

Material Safety Data Sheet



Transportation and Medical Emergency Phone: 1-800-535-5053 (INFOTRAC)

General Phone: 317-580-8282

EPA Reg. Number: 67690-39

Revision Date: 01/16/09

Pentathlon* DF Fungicide

SePRO Corporation Carmel, IN 46032-4565

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: Pentathlon* DF Fungicide

COMPANY IDENTIFICATION:

SePRO Corporation

11550 North Meridian Street, Suite 600

Carmel, IN 46032

www.sepro.com

Information Phone: 317-580-8282 (Monday - Friday, 8:00 am to 5:00 pm EST)

2. HAZARDOUS IDENTIFICATIONS

EMERGENCY OVERVIEW

- Hazards to Humans and Domestic Animals
- CAUTION.
- May irritate eyes, nose, throat, and skin.
- May be harmful if absorbed through skin, inhaled or swallowed.
- Avoid breathing dust or spray mist.
- Avoid contact with skin, eyes and clothing.
- Keep away from fire or sparks.

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Potential Health Effects

Skin contact may cause skin irritation with discomfort and rash. Repeated exposure may cause skin sensitization with allergic rashes. Significant skin permeation and systemic toxicity after contact appears unlikely.

Eye contact may cause eye irritation with discomfort, tearing, or blurring of vision.

Based on animal studies, long term exposure to high levels may cause abnormal thyroid function.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS #	% by Wt.
Mancozeb	8018-01-7	75.0%
A coordination product of zinc ion and manganese ethylenebisdithiocarbamate		
Inert Ingredients		25.0%
Contains 0.75 pound of mancozeb per pound of product. Dispersible granules.		

4. FIRST AID MEASURES

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth. Call a poison control center or doctor for further treatment advice.

IF IN EYES: Hold eyes open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 - 20 minutes. Call a poison control center or doctor for treatment advice.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

Flash Point & Method: Not determined

Flammable Limits: 0.29 g/L (% by volume in air)

Auto-Ignition Temperature: 205° C (401° F)

Hazardous Combustion Products: Hazardous gases/vapors produced in a fire are Hydrogen Sulfide (H₂S), Carbon Sulfide (CS₂), and oxides of sulfur, nitrogen, and carbon.

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, water spray or foam.

FIREFIGHTING INSTRUCTIONS: Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus and full protective equipment. Use water spray. Runoff from fire control may be a pollution hazard.

6. ACCIDENTAL RELEASE MEASURES

SAFEGUARDS (PERSONNEL)

NOTE: Review *FIRE FIGHTING MEASURES* and *HANDLING (PERSONNEL)* sections before proceeding with clean-up. Use appropriate *PERSONAL PROTECTIVE EQUIPMENT* during clean-up.

Evacuate personal, thoroughly ventilate area, use self-contained breathing apparatus.

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SPILL CLEAN-UP

Remove source of heat, sparks, flame, impact, friction, or electricity. Dike spill. Prevent material from entering sewers, waterways, or low areas. Shovel or sweep up. Never return to container for reuse. Scoop into bags or boxes with plastic or aluminum shovel.

7. HANDLING AND STORAGE

HANDLING (PERSONNEL)

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove Personal Protective Equipment (PPE) immediately after handling this product.
- Wash the outside of gloves before removing.
- As soon as possible, wash thoroughly and change into clean clothing.

HANDLING (PHYSICAL ASPECTS)

Keep away from heat, sparks, and flames.

STORAGE

Do not contaminate water, food or feed by storage or disposal. Never allow product to become wet during storage. This may lead to chemical changes which will reduce its effectiveness as a fungicide and create flammable vapors.

Keep container tightly closed. Store product in original container only. Store in a well ventilated place. Store in a cool, dry area away from feed, seed or fertilizer.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS

Engineering control statements: When handlers use enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

During aerial application, human flaggers must be in enclosed cabs.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

Applicators and other handlers (other than mixers and loaders) must wear:

- Coveralls over long sleeved shirt and long pants;
- Chemical-resistant gloves, such as nitrile rubber, natural rubber, or butyl rubber; and
- Shoes plus socks.

Mixers and Loaders must wear:

- Coveralls over long sleeved shirt and long pants;
- Chemical-resistant gloves, such as nitrile rubber, natural rubber, or butyl rubber;
- Shoes plus socks;
- Protective eyewear; and
- Chemical-resistant apron when mixing and loading.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls over long sleeved shirt and long pants;
- Chemical-resistant gloves, such as nitrile rubber, natural rubber, or butyl rubber; and
- Shoes plus socks.

EXPOSURE GUIDELINES

Applicable Exposure Limits

Mancozeb:

PEL (OSHA) – None established

TLV (ACGIH) – None established

WEEL (AIHA) – 1 mg/m³, 8 Hr. TWA, SEN.

9. PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Yellow

PHYSICAL STATE: Solid

ODOR: Sulfurous

VAPOR PRESSURE: Not determined

BULK DENSITY (loose): 40 - 45 lb/ft³

SOLUBILITY IN WATER: Dispersible

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable at normal conditions.

CONDITIONS TO AVOID: Acids and moisture (in storage).

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INCOMPATIBILITY WITH OTHER MATERIALS: Incompatible or can react with acids.

DECOMPOSITION: Decomposes with heat. Hazardous gases/vapors produced are hydrogen sulfide, carbon disulfide, and oxides of carbon, nitrogen, and sulfur. Elevated temperature or free water promotes decomposition, which may cause spontaneous combustion.

POLYMERIZATION: Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

ANIMAL DATA

Pentathlon DF

Oral LD₅₀ > 5,000 mg/kg in rats
Dermal LD₅₀ > 2,000 mg/kg in rabbits
4-hour Inhalation LC₅₀ > 5.4 mg/L in rats

Pentathlon DF was a mild to moderate eye irritant. It was classified as a non-irritant per EEC Guidance and given a Toxicity Category III rating by EPA Guidance. Pentathlon DF is a mild to slight skin irritant and sensitizer in animals.

Mancozeb

The effects in animals from repeated high inhalation doses of mancozeb (dust) equivalent to 150 - 250 times the AEL include reduced body weight, inflammation of the lungs, and abnormal thyroid function.

Toxic effects in animals from repeated ingestion of high doses of Mancozeb include reduced body weight and thyroid effects. In a different study, repeated dosing caused toxic and neuropathological effects in male and female rats which included compound-related mortality, decreased body weight, impaired hind limb motor activity and histopathological evidence of nerve damage. The no-observable-effect level was 125 ppm.

Increased incidences of thyroid tumors and ocular lesions (retinopathy) were observed in rats administered 750 ppm (equivalent to approximately 35 mg/mg/day) of Mancozeb in their diet for two years. Mancozeb is considered to show weak carcinogenic activity.

Tests in some animals indicated that the Mancozeb may produce embryo and fetal toxicity, but only at maternally toxic doses. Multi-generation studies in animals demonstrate no reproductive toxicity.

Mancozeb is in the ethylene-bis-dithiocarbamate (EBDC) class of fungicides. EBDCs including Mancozeb, which are metabolized to

ethylene thiourea (ETU), have product thyroid tumor in animal studies.

Mancozeb does not produce genetic damage in bacterial or most mammalian cell culture systems. It has been reported to produce genetic damage in some, but not all, animal tests. It has not been tested adequately for heritable genetic damage.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Mancozeb

Aquatic Toxicity:

96 hour LC ₅₀	Rainbow trout	0.073 mg/L
96 hour LC ₅₀	Fathead minnows	0.57 mg/L
96 hour LC ₅₀	Bluegill Sunfish	0.84 mg/L
72 hour LC ₅₀ (growth inhibition)	Freshwater algae	0.43 mg/L

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Do not contaminate water, food, or feed by disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

ENVIRONMENTAL HAZARDS: This product is toxic to fish. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

SHIPPING INFORMATION

DOT: Not regulated by DOT unless shipped in bulk package or by water.

IMO/MDG:

Proper Shipping Name: Environmentally Hazardous Substance, Solid, n.o.s., (mancozeb 75%)

Hazard Class: 9

UN/NA Number: UN3077

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Packing Group: III
Marine Pollutant: Yes
Reportable Quantity: Yes, add RQ if 5,000 or more pounds mancozeb in a single package.

IATA/CAO: Not regulated if less than 5,000 pounds mancozeb per package.

15. REGULATORY INFORMATION

U.S. FEDERAL AND STATE REGULATIONS

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute: Yes
Chronic: Yes
Fire: No
Reactivity: Yes

In the United States this product is regulated by the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act. It is a violation of federal law to use this product in a manner inconsistent with its labeling. EPA Reg. No. 67690-39.

CALIFORNIA PROPOSITION 65: This product contains mancozeb and ethylene thiourea (ETU), chemicals known to the State of California to cause cancer in laboratory animals. ETU is also known to the State of California to cause birth defects or other reproductive harm in laboratory animals.

16. OTHER INFORMATION

NFPA, NPCA-HMIS:

Hazards Classification: (0 - minimal, 1 - slight, 2 - moderate, 3 - serious, 4 - severe)

NFPA: Health - 1, Fire - 1, Reactivity - 1
HMIS: Health - 2, Fire - 1, Reactivity - 1

MSDS STATUS:

New – 10/13/05
Revised – 04/06/06: All Sections
Revised – 01/16/09 (DP082208): Sections 2 - 16

The data in this Material Safety Data Sheet relates only to this specific material designated herein and does not relate to us in combination with any other material or process.

The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult SePRO Corporation for Further Information.