

Material Safety Data Sheet



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

General Phone: 317-580-8282

EPA Reg. Number: 67690-35

Revision Date: 12/24/2008

Junction* Fungicide/Bactericide

SePRO Corporation Carmel, IN 46032-4565

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: Junction* Fungicide/Bactericide

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

DANGER. Corrosive. Causes irreversible eye damage. Harmful if swallowed or inhaled. Do not get in eyes or on clothing. Avoid inhaling dust or spray mist. Prolonged and repeated dermal contact may cause allergic reactions in some individuals.

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POTENTIAL HEALTH EFFECTS

Skin contact may cause slight irritation with itching, redness, or swelling.

Eye contact may cause severe irritation with tearing, pain or blurred vision, eye corrosion or ulceration; blindness may result.

Ingestion may cause nonspecific discomfort, such as nausea or weakness, central nervous system depression, which if severe enough, may lead to death.

Inhalation may be irritating to the respiratory system. Excessive exposure may cause cough, mucous production, shortness of breath, reflecting metal fume fever.

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 Name	CAS #	% by Wt.
Copper Hydroxide (Metallic Copper Equivalent - 30%)	20427-59-2	46.1
Mancozeb†	8018-01-7	15.0
Inert Ingredients		38.9

† Mancozeb, a coordination product of zinc ion and manganese ethylenebisdithiocarbamate in which the ingredients are:

- Manganese - 3.0%
- Zinc - 0.4%
- Ethylenebisdithiocarbamate ion - 11.6%

4. FIRST AID MEASURES

IF IN EYES: Hold eye 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 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 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. Never give anything by mouth to an unconscious person.

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.

NOTE TO PHYSICIAN: Probably mucosal damage may contraindicate use of gastric lavage.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Dry chemical, CO₂, Foam.

FIRE FIGHTING INSTRUCTIONS: Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus (SCBA) and full protective equipment.

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 personnel, thoroughly ventilate area, use self-contained breathing apparatus.

SPILL CLEAN UP:

Land Spill: Sweep up and place in suitable (fiberboard) containers for later disposal.

Water Spill: If feasible, copper may be precipitated /-ultrafiltrated with caustics or other chemicals and resulting sludge disposed of in a chemical landfill.

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7. HANDLING AND STORAGE

HANDLING (Personnel):

Users should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

STORAGE:

Do not contaminate water, food or feed by storage. Store in a cool, dry place. Do not store near feed, food or within reach of children.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT: Some of the 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-resistant category selection chart.

Applicators and other handlers must wear:

- Coveralls over long-sleeved shirt and long pants.
- Chemical-resistant apron during mixing and loading.
- Chemical-resistant gloves made of any waterproof material.
- Shoes plus socks.
- Protective eyewear.

Discard clothing and other absorbent materials that have been heavily contaminated with this product's concentrate.

Follow 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 made of any waterproof material.
- Shoes plus socks.
- Protective eyewear.

EXPOSURE GUIDELINES:

Applicable Exposure Limits:

Copper Hydroxide:

PEL (OSHA): 1 mg/m³, dusts and mists, as Cu, 8 Hr. TWA

TLV (ACGIH): 1 mg/m³, dusts and mists, as Cu, 8 Hr. TWA

AEL[†]: 1.5 mg/m³, 8 & 12 Hr. TWA (approximately 1 mg/m³, as Cu)

Mancozeb[†]

PEL (OSHA): None Established

TLV (ACGIH): None Established

WEEL (AIHA): 1 mg/m³, 8 Hr. TWA, SEN

[†] AEL is manufacturer's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

9. PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Dark Green

FORM: Granule

pH: 9.63

VAPOR PRESSURE: Negligible

DENSITY: 0.5485 g/mL

SOLUBILITY IN WATER: Technical copper hydroxide has a solubility of 0.1 - 5 ppm.

10. STABILITY AND REACTIVITY

STABILITY: Stable at normal temperatures and storage conditions.

INCOMPATIBILITY WITH OTHER MATERIALS: None reasonably foreseeable.

POLYMERIZATION: Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

ANIMAL DATA:

Junction:

Inhalation 4 Hour LC₅₀: > 1.266 mg/L in rats

Dermal LD₅₀: > 5,000 mg/kg in rabbits

Oral LD₅₀: 2,535 mg/kg in rats

Junction was severely irritating to corrosive to rabbit eyes. Junction was not a skin irritant or skin sensitizer. Repeated ingestion of Junction for 28 days produced no adverse effects in rats at 1,000 mg/kg.

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/kg/day) of mancozeb in their diet for two years. Mancozeb is considered to show weak carcinogenic activity. Tests in some animals indicate that

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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 produced thyroid tumors 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.

Copper Hydroxide:

Repeated oral ingestion of copper hydroxide via gavage produced reduced body weights and food consumption at 15 mg/kg/day and mortality at 30 mg/kg/day in rabbits.

No animal data are available to define carcinogenic, reproductive, or mutagenic hazards of copper hydroxide. Animal data show developmental effects only at exposure levels producing other toxic effects in the adult animal.

12. ECOLOGICAL INFORMATION

Mancozeb

Aquatic Toxicity:

96 hour LC₅₀ - Rainbow trout: 0.073 mg/L
96 hour LC₅₀ - Fathead minnow: 0.57 mg/L
96 hour LC₅₀ - Bluegill sunfish: 0.84 mg/L
72 hour EC₅₀ (growth inhibition) - freshwater algae: 0.43 mg/L

Cupric Hydroxide

Aquatic Toxicity:

48 hour EC₅₀ - Daphnia magna: 70.16 ug/L

Avian Toxicity:

8 day LC₅₀ - Bobwhite quail: 3,400 ppm
8 day LC₅₀ - Mallard ducklings: > 5,000 ppm
48 hour LD₅₀ - Honeybee: 68.3 ug/bee

ENVIRONMENTAL FATE:

EC₅₀ (respiration rate) - activated sludge: 71 mg/L

13. DISPOSAL CONSIDERATIONS

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

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is

a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

ENVIRONMENTAL HAZARDS: This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic sites. Do not allow rinsate from cleaning of equipment or disposed material to enter surface or groundwater.

CONTAINER DISPOSAL:

Paper and Plastic Bags: Completely empty bag into application equipment. Then dispose of empty bag in sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

DOT: Not regulated by DOT unless shipped in bulk package or by water. See IMO/IMDG description.

IMO/IMDG

Proper Shipping Name: Environmentally Hazardous Substances, Solid n.o.s., (Mancozeb 15%)

Hazard Class: 9

UN/NA Number: UN 3077

Packing Group: III

Marine Pollutant: Yes

Reportable Quantity: Yes - add RQ if 5,000 or more pounds mancozeb in a single package.

IATA/ICAO: Not regulated unless 5,000 or more pounds mancozeb in a single package.

15. REGULATORY INFORMATION

U.S. REGULATIONS

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.

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TITLE III: HAZARD CLASSIFICATIONS SECTIONS 311, 312

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

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

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

CERCLA: Releases of a component of this material (metallic copper) 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.

RCRA: When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40 CFR §261.33.

SARA TITLE III 313 REPORTABLE INGREDIENTS: This product contains a percentage of metallic copper (CAS No. 7440-50-8) that is listed in Section 313 above de minimis concentrations.

STATE REGULATIONS (U.S.)

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.

California: Listed under copper (CAS No. 7440-50-8) with footnotes referencing above federal standards.

New Jersey: Footnotes reference above federal standards plus listing of copper on the New Jersey Environmental Hazardous Substances List (NJ Department of Environmental Protection, Title 7 New Jersey Administrative Code (NJAC) Chapter 1G).

Massachusetts: Listed as copper (CAS No. 7440-50-8) and copper-based pesticide, solid, toxic (no CAS No. assigned).

Pennsylvania: Listed as copper fume or dust (CAS No. 7440-50-8) as an environmental hazard.

16. OTHER INFORMATION

NFPA, NPCA-HMIS:

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

HMIS: Health - 2, Fire - 1, Reactivity - 0

NFPA: Health - 2, Fire - 1, Reactivity - 0

MSDS STATUS:

Revised - 12/24/2008 (DP112006)

Sections: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16

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

The information herein is given in good faith, but no warranty, express or implied, is made. Consult SePRO Corporation for further information.