

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

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

- 1.1 **PRODUCT IDENTIFIER:** EPA REGISTRATION NO. 34704-1063
TRADE NAME: ROPER® DF RAINSHIELD™
- 1.2 **RECOMMENDED USE:** GROUP M3 FUNGICIDE
- 1.3 **SUPPLIER DETAILS:**
 LOVELAND PRODUCTS, INC.
 P.O. Box 1286 • Greeley, CO 80632-1286
- 1.4 **24 Hour Emergency Phone:** 1-800-424-9300 - **Medical Emergencies:** 1-866-944-8565 – **Product Information:** 1-888-574-2878 (LPI-CUST)
U.S. Coast Guard National Response Center: 1-800-424-8802

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Combustible Dust		
Sensitization - Skin	Category 1	H317
Toxic to Reproduction	Category 2	H361

2.2 Label elements



Signal word: WARNING
 Hazard Statement: May form combustible dust concentrations in air.
 H317 – May cause an allergic skin reaction.
 H361 – Suspected of damaging fertility of the unborn child.

Precautionary Statement: (Prevention):
 P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.
 P272 – Contaminated work clothing must not be allowed out of the workplace.
 P280 – Wear protective gloves/protective clothing/eye protection/face protection.
 P201 – Obtain special instructions before use.
 P202 – Do not handle until all safety precautions have been read and understood.

Precautionary Statement: (Response):
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.
 P333+P313 – If skin irritation or rash occurs: Get medical advice/attention.
 P321 – Specific treatment (see First Aid Information on this label).
 P363 – Wash contaminated clothing before reuse.
 P308+P313 – If exposed or concerned: Get medical advice/attention.

Precautionary Statement: (Storage):
 P405 – Store locked up.

Precautionary Statement: (Disposal):
 P501 – Dispose of contents/container in accordance with federal, state and local regulations.

2.3 Other hazards
 None known



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3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Chemical Name:	CAS No.	Concentration [%]
Mancozeb	8018-01-7	75.00
Hexamethylenetetramine	100-97-0	2.70
Other Ingredients		22.30

Ingredients not precisely identified are proprietary or non-hazardous.

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

- 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. 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.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: May be harmful in contact with skin. May be harmful if inhaled.

4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-844-8565

Have the product label or container with you when calling a poison control center or doctor or going for treatment.



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5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO₂), foam, water spray or fog.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: Thermal decomposition will release hydrogen sulfide, oxides of carbon, oxides of sulfur, oxides of nitrogen, and other toxic and/or hazardous gases.

5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of vapors and dusts and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing. Remove all sources of ignition.

6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: This product 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 washwater or rinsate.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Avoid breathing dusts. Sweep up spills and transfer to approved chemical containers for disposal.
Small Spills: Sweep up spills and transfer to approved chemical containers for disposal.
Never return spills to original containers for re-use.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Do not use, pour, spill or store near heat or open flame.
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 absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them. 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. 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.

7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:

OCCUPATIONAL EXPOSURE LIMITS

U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
Not listings	TWA	

U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
Not listings	TWA	



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Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Specimen
No listings		

8.2 EXPOSURE CONTROLS:

Engineering Measures

Local exhaust ventilation is recommended.

Individual Protection Measures:

Eye / Face Protection: Goggles or shielded safety glasses are recommended.

Skin Protection: Long sleeved shirt and long pants, chemical-resistant gloves. Shoes and socks.

Respiratory Protection: In case of inadequate ventilation or risk of inhalation of mists or vapors, use suitable respiratory equipment approved by MSHA/NIOSH. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance with national or provincial standards. Wear air supplied respiratory protection if exposure concentrations are unknown.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 APPEARANCE : Granules
- ODOR: Sulfur-like.
- ODOR THRESHOLD: No data available.
- COLOR: Yellow to brown.
- pH: 7.0 (1% suspension).
- MELTING POINT / FREEZING POINT: No data available.
- BOILING POINT: No data available
- FLASH POINT: No data available.
- FLAMMABILITY (solid, gas): May form combustible dust concentrations in the air.
- UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: No data available.
- VAPOR PRESSURE: No data available.
- SOLUBILITY: Dispersible.
- PARTITION CO-EFFICIENT, n-OCTANOL / WATER: No data available.
- AUTO-IGNITION TEMPERATURE: 291.2 °F | 144 °C.
- DECOMPOSITION TEMPERATURE: No data available.
- VISCOSITY: No data available.
- SPECIFIC GRAVITY (Water = 1): 0.55 g/ml
- BULK DENSITY: 34.3 lbs/ft³ | 550 kg/m³

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

10.1 REACTIVITY

Stable

10.2 CHEMICAL STABILITY

Stable under normal temperature conditions

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No data available. Will not polymerize.

10.4 CONDITIONS TO AVOID

Elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems. Avoid static discharge.

10.5 INCOMPATIBLE MATERIALS

Strong acids and oxidizers.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hydrogen sulfide, oxides of sulfur, oxides of nitrogen, and other toxic and/or hazardous gases due to thermal decomposition.



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11 TOXICOLOGICAL INFORMATION

11.3 LIKELY ROUTES OF EXPOSURE

Eyes. Skin. Ingestion. Inhalation.

LC₅₀ (rat): No data available.

LD₅₀ Oral (rat): No data available.

LD₅₀ Dermal (rat): No data available.

Acute Toxicity Estimates: No data available.

Eye Irritation (rabbit): Possible irritant.

Skin Irritation (rabbit): Irritant.

Inhalation: Harmful if inhaled.

Ingestion: Harmful if swallowed.

Specific Target Organ Toxicity: (Repeated Exposure): Thyroid. Liver (based on animal tests).

Aspiration: No data available.

Skin Sensitization (guinea pig): Has caused allergic skin reactions in some individuals.

Carcinogenicity: Has caused cancer at high doses in laboratory rats.

Germ Cell Mutagenicity: No data available.

Interactive Effects: None known.

12 ECOLOGICAL INFORMATION

12.3 ECOTOXICITY

The pesticide is toxic to fish and aquatic invertebrates.

Ecotoxicological Data

	Species	Test Results
Mancozeb	Cyprinus carpio	5.1 mg/L – 96-hour LC ₅₀
	Daphnia magna	4.32 mg/L – 48-hour EC ₅₀
	Apis mellifera	>100 µ/bee – 48-hour mortality (Contact)

Drift or runoff may adversely affect non-target plants.

Do not apply directly to water.

Do not contaminate water when disposing of equipment wash water.

Do not apply when weather conditions favor drift from target area.

12.2 PERSISTENCE AND DEGRADABILITY

Biodegradability: Degradation is expected in the soil environment within days to weeks.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: BCF < 100 or Log Pow < 3.

12.4 MOBILITY IN SOIL

Low.

12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.

13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

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. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 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. 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.



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14 TRANSPORT INFORMATION

14.3 LAND TRANSPORT

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): UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (MANCOZEB) 9, III ERG GUIDE 171.

U.S. Surface Freight Classification: INSECTICIDES OR FUNGICIDES, INSECT OR ANIMAL REPELLENTS, NOI, OTHER THAN POISON (NMF 102120; CLASS: 60)

15 REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

NFPA & HMIS Hazard Ratings:

NFPA		HMIS			
2	Health	0	Least	2	Health
1	Flammability	1	Slight	1	Flammability
0	Instability	2	Moderate	0	Reactivity
		3	High	B	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>N</u>	Reactive	<u>N</u>		

Reportable Quantity (RQ) under U.S. CERCLA: Not listed.

SARA, Title III, Section 313: Not listed

RCRA Waste Code: Not applicable.

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

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. Following is the hazard information as required on the pesticide label:

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.

16 OTHER INFORMATION

SDS STATUS: Format revised.

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental Health and Safety

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Rainshield is a trademark of Dow AgroSciences LLC

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