

MATERIAL SAFETY DATA SHEET

ENSIGN® 720 FLOWABLE FUNGICIDE

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: ENSIGN® 720 FLOWABLE FUNGICIDE
CHEMICAL NAME: Chlorothalonil: Tetrachloroisophthalonitrile
CHEMICAL FAMILY: Chlorinated Benzonitrile Fungicide
EPA REG. NO.: 34704-966
MSDS Number: 000966-09b-LPI

MSDS Revisions: Section 13

Date of Issue: 12/03/09

Supersedes: 02/04/09

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION – Harmful if swallowed, absorbed through skin, or inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

This product is a light gray liquid with slight odor. Primary routes of entry are skin contact, eye contact, and inhalation.

NOTES TO PHYSICIAN: Persons suffering with temporary skin reactions may respond to treatment with oral antihistamines and topical or oral steroids.

3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Chlorothalonil	54.00	1897-45-6	not listed
Other Ingredients, including	46.00		
Propylene Glycol		57-55-6	not listed
Silica, amorphous		112926-00-8	10 mg/m ³

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. Do not give anything by mouth to an unconscious person.

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.

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.

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): Does not flash.

FLAMMABLE LIMITS (LFL & UFL): Not applicable.

EXTINGUISHING MEDIA: Dry chemical, foam, or CO₂.

HAZARDOUS COMBUSTION PRODUCTS: May thermally decompose under fire conditions emitting irritating and possibly toxic gases and vapors generated by thermal decomposition or combustion.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus with full protective clothing. Evacuate area and fight fire from a safe distance. Minimize the amount of water used for firefighting. Equipment should be completely decontaminated after use.

UNUSUAL FIRE AND EXPLOSION HAZARDS: If water is used to fight fire or cool containers, contain runoff, using dikes to prevent contamination of water supplies. Avoid using heavy water streams.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Small spill or leak: Avoid bodily contact. Confine spill by diking with suitable absorbent material. Pick up absorbed spill and place in a suitable container for proper disposal in accordance with all Federal, State and Local regulations.

Large spill or leak: Follow basic procedure as outlined in small spill or leak steps above. To clean and neutralize spill area, tools and equipment, scrub with a solution of hard water detergent (e.g. commercial products such as Tide®, Joy®, Spic and Span®). Absorb any excess liquid and add to the drums of waste collected. Repeat if necessary. Dispose in accordance with Federal, State and Local regulations.

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

7. HANDLING AND STORAGE

HANDLING: Do not breathe vapors or spray mist. 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.

STORAGE: Store in a cool place. Protect from excessive heat. Do not contaminate water, food or feed by storage or disposal.

Personal Protective Equipment (PPE): Mixers, loaders applicators and all other handlers must wear: long sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material – Category A (e.g. barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyethylene, polyvinyl chloride (PVC), or Viton®), shoes plus socks, NIOSH approved dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC 21C) or a NIOSH approved respirator with any N, R, P or HE filter for applicators and handlers in enclosed areas such as a greenhouse. 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets with requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. Control airborne concentrations below the exposure guidelines. Local exhaust may be necessary when used in a confined area. Eye wash facility and safety shower should be available.

RESPIRATORY PROTECTION: Wear a NIOSH approved dust/mist filtering respirator (approval number prefix TC-23C) when using in an area with inadequate ventilation.

EYE PROTECTION: Chemical goggles or shielded safety glasses.

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

Silica, amorphous	OSHA PEL 8 hr TWA 80 mg/m ³ /% SiO ₂	ACGIH TLV-TWA 10 mg/m ³
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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Light gray liquid with slight odor

SPECIFIC GRAVITY (Water = 1): 1.34 g/ml

VAPOR PRESSURE: 5.7 x 10⁻⁷ torr (based on technical data)

PERCENT VOLATILE (by volume): Not established

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.

BULK DENSITY: 11.18 lbs/gal.

BOILING POINT: 212°F / 100°C (lowest boiling component)

EVAPORATION RATE: Not established

SOLUBILITY: Disperses
pH: 6.5 - 8.5

10. STABILITY AND REACTIVITY

STABILITY: Stable

INCOMPATIBILITY: Highly alkaline conditions.

HAZARDOUS DECOMPOSITION PRODUCTS: May thermally decompose under fire conditions emitting irritating and possibly toxic gases and vapors generated by thermal decomposition or combustion

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None known.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (rat): 9000 mg/kg

Eye Irritation (rabbit): Moderate eye irritant

Inhalation LC₅₀ (rat): >0.704 mg/L (4 hr).

Carcinogenic Potential: None listed in OSHA, NTP, ACGIH or IARC.

Acute Dermal LD₅₀ (rabbit): >2000 mg/kg

Skin Irritation (rabbit): Mildly irritating

Skin Sensitization (guinea pig): A skin sensitizer

12. ECOLOGICAL INFORMATION

This product is toxic to aquatic invertebrates and wildlife. DO NOT apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment wash water or rinsate. This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow ground water, areas with infield canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

13. DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at www.acrecycle.org. If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **For packages up to 5 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. 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 and continue to drain for 10 seconds after the flow begins to drip. 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 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. **For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. 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 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. **For refillable containers:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

14. TRANSPORT INFORMATION

DOT Shipping Description: NOT REGULATED BY USDOT FOR SURFACE TRANSPORTATION

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

Consult appropriate ICAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes.

15. REGULATORY INFORMATION

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	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: Not listed

SARA, Title III, Section 313: Chlorothalonil (CAS: 1897-45-6) 54.0%

RCRA Waste Code: Not listed

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

16. OTHER INFORMATION

MSDS STATUS: Section 13 revised

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental/ Regulatory Services

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