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

002798

DATE: March 25, 1982

SUBJECT: EPA Registration Number 677-283
Technical Daconil 2787 Fugicide

EPA Registration Number 677-308
Technical Chlorothalonil Fungicide

FROM: Deloris F. Graham D&G 3/26/82
FHB/TSS E 3/26/82

TO: Henry Jacoby
Product Manager (21)

Applicant: Diamond Shamrock Corporation
Agricultural Chemicals Division
1100 Superior Avenue
Cleveland, Ohio 44114

Active Ingredients:

Chlorothalonil (tetrachloroisophthalonitrile)... 96%
Inert Ingredients..... 4%

Background:

Submitted Acute Oral, Acute Dermal, Acute Inhalation and Primary Dermal Irritation Study. Studies conducted by Bio-Research Laboratories. Data under accession number 246843. Alternate method of support. Miscellanous data not requested, but does not include adverse data.

Recommendations

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

2. An Eye Irritation Study was not submitted and one must be submitted and/or cited.

3. Based on the Acute Inhalation Study the appropriate signal word is DANGER. therefore the word poison in red and the skull and crossbones motif must appear on the label in close proximity to the signal word.

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Label:

1. The statement "Keep out of reach of children" must precede the signal word.

2. The precautionary statements must be revised to include the following statement preceding the eye statement.

   "Fatal if inhaled. Do not breath dust. Wear a mask or pesticide respirator jointly approved by the Mining Enforcement and Safety Administration and the National Institute for Occupational Safety and Health. If inhaled remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention."

3. The Statement "Keep out of lakes, streams or ponds" must be revised to read "Do not apply directly to water."

Review:

1. Acute Oral Toxicity Study: Bio-Research Laboratories; Project # 12761; February 27, 1981.

   Procedure: After range finding study; three single doses, 5,000 mg/kg and 10,000 mg/kg using a 1.5% Queen 80 as vehicle and 10,000 mg/kg using 1.0% methyl cellulose. Five male and five females per dose were used. Observations made daily for 14 days posttreatment. Necropsy performed on all animals.

   Results: At 5,000 mg/kg using Queen 80, 1/5 M and 2/5 F died; at 10,000 mg/kg, 1/5 M and 1/5 F died; at 10,000 mg/kg using methylcellulose, no mortalities.

   Clinical signs observed included epistaxis, lacrimation, decreased eyelid tone, vocalization, decreased activity, congestion, dyspnea, decreased body surface temperature, piloerection, emaciation, distended abdomen, diarrhea, perianal staining, nervousness, cyanosis, decreased reflex and muscle tone, ataxia, hunchback gait, and tremors.

   Necropsy revealed high incidence of pulmonary congestion, gastric distention, irritation and hemorrhage of the gastric muscosa; high incidence of thickening of the gastric walls and pitted spleen.

   LD_{50} greater than 10,000 mg/kg.

   Study Classification: Core Guideline Data.

   Toxicity Category: IV - CAUTION

2. Acute Dermal Toxicity Study: Bio-Research Laboratories Project # 12762; December 15, 1980.

Procedure: Five male and five female New Zealand rabbits received 10,000 mg/kg at abraded skin sites under occlusive wrap for 24 hour exposure. Observations made frequently during day of dosing then twice daily thereafter for 14 days. Necropsy performed on all animals.

Results: No mortalities. Clinical signs observed included ocular irritation, diarrhea, erythema, decreased muscle tone, nasal discharge, and lacrimation. Necropsy revealed liver: discrete areas, firm capsular, pale green-white, poorly delineated, subcapsular areas; skin: yellow flakes on treated area, alopecia; ears; yellow flakes, external surface, yellow dried crusty material inside base of pinnae; abdominal cyst filled with clear fluid in fat adjacent to left horn of uterus; eyes; surrounded by yellow rusty material, upper and lower eyelids thickened; heart: mild to moderate focal reddening of the perucardium, right tricuspid valve focal reddening; gastro-intestinal tract: mild reddening. LD_{50} greater than 10,000 mg/kg.

Study Classification: Core Guideline Data.

Toxicity Category: III - CAUTION

3. Acute Inhalation Toxicity-Study: Bio-Research Laboratories; Project # 9383; February 18, 1981.

Procedure: Ten rats per sex were assigned to each of nine groups. Two of these groups were sacrificed immediately posttreatment due to difficulties with the generating equipment. The remaining groups were identified as follows: Group I was exposed for 4 hours to air as a control; group II to 64.8 mg/l of the test material; group III to 19.4 ug/l; IV to 37.0 ug/l; group V, 92.5 ug/l; group VI, to 219.3 ug/l; group VII to 100.8 ug/L. Since it was difficult maintaining stable chamber concentration of group III and IV, the data from these groups were not used. A 400L chamber was used for each exposure. Particle size ranged from 1.35 to 5.5 microns. Temperature ranged from 22 to 26° C. Relative humidity ranged from 30 - 60%. Observations were made four hours post treatment, then twice daily thereafter for 14 days. Necropsy performed on all animals.

Results: At 19.4 ug/l, 1/10 F died; at 64.8 ug/L, 1/10 M died; at 37 ug/L, 3/10 M and 2/10 F died; at 92.5 ug/L, 4/10 M and 5/10 F died; at 219.3 ug/L, 9/10 M and 10/10 F, at 101.0 ug/L, 10/10 M and 7/10 F died.

Clinical signs included rales, nasal discharge, gasping.

Necropsy revealed high incidence of congestion of lung, liver and kidney in treated animal; loss of granular staining and vacuolization of hepatocytes accompanied by mild strophy; central lobular cytoplasmic vesicle formation and necrosis; increase accumulation of easinophilic amorphic material in the convoluted renal tubules.

LC50 for males was 94 ug/L (0.094 mg/L) with confidence limits between 70.3 and 125.7 ug/L. LC50 for females was 92.5 ug/L (0.0925 ug/L) with confidence limits between 79.4 and 107.8 ug/L. Combined LC50 for males and females was 0.092 mg/L.

Study Classification: Core Guideline Data.

Toxicity Category: I - DANGER

4. Primary Dermal Irritation Study: Bio-Research Laboratories; Project #12763:

Procedure: 6 male New Zealand rabbits received 0.5 g at 2 abraded and 2 intact skin sites per animal under occlusive wrap for 24 hour exposure. Observations were made at 24 and 72 hours and 7 days.

Results: No irritation at 24 hours. Very slight erythema in 2/6 animals at 72 hours (2/6=1), but had cleared by day 4.

Study Classification: Core Guideline Data.

Toxicity Category: IV - CAUTION

ACCEPTED

APR 3 1979

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 677-308

Net Contents 50 Pounds / 22.7 Kilograms

Diamond Shamrock

Technical Chlorothalonil

Fungicide

Active Ingredient: Chlorothalonil (tetrachloroisophthalonitrile)*	96.0%
Inert Ingredients:	4.0%
Total	100.0%

*Covered under U. S. Patent No. 3,290,353 and No. 3,331,735.

DANGER: Keep Out Of Reach Of Children

See side panel for additional precautionary statements

Diamond Shamrock Corporation
Agricultural Chemicals Division
Cleveland, Ohio 44114

EPA Reg. No. 677-308-AA EPA Est. No. 677-TX-1

Diamond Shamrock

Technical Chlorothalonil Fungicide

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Technical Chlorothalonil

Fungicide

Diamond Shamrock

Precautionary Statements

Hazards to Humans and Domestic Animals

Danger

Corrosive, Causes Severe Eye Damage.

Do not get in eyes, wear goggles or eye shield when handling this product.

In case of contact with eyes, flush with plenty of water immediately for 15 minutes. Seek medical attention for eyes immediately.

Avoid contact with skin or clothing. Wash exposed areas of skin with soap and warm water after handling or using.

Do not take internally.

Avoid breathing dust.

Note: Technical Chlorothalonil Fungicide may produce temporary allergic side effects characterized by redness of the eyes, mild bronchial irritation and redness or rash on exposed skin areas. Persons having allergic reaction should contact a physician. Affected persons respond to treatment with antihistamines or steroid creams and/or systemic steroids.

Environmental Hazards

This product is toxic to fish.
Keep out of lakes, streams or ponds.

Storage and Disposal

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

Store in a dry place.

Disposal—Pesticide or rinsate that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies. Dispose of containers in an incinerator or landfill approved for pesticide containers or bury in a safe place.

Open dumping is prohibited.

Do not contaminate water by cleaning of equipment or disposal of wastes. Consult federal, state or local disposal authorities for approved alternative procedures such as limited open burning.

For Formulation Purposes Only

Notice of Warranty

Diamond Shamrock Corporation makes no warranty of merchantability, fitness for any purpose, or otherwise, express or implied, concerning this product or its use, which extend beyond the statements on this label.

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Diamond Shamrock

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Diamond Shamrock Corporation
Agricultural Chemicals Division
Cleveland, Ohio 44114

EPA Reg. No. 677-203-AA

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EPA Est. No. 677-TX-1

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