks applied to a previously clipped test site under occlusive wrap for 6 hours of exposure. Test group received 0.3 ml of 10% w/v

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mixture of test material in water and the positive control group received 0.3 ml of 0.5% w/v mixture of 1-chloro-2,4-dinitrobenzene (DCNB) in ethanol. Two weeks after the last induction treatment, the test group was challenged with 0.1% test material in water and the positive control group was challenged with 0.3% DNCB in acetone. Animals were challenged at a virgin site. An additional control group of three males and three females were challenged with 10% DNCB in acetone at one site and with 1% test material in water at another site. Skin irritation was scored at 24 and 48 hours after each treatment.

RESULTS:

Neither the sensitized test group nor the control group exhibited any irritation at challenge. Seven out of ten animals in the sensitized positive control group exhibited moderate erythema, 3/10 exhibited slight erythema, and 10/10 exhibited edema. Two out of ten animals in the control group exhibited very slight erythema and 1/10 animals exhibited edema at the site treated with DNCB.

STUDY CLASSIFICATION:

Core Guideline Data. See comments under Recommendation.

TOXICITY CATEGORY: NONSENSITIZER.

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COPPER NAPTHENATE

BORAX (SODIUM TETRABORATE DECAHYDRATE)

Page_____ is not included in this copy.

Pages 6 through 8 are not included.

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) _____.

____ 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.