

# Material Safety Data Sheet



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

General Phone: 317-580-8282

EPA Reg. Number: 67690-38

Revision Date: 01/16/2009

## Pentathlon\* LF Fungicide

SePRO Corporation Carmel, IN 46032-4565

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** Pentathlon\* LF Fungicide

**COMPANY IDENTIFICATION:**

SePRO Corporation

11550 North Meridian Street, Suite 600

Carmel, IN 46032

[www.sepro.com](http://www.sepro.com)

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

### 2. HAZARDOUS IDENTIFICATIONS

**EMERGENCY OVERVIEW**

**• CAUTION!**

- Harmful if swallowed, inhaled or absorbed through the skin.
- Avoid contact with skin, eyes, or clothing.
- Avoid breathing spray mist.
- Remove contaminated clothing and wash clothing before reuse.
- Causes moderate eye irritation.

**EMERGENCY PHONE NUMBER: 1-800-535-5053**

**Potential Health Effects**

Skin contact with mancozeb may cause skin irritation with discomfort or rash. Mancozeb has been infrequently associated with skin sensitization in humans. Significant skin permeation and systemic toxicity after contact appears unlikely.

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

Based on animal studies, long term exposure to high levels of mancozeb 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	37.0%
A coordination product of zinc ion and manganese ethylenebisdithiocarbamate		
Inert Ingredients		63.0%
Contains 4.0 pounds active ingredient per gallon.		

### 4. FIRST AID MEASURES

**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 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.

**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 SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a large 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free **1-800-535-5053**. See label for additional precautions and directions for use.

### 5. FIRE FIGHTING MEASURES

**FLAMMABLE PROPERTIES:** Pesticide particulate can become airborne. Combustion generates toxic fumes of hydrogen sulfide, carbon disulfide, sulfur oxides, nitrogen oxides, and carbon oxides.

**EXTINGUISHING MEDIA:** Use carbon dioxide, dry chemicals, or water spray.

**FIREFIGHTING INSTRUCTIONS:** Wear self-contained breathing apparatus (SCBA) and full protective equipment. Cool tank/container with water spray.

### 6. ACCIDENTAL RELEASE MEASURES

**SAFEGUARDS (PERSONNEL)**

**NOTE:** Review *FIRE FIGHTING MEASURES* (Section 5) and *HANDLING (PERSONNEL)* (Section 7) 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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### INITIAL CONTAINMENT

Prevent material from entering sewers, waterways, or low areas.

### SPILL CLEAN-UP

Contain spills immediately with inert materials (e.g. sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.

For minor spills or leaks, follow all precautions indicated on the product label clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.

In the event of a major spill, fire or other emergency, call **INFOTRAC at 1-800-535-5053.**

## 7. HANDLING AND STORAGE

### HANDLING (PERSONNEL)

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove 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.
- Do not handle material near food feed or drinking water.

### STORAGE

- Do not contaminate water, food or feed by storage.
- Important – Keep in a cool place but not below 32° F. Temperature extremes will affect quality of product.
- Store product in original container only, away from other pesticides, fertilizer, food or feed.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

### ENGINEERING CONTROLS

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

### PERSONAL PROTECTIVE EQUIPMENT

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;
- Shoes plus socks; and
- Protective eyewear.

### 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.

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;
- Shoes plus socks; and
- Protective eyewear.

## EXPOSURE GUIDELINES

### Applicable Exposure Limits

Mancozeb:

- PEL (OSHA) – None established
- TLV (ACGIH) – None established
- WEEL (AIHA) – 1 mg/m<sup>3</sup>, 8 Hr. TWA, SEN.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**COLOR:** Pale Yellow

**PHYSICAL STATE:** Liquid

**ODOR:** Sulphur odor

**BOILING POINT:** 100° C/212° F Water

**MELTING POINT:** 0° C/32° F Water

**DENSITY:** 1.30 g/cm<sup>3</sup>

**SPECIFIC GRAVITY (H<sub>2</sub>O=1):** 1.29 to 1.31 g/cm<sup>3</sup>

**SOLUBILITY IN WATER (20°C):** Dispersible

**VAPOR PRESSURE:** 2,266.5 Pa @ 20° C/68° F Water

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pH (20°C): 7.5

VISCOSITY: 1,160 cps

VAPOR DENSITY (AIR = 10): < 1 Water

EVAPORATION RATE (BAc - 1): < 1 Water

PERCENT VOLATILITY: 53 to 56% Water

### 10. STABILITY AND REACTIVITY

#### CHEMICAL STABILITY

**General:** Material is considered stable; however, temperatures above 49°C/120°F should be avoided.

**Conditions to Avoid:** Avoid temperature above 49°C.

**Hazardous Decomposition:** Thermal decomposition may yield carbon disulfide and hydrogen sulfide.

**Hazardous Polymerization:** Material not known to polymerize.

**INCOMPATIBILITY:** Avoid contact with oxidizing agents and acids.

### 11. TOXICOLOGICAL INFORMATION

#### ANIMAL DATA

##### Pentathlon LF

Oral LD<sub>50</sub> > 5,000 mg/kg in rats

Skin absorption LD<sub>50</sub> > 2,000 mg/kg in rabbits

4-hour Inhalation LC<sub>50</sub> > 4.8 mg/L in rats

Pentathlon LF is a slight skin irritant, a moderate eye irritant, but is not a skin sensitizer in animal test.

##### Mancozeb

The effects in animals from repeated high inhalation doses of mancozeb (dust) 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.

Increased incidences of thyroid tumors and ocular lesions (retinopathy) were observed in rats administered mancozeb in their diet for two years. Mancozeb is considered to show weak carcinogenic activity. Tests in some animals indicate that 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 ethylenebisdithiocarbamate (EBDC) class of fungicides. EBDCs including mancozeb, which are metabolized to ethylene thiourea (ETU), have produced thyroid tumors in animals studies.

Mancozeb does not produce genetic damage in bacterial. It produced genetic damage in some in vitro mammalian cell assays, but was negative in mammalian in vivo assays.

### 12. ECOLOGICAL INFORMATION

#### ECOTOXICOLOGICAL INFORMATION

##### Mancozeb

##### Aquatic Toxicity:

96 hour LC <sub>50</sub>	Rainbow trout	0.073 mg/L
96 hour LC <sub>50</sub>	Flathead minnows	0.57 mg/L
96 hour LC <sub>50</sub>	Bluegill sunfish	0.84 mg/L
72 hour EC <sub>50</sub> (growth inhibition)	Freshwater algae	0.43 mg/L

### 13. DISPOSAL CONSIDERATIONS

#### WASTE DISPOSAL

Do not contaminate water, food, or feed by storage or 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 or 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. Cover or incorporate spilled treated seed. Do not contaminate water by disposing of equipment washwaters.

#### CONTAINER DISPOSAL

Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of 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. See IMO/IMDG description.

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### IMO/MDG:

**Proper Shipping Name:** Environmentally Hazardous Substance,  
Liquid, n.o.s., (mancozeb 37% aqueous suspension)

**Hazard Class:** 9

**UN/NA Number:** UN3082

**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.

### 15. REGULATORY INFORMATION

#### U.S. 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. 67690-38.

**OSHA:** This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR §1910.1200).

**TSCA:** All product components are on the TSCA Chemical Inventory.

**CERCLA:** Releases of this material (mancozeb as ethylenebisdithiocarbamic acid, salts, and esters CAS # 111-54-6; RQ: 5,000 lbs) to air, land, or water are reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to the state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304 and 40 CFR Part 302.

**RCRA:** Wastes of this commercial chemical product are classified as hazardous by 40 CFR §261.33 being a listed waste U114.

#### STATE REGULATIONS (U.S.)

**CALIFORNIA PROPOSITION 65:** This product contains mancozeb and 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, USES AND RESTRICTIONS

#### NFPA, NPCA-HMIS:

#### NFPA Ratings:

Health: 1

Flammability: 1

Reactivity: 0

#### NFPA Ratings:

Health: 1

Flammability: 1

Reactivity: 0

#### MSDS STATUS:

New – 10/13/05

Revised – 03/06/06: All Sections

Revised – 01/16/09 (DP110306): 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.**