

MATERIAL SAFETY DATA SHEET

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

Product identifier: KOVERALL Fungicide

Product use: Fungicide.

EPA Reg. No. 67760-110

Supplier's name and address:

Cheminova Inc.

P.O. Box 110566

One Park Drive, Suite 150

Research Triangle Park, NC 27709

USA

Phone #: (919) 474-6600 (8 AM to 5:00 PM EST, Monday to Friday)

Emergency Telephone #: 1-866-303-6950 (Medical Emergencies)
1-800-424-9300 (24 Hr. Chemtrec Number)

Manufacturer's name and address:

Refer to supplier.

MSDS Prepared by: Cheminova Inc.

MSDS Preparation date: October 7, 2011

Revision date:

Revision reasons:

SECTION 2 — HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Yellow to brown solid. Musty odor.

Caution.

Harmful if absorbed through skin. Causes moderate eye irritation.

Avoid contact with skin, eyes and clothing.

May be dangerous for the environment.

The product is toxic to aquatic organisms.

In case of fire, use CO₂, dry chemical, water spray or foam.

POTENTIAL HEALTH EFFECTS

Routes of entry: Skin, eyes.

Target organs: Skin, eyes.

Signs and symptoms of short-term (acute) exposure:

Skin contact: Harmful if absorbed through skin. May cause irritation. Repeated and prolonged exposure may cause sensitization.

Eye contact: Causes moderate eye irritation.

Carcinogenicity: See TOXICOLOGICAL INFORMATION (Section 11).

Potential environmental effects: This product is toxic to aquatic organisms. See ECOLOGICAL INFORMATION (Section 12).

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>% (weight)</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>
Mancozeb	8018-01-7	75	NE	NE
Ethylene thiourea	96-45-7	<25	NE	NE
NE= None established				

This material is classified as hazardous under OSHA regulations (29CFR 1910.1200).

SECTION 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 by a 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 an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
Call a poison control center or doctor for further treatment advice.
- 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 eye.
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.
- Have the product container or label with you when calling a poison control center or doctor, or when going for treatment.
You may also contact 1-866-303-6950 for emergency medical treatment information.

SECTION 5 — FIRE FIGHTING MEASURES

- Flash point (Method):** Not applicable
Flammable limits (% by volume): Not applicable
Explosive properties: Not explosive
Suitable extinguishing media: Carbon dioxide, dry chemical, water spray or foam.
Special fire-fighting procedures/equipment: Wear positive pressure self-contained breathing apparatus with full protective clothing. Remain upwind. Avoid breathing smoke.
Unusual fire and explosion hazards: Particulates can become airborne. Combustion generates toxic fumes, including the following: hydrogen sulphide, sulphur oxides, and carbon oxides.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

- Personal precautions:** Appropriate protective equipment must be worn when handling a spill of this material. If exposed to material during clean-up operations, remove all contaminated clothing promptly. Wash all exposed skin areas with soap and water immediately after exposure. Thoroughly launder clothing before reuse. Do not take clothing home to be laundered. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.
- Environmental precautions:** Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.
- Spill response/Cleanup:** Sweep up small spills and place in a suitable container for disposal. Wash thoroughly after handling.
Contain large spills and report them to Cheminova.
The used containers should be properly closed and labelled. Refer to Section 13 for disposal.
- Prohibited materials:** None known.
- Special spill response procedures:** If a spill/release in excess of EPA reportable quantity is made into the environment, immediately notify the national response center (phone: 1-800-424-8002).
EPA/CERCLA Reportable quantity: **Ethylene thiourea** (RQ 10 lbs.)

SECTION 7 — HANDLING AND STORAGE

- Safe handling procedures:** Avoid contact with skin, eyes, and clothing.
- Storage recommendations:** Keep away from fire and sparks. Store in a cool, dry, well-ventilated area. Do not allow stored product to become wet or overheated in storage; decomposition, impaired activity, or fire may result. Keep container closed when not in use. Decomposition produces foul odor; if observed, check for hot containers and immediately remove to open areas for disposal.
- Other information:** Completely empty bag into application equipment. Dispose of empty bag in a sanitary landfill or by incineration as allowed by state and local authorities. Avoid inhalation of smoke if incinerated.

SECTION 8 — EXPOSURE CONTROLS AND PERSONAL PROTECTION

- Ventilation and engineering controls:** If handled indoors, provide mechanical exhaust ventilation to minimize concentrations.
- Protective gloves:** Wear chemical-resistant gloves made of any waterproof material, such as nitrile rubber, natural rubber or butyl rubber.

Eye protection: Wear protective eyewear, such as chemical goggles.

Other protective equipment: Wear long-sleeved shirt and long pants, shoes and socks.

Permissible exposure levels: See Section 2.

General hygiene considerations: Avoid contact with eyes, skin or clothing. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbed materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. 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.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Physical state, odor and appearance: Yellow to brown solid.

Odor threshold: Musty

pH: Not available

Melting point: 378 - 399° F (192.22 - 203.89° C)

Bulk density: 0.6 – 0.7 g/cm³

SECTION 10 — REACTIVITY AND STABILITY DATA

Stability and reactivity: This product is stable under the recommended storage and handling conditions described in Section 7.

Hazardous polymerization: Not known to occur.

Conditions to avoid: Keep away from moisture, heat, or flame.

Materials to avoid (incompatibles): Avoid contact with oxidizing agents and acids.

Hazardous Decomposition Products: Thermal decomposition may yield the following: carbon disulfide and hydrogen sulphide.

SECTION 11 — TOXICOLOGICAL INFORMATION

Routes of exposure: Skin contact, skin absorption, eye contact.

Toxicological data:

LC₅₀ (mg/L/4 hrs) = >5.14 (4-hrs)

LD₅₀, oral, (mg/kg) = >5000

LD₅₀, dermal, (mg/kg) = >5000

Eye irritation = Moderate

Skin irritation = Practically non-irritating.

Skin sensitizer = May cause sensitization by skin contact

Carcinogenicity:

Ethylene thiourea: NTP Group 2: Substances or groups of substances, and medical treatments which may reasonably be anticipated to be carcinogens.

IARC Group 3: The agent (mixture, or exposure circumstance) is unclassifiable as to carcinogenicity to humans.

Teratogenicity, mutagenicity, other reproductive effects: No known teratogenic, mutagenic or reproductive effects.

SECTION 12 — ECOLOGICAL INFORMATION

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

Ecotoxicological information: The product is toxic to aquatic organisms. The ecotoxicity measured on the active ingredients is:

Mancozeb:

Fish – 96-hr LC₅₀, Rainbow trout (*Oncorhynchus mykiss*) = 0.11 mg/l

48-hr EC₅₀, Rainbow trout (*Oncorhynchus mykiss*) = 2.2 mg/l

48-hr EC₅₀, Goldfish (*Carassius auratus*) = 9.0 mg/l

48-hr EC₅₀, Carp (*Cyprinus carpio*) = 4.0 mg/l

Invertebrates – 48-Hr EC₅₀, Daphnids (*Daphnia magna*) = 1.3 mg/l

Birds – LC₅₀, Bobwhite quail (*Colinus virginianus*) = >10000 ppm

Bees – Non-toxic

SECTION 13 — DISPOSAL CONSIDERATIONS

Handling for disposal: Wastes from the use of this product may be disposed of on site or at an approved waste disposal facility.

Methods of disposal: Do not contaminate water, food, or feed by storage or disposal. Refer to product label for specific container disposal instructions.

SECTION 14 — TRANSPORTATION INFORMATION

US DOT 49 CFR information:

For **non-bulk** shipments (≤882 lbs):

This material is not regulated for transport.

For **bulk** shipments (>882 lbs) by all modes of transportation:

UN3077, Environmentally hazardous substance, solid, n.o.s. (mancozeb), 9, PGIII, Marine Pollutant

INTERNATIONAL:

IMDG/IMO (vessel): UN3077, Environmentally hazardous substance, solid, n.o.s. (mancozeb), 9, PGIII, Marine Pollutant

IATA/ICAO (air): UN3077, Environmentally hazardous substance, solid, n.o.s. (mancozeb), 9, PGIII, Marine Pollutant

SECTION 15 — REGULATORY INFORMATION

Regulations under FIFRA: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulating facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

EPA/CERCLA Reportable Quantity (RQ): Ethylene thiourea - RQ 10 lbs.

SARA TITLE III:

Sec. 302, Extremely Hazardous Substance Notification: This material is not known to contain any Extremely Hazardous Substances.

Sec. 311/312, Hazard Categories: Immediate (acute) health hazard
Chronic (delayed) health hazard

Sec. 313, Toxic Chemicals Notification: Ethylene thiourea (CAS #: 96-45-7) <25%

California Proposition 65: This product contains chemicals (mancozeb, ethylene thiourea) known to the state of California to cause cancer. This product contains a chemical (ethylene thiourea) known to the state of California to cause developmental toxicity.

SECTION 16 — OTHER INFORMATION

HMIS Rating: 2 Health; 0 Flammability; 0 Reactivity

NFPA Rating: 2 Health; 0 Flammability; 0 Reactivity

0-minimal 1-slight 2-moderate 3-severe 4-extreme

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