



CLEARY MATERIAL SAFETY DATA SHEET

PROTECT DF™

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Please read the entire document. This Material Safety Data Sheet contains important environmental, health and toxicology information for your employees, and anyone who will use, transport, store, dispose of or handle this product. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information contained herein must be incorporated in your MSDS.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PROTECT DF
PRODUCT SYNONYM(S): Mancozeb 75%
CLEARY PRODUCT CODE:
EPA REGISTRATION NUMBER(S): 1001-77
CHEMICAL NAME: Manganese Ethylenebis Complex with Zinc Ion

COMPANY

Cleary Chemical Corporation
178 Ridge Road, Suite A
Dayton, New Jersey 08810

EMERGENCY TELEPHONE NUMBERS

CLEARY CHEMICAL CORP. M-F 9-5 EST (800) 524-1662 OR (732) 329-8399	PROSAR: (800) 324-7598 CHEMTREC 24 HOUR: (800) 424-9300
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SECTION 2: INFORMATION ON INGREDIENTS

Active Ingredient(s)/ Hazardous Inert Ingredient(s)	CAS #	% by Wt.	OSHA PEL
Zinc manganese ethylenebis dithiocarbamate	8018-01-7	75	Y
Ethylene thiourea	96-45-7	Trace	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

SECTION 3: HEALTH HAZARD INFORMATION

Emergency Overview

Grayish yellow to olive brown free-flowing microgranules, very slight cabbage like smell.

CAUTION!

CAUSES EYE IRRITATION.

HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.

AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

KEEP OUT OF REACH OF CHILDREN.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be no more than slightly toxic if swallowed, absorbed through skin or inhaled, moderately irritating to eyes and non-irritating to skin.

SECTION 4: FIRST AID MEASURES

Eye: 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.

Skin: Wash with plenty of soap and water. Get medical attention if irritation persists.

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

Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

SECTION 5: FIRE AND EXPLOSION INFORMATION

Fire and Explosive Properties

Auto-ignition Temperature 159°C (RSIT)

Flash Point NAPP Flash Point Method

Flammability Limits -Upper: NE

-Lower: NE

Extinguishing Media: Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions: Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards: Avoid breathing fumes from fire exposed material.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Contain spill. Sweep or scoop up and remove to suitable container for use or disposal. Flush area with water. Prevent spilled product from entering sewers or natural water. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

SECTION 7: HANDLING AND STORAGE

Handling: Do not breathe dust. Wash thoroughly after handling. Use only with adequate ventilation. Keep container closed. Do not get in eyes, on skin or on clothing.

Storage: This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage. Store in original container. If allowed to become wet the product will deteriorate and represent a fire hazard.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposures. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Eye / Face Protection: Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment available.

Skin Protection: Minimize skin contamination by following good industrial hygiene practice. Wearing rubber gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

Respiratory Protection: Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR §1910.134.

Airborne Exposure Guidelines for Ingredients:

Exposure Limit	Value
Zinc manganese ethylenebis dithiocarbamate	
OSHA Ceiling PEL	For manganese compounds, as Mn 5 mg/m ³
WEEL TWA	1 mg/m ³

Only those components with exposure limits are printed in this section. Air sampling alone is insufficient to accurately quantitate exposure.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor:	Grayish yellow to olive brown free-flowing microgranules, very slight cabbage like smell
pH:	6.9 (1% dispersion)
Specific Gravity:	NA
Vapor Pressure:	NE
Vapor Density:	NE
Melting Point:	Decomposes before melting
Freezing Point:	Solid at room temperature
Boiling Point	NA
Solubility In Water	Dispersible
Bulk Density	0.63 g/mL

SECTION 10: STABILITY AND REACTIVITY

Stability: This material is chemically stable under normal and anticipated storage and handling conditions.

Hazardous Polymerization: Does not occur

Incompatibility: Strong acids, strong oxidizers, and dampness. As dispersion is incompatible with strong sequestering agents and quarternary ammonium compounds.

Hazardous Decomposition Products: Ethylene thiourea and Carbon Disulfide

SECTION 11: TOXICOLOGICAL INFORMATION

DATA ON THIS MATERIAL AND/OR COMPONENTS ARE SUMMARIZED BELOW

Single exposure (acute) studies indicate:

Oral: No More than Slightly Toxic to Rats (LD50 >4,470 mg/kg)

Dermal: No More than slightly Toxic to Rabbits (LD50 >2,000 mg/kg)

Inhalation: No More than Slightly Toxic to Rats (4-hr LC50 >4.6 mg/l)

Eye Irritation: Moderately Irritating to Rabbits

Skin Irritation: Non-irritating to Rabbits

No skin allergy was observed in guinea pigs following repeated exposure. Repeated oral exposure produced thyroid effects in dogs, rats and mice with possible neurotoxic effects in rats. Long-term studies in rats and mice produced no increased incidence of tumors. No adverse effects were observed when rats were exposed orally for 2 successive generations. Developmental effects were observed in the offspring of rats exposed orally during pregnancy, but only at amounts which produced significant adverse effects in the mother. No adverse effects were noted in the offspring of rabbits exposed orally during pregnancy.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological Information: No data are available.

Chemical Fate Information: No data are available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. This pesticide is toxic to fish. Do not apply directly to water or wetlands. Do not apply directly to water by cleaning of equipment or disposal of wastes.

SECTION 14: TRANSPORTATION INFORMATION

DOT Name: Environmentally hazardous substances, solid, n.o.s.

DOT Technical Name: Mancozeb

DOT Hazard Class: 9

UN Number: 3077

DOT Packing Group: PG III

RQ:

Marine Pollutant: Yes

DOT Special Information: PROTECT DF, when shipped domestically, by highway, in the U.S.A. can be shipped as Not Regulated under DOT.

SECTION 15: REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y
Delayed (Chronic) Health	N
Fire	Y
Reactive	N
Sudden Release of Pressure	N

Ingredient Related Regulatory information:

SARA Reportable Quantities	CERCLA RQ	SARA TPQ
Zinc manganese ethylenebis dithiocarbamate	NE	
Ethylene thiourea	10 LBS	NE

SARA Title III, Section 313

This product does contain chemical(s) which are defined as toxic chemicals under and subject to the reporting requirements of, Section 313 of Title III of the Superfund Ammendments and Reauthorization Act of 1986 and 40 CFR Part 372. See Section 2

Ethylene thiourea

Zinc manganese ethylenebis dithiocarbamate

California Prop 65 - Carcinogen

This product does contain the following chemical(s), as indicated below, currently on the California list of Known Carcinogens.

Ethylene thiourea

Zinc manganese ethylenebis dithiocarbamate

California Prop 65 - Developmental Toxin

This product does contain the following chemical(s), as indicated below, currently on the California List of Developmental Toxins.

Ethylene thiourea

Massachusetts Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Ethylene thiourea

New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right to Know Substance List.

Ethylene thiourea

Zinc manganese ethylenebis dithiocarbamate

Pennsylvania Environmental Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.

Ethylene thiourea

Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Ethylene thiourea

Pennsylvania Special Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Special Hazard List.

Ethylene thiourea

SECTION 16: OTHER INFORMATION

Please note: Cleary Chemical Corp. believes that the information and recommendations contained here-in 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 users 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, expresser or implied, is made concerning the information provided.

Reason for issue:	Initial Product Registration
Prepared by:	R. Fletcher
Effective date:	04/03
Replaces:	NA
Document number:	