

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: January 21, 1980

SUBJECT: EPA File Symbol: 1612-EAR
 Maneb; Caswell #539

FROM: Deloris F. Graham 6/21/80
 FHB/TSS E 2/14/80

TO: Henry Jacoby
 Product Manager (21)

Applicant: Griffin Corporation
 P.O. Box 1847
 Valdosta, GA 31601

Active Ingredients:
 Maneb 37%

Inert Ingredients 63%

Background:

Acute Oral, Acute Dermal, Acute Inhalation, Eye and Skin Irritation studies were submitted in support of the conditional registration of this product. These studies were conducted by Cannon Laboratories, Inc. of Reading, Pennsylvania. Alternate Method of Support is used.

Recommendations:

1. The Acute Oral, Acute Dermal, Eye and Skin Irritation studies are adequate and acceptable for the conditional registration of this product.
2. The Acute Inhalation study is not acceptable for conditional registration as stated in the Federal Register, Volume 43 number 163 - Tuesday August 22, 1978. Section 163.81-3 outlines acceptable testing and reporting procedures for the Acute Inhalation study. The toxicity category is based on atmospheric concentration not on the nominal concentration.

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3. FHB/TSS would have no objections, on the basis of hazard to humans and domestic animals, to the conditional registration of this product, provided that the labeling revisions noted below are made. Further revisions may be necessary in the labeling when the data required on the Inhalation study is received and reviewed.
4. According to the data, the signal word CAUTION is appropriate as proposed by the applicant.

Labeling:

1. KEEP AWAY FROM FIRE AND SPARKS must be deleted from front panel.
2. Directions concerning the storage and disposal of the pesticide and its container must appear under the heading, "Storage and Disposal" after the set of Directions for Use.
3. The statement KEEP OUT REACH OF CHILDREN should appear directly above signal word on front panel.
4. "CAUTION" should be deleted from side panel; the signal word should appear only in conjunction with statements concerning hazards to humans and domestic animals.
5. On Side Panel add the heading PRECAUTIONARY STATEMENT: Subheading - ENVIRONMENTAL HAZARD: This product is toxic to fish, etc.
6. See enclosed copy for correct labeling procedures and label format.

Review:

1. Acute Oral Toxicity Study; Cannon Lab., September 11, 1979; Accession No. 241434.

Procedure: 5M and 5F Sprague-Dawley rats (200-263g) were administered a single oral dose of 'Manex-Flowable Maneb' at a dose level of 5g/kg, by way of oral tubation. Each animal was observed at 1, 3, and 6 hours following dosing. Each animal was observed at 1 and 3 days and daily thereafter for 14 days. At termination of study survivors were sacrificed; all animals were subjected to gross pathological examinations.

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Results: No mortalities. 7/10 animals were sedate within six hours of dosing. On day one abnormal defecation was observed in all ten animals. On day two, abnormal defecation was observed in 8/10. By day four abnormal defecation had stopped. Symptoms included nasal discharge, ptosis, piloerection. LD₅₀ for M, F was greater than 5g/kg. Necropsis revealed 1M with large nodule on left lung; 1F with slightly congested lungs; no other gross pathological alterations were observed.

Study Classification: Core Guideline Data

Toxicity Category: IV-CAUTION

2. Acute Dermal Toxicity Study; Cannon Lab. September 14, 1979; Accession No. 241435.

Procedure: 5M and 5F New Zealand white rabbits (2.09 - 2.53kg) were administered 'Manex' at a dose level of 2g/kg on an abraded skin surface. Exposure was for 24 hours under occlusive wrap. Observations were made at the end of the exposure period, then daily thereafter for 14 consecutive days. Individual body weights were determined on the day of dosing, weekly thereafter, and at death. All animals were sacrificed after 14 days and subjected to gross necropsy.

Results: No mortalities. At 24 hours, 9/10 animals exhibited erythema, while one of these nine also exhibited edema. The skin sites of all animals were free of irritation at 48 hours. No pharmacotoxic signs were observed. The body weight values were within normal limits. Necropsy revealed dark red areas in the lung and white masses of the liver, but these observations were not attributed to the test material administered as these are conditions often seen in control animals.

Study Classification: Core Minimum Data.

Individual necropsy results should be reported.

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Toxicity Category: III-CAUTION

3. Acute Inhalation Study; Cannon Lab., September 5, 1979;
Accession No. 241437.

Procedure: 5M and 5F, Sprague-Dawley rats (211-260g) were exposed to a nominal concentration of 5.2 mg/l and the actual atmosphere concentration was 0.48 ± 0.015 mg/l for four hours. The test was conducted in a 40-liter glass exposure chamber. The sides and bottoms of the chamber had centered holes to allow access to the chamber for testing and exhaust of the atmosphere. A raised, tightly-fitting, wire mesh screen was placed over the bottom of the chamber and served as flooring for the test animals. The test substance was administered through a syringe; a syringe infusion pump was used to meter the substance into a stainless steel 1/4 J spraying atomizer.

Results: Three animals displayed nasal discharge during the last hour of the 4-hour exposure and continued for the first six hours past-exposure. All other animals appeared normal throughout the 14 day observation period. During this 14-day observation period, all male rats showed normal weight gain while all females rats showed minor weight fluctuation. Gross necropsy of all animals showed their organs within normal limits.

Study Classification: Core-Supplementary Data.
Actual atmospheric concentration was too low to determine appropriate toxicity category.

4. Eye Irritation Study, Cannon Lab., September 6, 1979;
Accession No. 241436.

Procedure: 0.1 ml of Manex, was applied into one eye of each of nine New Zealand white rabbits with six rabbits remaining unwashed (Group 1); while the test eyes of three rabbits were washed (Group 2) for one minute with lukewarm water beginning 20 seconds after application. The ocular reactions were graded at 24, 48, and 72 hours as well as four and seven days after application of test material.

Results: No corneal opacity or iris irritation observed in either group. At 24 hours redness observed in 6/6 unwashed eyes (2/6=1); no chemosis was observed in unwashed

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eyes. Discharge observed in 6/6 unwashed eyes (3/6=1, 3/6=2) and in 3/3 washed eyes (3/3=1). All washed eyes appeared normal by day four. All unwashed eyes appeared normal by day seven.

Study Classification: Core-Guideline

Toxicity Category: III-CAUTION

5. Skin Irritation Study, Cannon Lab. September 6, 1979
Accession No. 241438.

Procedure: 2M and 4F New Zealand white rabbits were exposed to 0.5 ml dose of 'Manex.' Four test sites, two abraded and two nonabraded, were exposed for 24 hours under occlusive wrap. The test sites were evaluated at 24 and 72 hours.

Results: At 24 hours very slight erythema was observed on 7/12 abraded and 5/12 nonabraded skin sites. No edema was observed. All skin sites were free of irritation at 72 hrs. The primary dermal irritation index of 'Manex' was 0.25.

Study Classification: Core-Guideline

Toxicity Category: IV-CAUTION

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mane b flowable WITH ZINC
ADDED

4 POUNDS OF MANER PER GALLON

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GRIFFIN CORPORATION — VALDOSTA, GEORGIA