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DATE: September 15, 1980

SUBJECT: EPA File Symbol: 43410-E - Fungicide T
EPA File Symbol: 43410-T - Fungicide 4T

FROM: Sherell A. Sterling, FHB/TSS 9-18-80 E 9/25/80

TO: Henry Jacoby, Product Manager (21)

Applicant: Agri-Chem, Inc.
P. O. Box 17477
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Active Ingredient: 2-(4-thiazolyl)benzimidazole 98.5%
Inert Ingredients: 1.5%

Background:

The two products, Fungicide T and Fungicide 4T, are identical; however, they are packaged in units of different sizes. The "alternate" method of support is used. Data were previously submitted and are under Accession Numbers 100853 and 101673. It is unknown which laboratories conducted these studies.

Recommendations:

1. The Acute Oral study is considered Core Supplementary Data and, as such, is not adequate to support registration. Please note the following concerning this study:

   (a) The test species is the laboratory rat.

   (b) If data based on testing with at least 5 animals per sex are submitted showing that the LD_{50} is greater than 5 g/kg, no further testing at other dose levels is necessary.

   (c) Each dose level group must contain equal numbers of male and female animals.

   (d) The animals must be observed for 14 days after dosing.

   (e) All animals must be subjected to necropsy.

   (f) Response data must include tabulation by sex and dose level, time of death after dosing, LD_{50} for each sex, 95% confidence interval for the LD_{50}s, dose-response curve and slope.

2. The Acute Dermal study is adequate and acceptable for the conditional registration of this product. Please note the following comments for future studies:

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(a) If data based on testing with at least 5 animals per sex with abraded skin are submitted showing that the LD_{50} is greater than 2 g/kg with a 24 hour contact period, no further testing at other dose levels is necessary.

(b) All animals must be subjected to necropsy.

3. An Acute Inhalation study was not submitted for this product. This study is required for all formulations which meet the criteria set forth in Section 163.81-3 of the "Proposed Guidelines for Human Hazard Evaluation." If this product does not require an Acute Inhalation study, a statement to that fact must be submitted.

4. Two Eye Irritation studies were submitted. Only one study was adequate to support registration of this product (see Accession Number 101673). However, please note the following comments concerning this study:

(a) Irritation to the eye must be scored by the Draize method. Responses must be reported in tabular form by individual animal.

(b) Individual responses must be reported separately (i.e. as scored with Draize's method) and not just reported as total score.

5. The Skin Irritation study is considered Core Supplementary Data and, as such, is not adequate for registration purposes. Please note the following comments on this study:

(a) Number of animals used in study must be reported. At least six animals must be used.

(b) If the test substance is a solid, it shall be slightly moistened with physiological saline before application.

6. These data are not adequate to support concitional registration; therefore, FHB/TSS objects to the conditional registration of this product under the "alternate" method of support.

Labeling Recommendations:

1. The preferred heading is "Statement of Practical Treatment", not "First Aid."

2. Draft Label for EPA File Symbol 43410-T, second paragraph under "Directions for Use," should be corrected to the following:

"Fungicide 4T may be used in citrus wax ..."

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3. The statement:

> "Do not contaminate water by cleaning of equipment or disposal of wastes."

must be added to the "Environmental Hazards" section of the 43410-T and 43410-E labels.

4. Further labeling recommendations are reserved until additional data are submitted.

Review:

1. Acute Oral; Accession Number 100853.

Procedure: 10 F albino mice (18-20 g), 5 M Sprague-Dawley rats (125-135 g) per dosage level and 5 albino rabbits (3.0-3.5 kg) per dosage level. All animals received oral dosages of the thiabendazole base suspended in 2% sodium carboxymethyl cellulose. Animals were observed for 10 days.

Results: Oral LD_{50} for F Mice was 3.81 g/kg; for M rats, 3.33 g/kg; for rabbits, 3.85 g/kg. Symptoms at higher dosages were lethargy and stupor. Death appeared to be due to narcosis.

Study Classification: Core Supplementary Data. Only M rats, F mice were tested. Individual responses not reported. Observation for only 10 days. No necropsies reported.

2. Acute Dermal Toxicity; February 14, 1975; Accession Number 101673.

Procedure: 3 M, 3 F New Zealand white rabbits (2.5-2.8 kg) received a dosage of 2 or 4 g/kg at each test site. At each dosage level, 3 rabbits with abraded, 3 with intact sites. The test substance was thiabendazole technical powder moistened with 10 ml of physiological saline. Animals were observed for 14 days.

Results: No deaths, no irritation, no signs of drug effect observed.

Study Classification: Core Minimum Data. Only 6 animals, 3 with abraded sites, tested. No necropsies reported.

Toxicity Category: IV - CAUTION.

3. Acute Eye Irritation in Rabbits; Accession Number 100853.

Procedure: Thiabendazole was tested as a 12% suspension in 1% sodium carboxymethyl cellulose and as a dry powder. Approximately 0.1 ml of the suspension and 10 mg of the dry powder was administered to one eye of each of 2 rabbits for each preparation.

Results: Only very slight erythema for one hour after instillation. All clear at 24 hours.

Study Classification: Core Supplementary Data. For dry substances, correct dosage is 100 mg.

4. Acute Ocular Irritation; February 14, 1975; Accession Number 101673.

Procedure: 6 M, 6 F New Zealand white rabbits were exposed to 0.1 g of dry thiabendazole in one eye per rabbit. Six eyes were flushed 20 seconds after exposure with 20 ml of luke-warm tap water; remaining six eyes were not washed. Animals were observed for 14 days.

Results: No-wash eyes showed irritation in 5/6=2 at 24 hours; all clear by 72 hours. Washed eyes showed no irritation at 24 hours.

Study Classification: Core Minimum Data. Scores were not separated according to irritation site (i.e. cornea).

Toxicity Category: III - CAUTION.

5. Dermal Irritation in Rabbits; Accession Number 100853.

Procedure: Thiabendazole was mixed with cold cream at concentration of 10 and 50% (w/w). A dose of 0.5 g was applied at each site; 3 sites were tested for each concentration. Exposure was for 24 hours under occlusive wrap.

Results: No signs of "significant" degree of irritation.

Study Classification: Core Supplementary Data. Number of animals tested is unknown. Substance was mixed with cold cream.