



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

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MEMORANDUM

Date: May 7, 1982

Subject: EPA Registration Number: 43410-2
Fungicide T

EPA Registration Number: 43410-7
Fungicide W2

From: Deloris F. Graham
FHB/TSS

To: Henry Jacoby
Product Manager (21)

Applicant: Agri-Chem, Inc.
P.O. Box 17477
Orlando, FL 32860

Active Ingredients:

2-(4-thiazolyl)benzimidazole.....98.5%

Inert Ingredients.....1.5%

Background: Submitted Acute Inhalation Study as requested by the Agency.
Study conducted by Tox Monitor Laboratories, Inc. Data under accession number
247276. Method of support not applicable.

Recommendation:

1. FHB/TSS finds this study acceptable to support conditional registration of this product.

Review:

1. Acute Inhalation Toxicity Study: Tox Monitor, Inc.; Report #TM 80-534A
1281; March 30, 1982.

Procedure: 5M and 5F Sprague-Dawley rats were exposed for four hours to 5 mg/l of the test material, but due to the physical properties of the test material only 4.1 mg/l were attainable. Since a mortality rate of 50% of the test animals was observed in the initial exposure, an additional test level was targeted at 2 mg/l for a four hour period. The gravimetric concentration of the second study was 2.03 mg/l. Observations were made twice daily for 14 days. Necropsy performed on all animals. In the second test, particle size ranged from 0.6 to 12.0 microns.

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Results: At 5 mg/l, 3/5 F and 2/5 M died. At 2 mg/kg, 2/5 F and 2/5 M died. Some animals appeared sluggish and nasal discharge was observed. Necropsy revealed whitish material similar to the test substance in stomach and gastrointestinal tract; lungs mottled. Histopathology revealed congestion of lungs with focal areas of alveolar and perivascular edema; desquamation of the respiratory epithelium in the large bronchioles; diffuse thickening of the alveolar walls; hydropic degeneration of the tubular epithelium; diffuse swelling of the remaining tubules. LC₅₀ for males greater than 2.03 mg/l and for females 0.02 mg/l.

Study Classification: Core Guideline Data.

Toxicity Category: III - CAUTION

SWALLOWED
Avoid contact with skin, eyes
or clothing.

46 to eyes; flush with water 15 minutes. Get medical attention if irritation persists.

to dump sludge in tanks to fish. Do not apply sludge to lakes, streams, or ponds. Do not contaminate water by cleaning of equipment or other uses of equipment. Do not dump where surface water may become polluted.

...are producing delirium. That may ignore
...directly

... is a violation of Federal law to use this pro-
duct in a manner inconsistent with its label.

Do not contaminate water, food or feed by storage or disposal.

NOTE: None at ambient temperature in a glass.

inter and plastic bags. Proper use of bags according to approved Federal State and local procedures under the Department of Environment and Natural Resources.

See Side Panel For Additional Precautionary Statements

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References

Warranty Statement

Agri-Chem, Inc. warrants that this material conforms to the chemical statement on the label and is suitably fit for the purposes referred to in the literature for **83** No other warranty or implied warranty is made. This includes any other claim or implied warranty of **BINISCH MERCHAN** TADCO LTD. and no agent of Agri-Chem, Inc. is authorized to do so. In writing, with a specific reference to this warranty. Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential damages such as loss of profits or value.

Citrus: Fruit Decay (Blue Mold, Green Mold, Stem-end Rot) Postharvest—Dipose one unit in 200 gallons of water for a 1000 ppm treating dispersion. One unit of wetting agent such as Agri Chem's WETTING AGENT 11 at a rate of 3.33 per 100 gallons is recommended. Apply this dispersion as a flood or spray, at the rate of one gallon per 1,000 to 1,500 sq ft of fruit, following treatment. If fruit is excessively wet, do not reuse fruit following treatment. If fruit is excessively wet at application, use two to five units per 100 gallons. See NOTE below.

Fungicide 41 may be used in citrus waa. Disperse one unit in 250 gallons of waa (1000 ppm) and apply to previously washed and dried fruit at the rate of one gallon per 8,000 to 10,000 lbs of fruit. For control of aspergillia (*Penicillium spp.*) apply in citrus waa using one unit Fungicide 41 per 55 gallons.

Apple and Pear: Powdery Mildew (Bipolaris spp., Penicillium spp.) Apply as a spray or drench once a week. Apply 100 to 200 gallons of water per 100 sq ft of wetting agent dispersed in 200 gallons of water. (Use of a wetting agent such as Agri-Chem's WETTING AGENT T-1 at 32 to 60 per 100 gallons is recommended.) Do not treat for more than 10 minutes. Treat only once; either before or after treatment. Drain thoroughly and do not time after treatment. Agitate suspension gently during use. When apple was used, Fungicide-AT may be incorporated into the wash. Use one unit per 200 gallons of water, agitate the suspension gently during application.

Bananas: Postharvest (Grown Rot) Prepare a suspension of one unit Fungicide 41 in 1100 gallons of water, use of a wetting agent such as Agri-Chem's WETTING AGENT at the rate of one gallon per 1100 gallons is recommended. Keep suspension agitated while using. Treat damaged fruit after it has passed through the detaching operation by dipping or drenching. When dipping, do not immerse for more than 5 minutes.

Potatoes (Seed tubers only): Fusarium Tuberculosis. Mix tubers on a conveyor line, with tumbling action, treating storage with one gallon of suspension (one unit per quart) at night (AT per 150 gallons) to each 2000 lbs of tubers. If an additional treatment is necessary before shipping and putting the seed tubers, dip the tubers for 20 seconds or more at the same rate. (Use of a wetting agent such as Agri-Chem's WETTING AGENT T at the rate of 24 oz per 500 gallons is recommended.) Apply suspension while using. Do not use untreated seed for food or feed purposes.

Sweet Potato - (Seed roots only): (Black Rot, Root Rot, Scurf) Dip seed roots in a suspension of one quart per 45 gallons (Use of a wetting agent such as Agri-Chem's WETTING AGENT "A" at 8 per 45 gallons is recommended.) Plant immediately. Do not use treated seed roots for food or feed. Treat the seed root for one or two minutes and discard suspension when volume becomes too low a suspension becomes dirty.

NOTE: Fungi may develop resistance to thiabendazole. If such tolerance is suspected, switching to a non-benzimidazole fungicide is advised. Check with your supplier if confirmatory data are desired.

Instructions are carefully followed fungicide residues in a number of legal tolerances are not to be expected. It is recommended that laboratory analysis for residues be made soon after initial start up of a new process or after any major change in equipment. Consult your Agri Chem representative for assistance on this.