

MATERIAL SAFETY DATA SHEET

ROPER™ DF RAINSHIELD™

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

FORMULATED FOR:

LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286

24-Hour Emergency Phone: 1-800-424-9300
Medical Emergencies: 1-866-944-8565
U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: ROPER™ DF RAINSHIELD™
CHEMICAL NAME: Mancozeb: coordination product of zinc ion and manganese ethylenebisdithiocarbamate
CHEMICAL FAMILY: Dithiocarbamate fungicide; ethylenebisdithiocarbamate
EPA REG. NO.: 34704-1063
MSDS Number: 001063-13-LPI **MSDS Revisions:** Section 15 **Date of Issue:** 04/02/13 **Supersedes:** 01/06/12

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION – Harmful if absorbed through skin. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

This product is a yellow to brown granule with musty odor.

3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Mancozeb: A coordination product of zinc ion and manganese ethylenebisdithiocarbamate	75.00	8018-01-7	not listed
Other Ingredients, including Calcium Lignosulfonate	25.00	8061-52-7	not listed
Ethylene Thiourea		96-45-7	not listed
Hexamethylenetetramine		100-97-0	not listed

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 do so by a poison control center or doctor.

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.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: **1-866-944-8565**. Have the product label or container with you when calling a poison control center or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F/Test Method): Not applicable
FLAMMABLE LIMITS (LFL & UFL): Not established
EXTINGUISHING MEDIA: Use medium appropriate to surrounding fire. Carbon dioxide, dry chemical, water spray or foam.
HAZARDOUS COMBUSTION PRODUCTS: Combustion generates toxic fumes including hydrogen sulfide, oxides of sulfur, and oxides of carbon.
SPECIAL FIRE FIGHTING PROCEDURES: Use water spray to cool containers exposed to fire. Remain upwind. Avoid breathing smoke. Wear self-contained breathing apparatus and full protective gear.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Particulates can become airborne.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Sweep up small spills and place in a suitable container for disposal. Wash thoroughly after handling. Contain large spills and. Check local, state and federal regulations for proper disposal.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

HANDLING: Wash hands after handling and 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. Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: 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 a foul odor; if observed, check for not container and immediately remove to open areas for disposal. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: **Enclosed Cockpits:** Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)]. **Mechanical Flagging Engineering Controls:** Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

RESPIRATORY PROTECTION: Not normally required, if vapors or mists exceed acceptable levels, wear a MSHA/NIOSH approved pesticide respirator that has been properly fit-tested.

EYE PROTECTION: Chemical goggles or shielded safety glasses.

SKIN PROTECTION: Wear protective clothing: coveralls over short-sleeved shirts and short pants, chemical-resistant gloves, and chemical-resistant footwear.

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
Particulates (PNOC**)	15 mg/m ³ (total dust)	not listed

Personal Protective Equipment (PPE): Mixers, loaders, applicators and other handlers must wear: Long-sleeved shirt, long pants, shoes and socks, chemical-resistant gloves made of any waterproof material. See engineering controls for additional requirements. Follow manufacturer's instructions for cleaning and maintaining PPE. If no instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Yellow to brown granules with musty odor. **SOLUBILITY:** Dispersible

SPECIFIC GRAVITY (Water = 1): 0.6 – 0.7 g/ml **BULK DENSITY:** 37.5 – 43.7 lbs/ft³ **pH:** Not applicable

VAPOR PRESSURE: Negligible **BOILING POINT:** Not applicable

PERCENT VOLATILE (by volume): 0% **EVAPORATION RATE:** Not applicable

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Moisture, heat or flame.

INCOMPATIBILITY: Oxidizing agents and acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may yield carbon disulfide and hydrogen sulfide.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (rat): >5000 mg/kg **Acute Dermal LD₅₀ (rabbit):** >5000 mg/kg

Eye Irritation (rabbit): Moderately irritating **Skin Irritation (rabbit):** Moderately irritating

Inhalation LC₅₀ (rat): >5.14 mg/L (4 HR.) **Skin Sensitization (guinea pig):** Sensitizer

Carcinogenic Potential: None listed in OSHA, NTP, IARC, or ACGIH. Mancozeb has caused cancer in laboratory animals.

12. ECOLOGICAL INFORMATION

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.

13. DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.
CONTAINER HANDLING: Nonrefillable non-rigid containers: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. **Nonrefillable rigid containers:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or 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. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 49 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

14. TRANSPORT INFORMATION

DOT Shipping Description: NON-BULK (882 pounds or less): NOT DOT REGULATED – NOTE: DUE TO MULTIPLE MODES OF TRANSPORT THIS PRODUCT MAY HAVE DOT LABELS AND MARKINGS
BULK (Greater than 882 pounds): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (MANCOZEB) 9, UN3077, III ERG GUIDE 171
U.S. Surface Freight Classification: INSECTICIDES OR FUNGICIDES, INSECT OR ANIMAL REPELLENTS; NOI; OTHER THAN POISON (NMFC 102120; CLASS: 60)

15. REGULATORY INFORMATION

NFPA & HMIS Hazard Ratings:		NFPA		HMIS
2	Health	0	Least	2 Health
0	Flammability	1	Slight	0 Flammability
0	Instability	2	Moderate	0 Reactivity
		3	High	H PPE
		4	Severe	

SARA Hazard Notification/Reporting

SARA Title III Hazard Category:	Immediate	<u>Y</u>	Fire	<u>N</u>	Sudden Release of Pressure	<u>N</u>
	Delayed	<u>Y</u>	Reactive	<u>N</u>		

Reportable Quantity (RQ) under U.S. CERCLA: Ethylene Thiourea (CAS: 96-45-7) 10 lbs.
SARA, Title III, Section 313: Ethylene Thiourea (CAS: 96-45-7) <0.1%
RCRA Waste Code: Ethylene Thiourea U116
CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

CAUTION – This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.

16. OTHER INFORMATION

MSDS STATUS: Section 15 revised

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental Health and Safety

**Particulates not otherwise classified/regulated

Roper is a trademark of Loveland Products, Inc.

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