



PROTECT^{T/O}

Sales and Distribution Center
178 Ridge Road, Suite A
Dayton, NJ 08810-1501
Emergency Phone Numbers:
M-F 9-5 EDT 800-524-1662 732-329-8399
24 Hour CHEMTREC (800) 424-9300

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION

Product Name: Protect T/O
W.A. Cleary Product Code: 4332 (12 oz)
E.P.A. Regulation Number: 1001-65
Chemical Name: Manganese ethylenebis dithiocarbamate complex with zinc salt
Synonyms: Mancozeb

INGREDIENT INFORMATION

Hazardous Ingredients (CAS #)	Percent	Exposure Limits
Manganese ethylenebis dithiocarbamate complex (8018-01-7)	80.0%	N/A
ETU (96-45-7)	trace	N/A
Inert Ingredients	20.0%	N/A

HEALTH HAZARD DATA

Inhalation: Coughing, irritation of lungs upon over exposure to undiluted product.
Eye Contact: Mild, transient.
Skin Contact: Moderate irritation, not a known sensitizer.
Chronic Effects Of Overexposure: May irritate eyes, nose, and throat causing coughing.

EMERGENCY AND FIRST AID PROCEDURES

Ingestion: Drink 1-2 glasses of water, induce vomiting, seek medical attention. Do not induce vomiting or give anything by mouth to an unconscious person.
Skin Contact: Flush with soap and water, remove contaminated clothing, seek medical attention.
Eye Contact: Flush with plenty of water for at least 15 minutes. Seek medical attention if irritation begins and/or persists.
Inhalation: Remove to fresh air. If not breathing, follow standard resuscitation practices.

FIRE & EXPLOSION DATA

Flash Point (Method): 280°F/137.8°C (TOC)
Flammable Limits (vol % in air): N/A
Autoignition Temperature: N/A
Extinguishing Media: Water, chemical foam, dry chemical, carbon dioxide, earth or sand.
Special Fire Fighting Procedures: Wear self-contained breathing apparatus. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may cause increase contamination hazard.
Unusual Fire and Explosion Hazards: Toxic and flammable fumes.

ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled: Prevent spread or further spillage, sweep or scoop up and remove, flush area with water. Do not flush to surface waters or storm sewer system. Dispose of in compliance with all federal, state, and local laws.

HANDLING AND STORAGE

Precautions to be taken in handling and storing: Store in a well ventilated area with original containers closed. Do not store in a manner where cross-contamination with other pesticides, food or feed could occur. Never allow stored exposed product to become wet. This may lead to certain changes which will reduce the effectiveness of the product and create vapors which may be flammable.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Clothing: Wear protective clothing, including resistant boots and socks, to prevent skin contact when handling concentrate.
Eye Protection: Wear safety glasses with side shields or face shield for mixing loading/operations.
Ventilation: Use in a well ventilated area.
Respiratory Protection: Use OSHA approved respirator in confined spaces.

PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N/A

Melting Point: Decomposes before melting

Freezing Point: N/A

Specific Gravity: 1.92 (0.59 g/m) @ 20°C

Vapor Pressure (@ 25°C mm Hg): N/A

% Volatile: N/A

Evaporation Rate: N/A

Solubility In Water: Almost insoluble (dispersible)

Appearance And Odor: Greenish-yellow powder, slight sulfurous odor.

REACTIVITY HAZARD DATA

Stability: Stable at normal temperature and storage conditions. Elevated temperatures and/or free water promotes decomposition of exposed material.

Conditions To Avoid: Open flames, sparks, ignition sources, dampness.

Incompatibility: Strong acids, oxidizers, dampness (in storage).

Hazardous Polymerization: N/A

Hazardous Decomposition Products: Toxic and flammable fumes produced: H₂S, CS₂, and oxides of sulfur, nitrogen, and carbon.

TOXICOLOGICAL INFORMATION

TOXICITY DATA: LD₅₀

Oral (acute): > 5000 mg/kg (rat)

Dermal (acute): > 2,000 mg/kg (rabbit)

Inhalation (acute): 4 mg/L (4 hrs), 40% mortality (rat)

Chronic, Subchronic Studies: Two year feeding study with a diet containing 250 ppm produced no ill effects on rats. A similar study with dogs at a diet level of 20 mg/kg/day also produced no ill effects. In long term feeding studies on rodents, some dithiocarbamates have induced carcinogenicity and birth defects at high dietary intake levels.

Neurotoxicity: No delayed neurotoxicity or cholinesterase inhibition.

Oncogenicity: No oncogenicity to mice consuming diets containing levels as high as 640 ppm over a two year period.

Teratogenicity: No ill effects indicated during pregnancy to rats at 0.017 mg/L inhalation.

Reproductive Toxicity: A three generation rat study indicated no ill effects at the 250 ppm dietary level.

Mutagenicity: Ames Test-Negative. Other studies have indicated that Mancozeb at levels 3000 times the TWA has caused birth defects in animals. ETU, Ethylenethiourea, a trace component and breakdown product of mancozeb, has caused thyroid effects, tumors and birth defects in lab animals.

TRANSPORTATION INFORMATION

DOT Shipping Description: Fungicide, Agricultural, Solid, N.O.I. (Mancozeb), Class 60

Reportable Quantity: N/A

Hazardous Substance: Mancozeb

UN Identification Number: N/A

OSHA Hazard Classification: N/A

DOT Hazard Classification: Not regulated for land based shipments.

DOT Label Requirements: Not regulated for land based shipments.

DISPOSAL

Waste Disposal Methods: Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by intended use according to label instructions, contact the appropriate agency in your state or the nearest EPA Regional Office for guidance.

REGULATORY INFORMATION

EPA SARA TITLE III DATA:

SECTION 302 Substances: N/A

RCRA Waste Number: N/A

SECTION 311/312 Hazardous Categories: N/A

Immediate Health: Yes **Reactive:** Yes

Delayed Health: Yes **Sudden Pressure:** No

Fire: Yes

SECTION 313 TOXIC CHEMICALS: Yes (Mancozeb)

CERCLA RQ: N/A

CALIFORNIA PROP 65: Yes (Mancozeb) (ETU)

NFPA RATINGS

Flammability: 1 **Health:** 1

Resactivity: 1

PLEASE NOTE: W.A.CLEARY CHEMICAL CORPORATION believes that the information and recommendations contained herein are accurate as of the date hereof. The information provided herein applies only to the specific product designated and may not be valid where said product is used in combination with any other material or in any process. It is the user's responsibility to determine the suitability of the information for their purposes. No warranty of fitness for any particular purpose, warranty of merchantability, or any other warranty, expressed or implied, is made concerning the information provided herein.