

**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. 34704-966  
**TRADE NAME:** ENSIGN® 720 FLOWABLE FUNGICIDE
- 1.2 **RECOMMENDED USE:** GROUP M5 FUNGICIDE - FOR CONTROL OF TURF AND ORNAMENTAL DISEASES
- 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**

**Classification according to 29 CFR 1910.1200**

Acute Toxicity – Oral	Category 4	H302
Acute Toxicity – Dermal	Category 4	H312
Sensitization – Skin	Category 1B	H317
Eye Damage/Irritation	Category 2B	H320
Acute Toxicity – Inhalation	Category 4	H332
Carcinogenicity	Category 2	H351
Specific Target Organ Toxicity	Category 3	H335

**2.2 Label elements**



Signal word: WARNING  
 Hazard Statement: H302 – Harmful if swallowed.  
 H317 – May cause an allergic skin reaction.  
 H320 – Causes eye irritation.  
 H332 – Harmful if inhaled.  
 H351 – Suspected of causing cancer.  
 H335 – May cause respiratory irritation.

Precautionary Statement: P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.  
 (Prevention): P264 – Wash hands and face thoroughly after handling.  
 P270 – Do not eat, drink or smoke when using this product.  
 P201 – Obtain special instructions before use.  
 P202 – Do not handle until all safety precautions have been read and understood.  
 P271 – Use only outdoors or in a well-ventilated area.  
 P284 – Wear respiratory protection.  
 P272 – Contaminated work clothing must not be allowed out of the workplace.  
 P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement: P308 – If exposed or concerned: Get medical advice/attention.  
 (Response): P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician.  
 P330 – Rinse mouth.  
 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 and Note to Physician on the product label).  
 P363 – Wash contaminated clothing before reuse.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
 P337+P313 – If eye irritation persists: Get medical advice/attention.  
 P304+P340: IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.  
 P312 – Call a poison center or doctor/physician if you feel unwell.  
 P308+P313 – If exposed or concerned get medical advice/attention.



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Precautionary Statement:  
(Storage): P403+P233 – Store in a well-ventilated place. Keep container tightly closed.  
P405 – Store locked up.

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

### 2.3 Other hazards

None known

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## 3. COMPOSITION, INFORMATION ON INGREDIENTS

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### 3.1 Substances

### 3.2 Mixtures

#### Classification according to 29 CFR 1910.1200

Chemical Name:	CAS No.	Concentration [%]
Chlorothalonil	1897-45-6	54.00
Other Ingredients		46.00
Propylene Glycol	57-55-6	Trade Secret
Silica, amorphous	112926-00-8	Trade Secret

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

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## 4. FIRST AID MEASURES

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### 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 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.

### 4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Harmful if swallowed. Harmful if inhaled. May cause an allergic skin reaction. Suspected of causing cancer. May cause respiratory irritation. Causes eye irritation.



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## 4.3 Immediate Medical Attention and Special Treatment

Treatment: **NOTES TO PHYSICIAN:** Persons suffering with temporary allergic skin reactions may respond to treatment with oral antihistamine and topical or oral steroids.  
**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565**  
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

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## 5. FIRE FIGHTING MEASURES

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### 5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO<sub>2</sub>), foam.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

### 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.

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## 6. ACCIDENTAL RELEASE MEASURES

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### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Follow exposure controls/personal protection as outlined in Section 8.

### 6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: 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 disposing of equipment washwaters or rinsate.

### 6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.  
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination.  
Never return spills to original containers for re-use.

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## 7. HANDLING AND STORAGE

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### 7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Store in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

### 7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Keep container tightly closed and store in a cool, dry, well-ventilated place. Store locked up. Keep out of reach of children. Store at ambient conditions. Store away from food stuffs. Do not contaminate water, food or feed by storage or disposal.



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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS:

#### OCCUPATIONAL EXPOSURE LIMITS

##### U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
No listings		

##### U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
Silica, amorphous	TWA	80 mg/m <sup>3</sup> /% SiO <sub>2</sub>

#### Biological limit values

##### ACGIH Biological Exposure Indices

Components	Value	Specimen
No listings		

### 8.2 EXPOSURE CONTROLS:

#### Engineering Measures

Use effective engineering controls to comply with occupational exposure limits (if applicable).

#### Individual Protection Measures:

- Eye / Face Protection: Goggles or shielded safety glasses are recommended.
- Skin Protection: Coveralls. Chemical-resistant gloves, such as viton, polyethylene or polyvinylchloride. Socks and chemical-resistant footwear.
- Respiratory Protection: In case of inadequate ventilation or risk of inhalation of mists or vapors, use suitable respiratory equipment approved by MSHA/NIOSH with any N, R, P, or HE filter. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 APPEARANCE :** Liquid
- ODOR:** Slight.
- ODOR THRESHOLD:** No data available.
- COLOR:** Light gray.
- pH:** 6.5 – 8.5
- MELTING POINT / FREEZING POINT:** No data available
- BOILING POINT:** 212°F / 100°C)
- FLASH POINT:** Not applicable.
- FLAMMABILITY (solid, gas):** Not applicable.
- UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:** Not applicable.
- VAPOR PRESSURE:** 0.0000057 mmHg @ 25°C.
- SOLUBILITY:** 0.81 mg/L @ 25°C.
- PARTITION CO-EFFICIENT, n-OCTANOL / WATER:** No data available.
- AUTO-IGNITION TEMPERATURE:** No data available.
- DECOMPOSITION TEMPERATURE:** No data available.
- VISCOSITY: (kinematic):** No data available
- SPECIFIC GRAVITY (Water = 1):** 1.34 g/ml
- DENSITY:** 11.18 lbs./gal / 1.34 kg/L

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.



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## 10. STABILITY AND REACTIVITY

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### 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

None known.

### 10.5 INCOMPATIBLE MATERIALS

None known.

### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

None known.

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## 11 TOXICOLOGICAL INFORMATION

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### 11.3 LIKELY ROUTES OF EXPOSURE: Dermal, inhalation

**LC<sub>50</sub> (rat):** > 0.704 mg/L (4 HR)

**LD<sub>50</sub> Oral (rat):** 9,000 mg/kg

**LD<sub>50</sub> Dermal (rabbit):** > 2,000 mg/kg

**Acute Toxicity Estimates:** No data available.

**Skin Irritation:** Mild skin irritant.

**Eye Irritation:** Moderate eye irritant.

**Inhalation:** Harmful if inhaled.

**Ingestion:** Harmful if swallowed.

**Specific Target Organ Toxicity:** May cause respiratory irritation.

**Aspiration:** May be fatal if swallowed and enters airways.

**Skin Sensitization (guinea pig):** Sensitizer

**Carcinogenicity:** Based on information provided, this product is classified IARC 2B (Possibly Carcinogenic to Humans) by IARC.

**Germ Cell Mutagenicity:** No data available.

**Interactive Effects:** None known

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## 12 ECOLOGICAL INFORMATION

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### 12.3 ECOTOXICITY

The pesticide is toxic to fish and aquatic invertebrates.

#### Ecotoxicological Data

	<b>Species</b>	<b>Test Results</b>
Chlorothalonil	Oncorhynchus mykiss	47 ppb – 96-hour LC <sub>50</sub>
	Daphnia magna	70 ppb – 48-hour EC <sub>50</sub>

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:** Not persistent in soil or water.

### 12.3 BIOACCUMULATIVE POTENTIAL

**Bioaccumulation:** Low.

### 12.4 MOBILITY IN SOIL

Low mobility

### 12.5 OTHER ADVERSE EFFECTS

**Assessment:** No data available.



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**13 DISPOSAL CONSIDERATIONS**

**13.1 WASTE TREATMENT METHODS**

**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](http://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**

**14.3 LAND TRANSPORT**

**DOT Shipping Description:** NOT REGULATED BY DOT FOR SURFACE TRANSPORTATION

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

**15 REGULATORY INFORMATION**

**15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS**

**NFPA & HMIS Hazard Ratings:**

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

**SARA Hazard Notification/Reporting**

<b>SARA Title III Hazard Category:</b>	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)

**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.



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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 swallowed, absorbed through skin, or inhaled.

Causes moderate eye irritation.

Avoid contact with skin, eyes, or clothing.

Avoid breathing spray mist.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

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## 16 OTHER INFORMATION

**SDS STATUS:** Section 2 revised.

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental Health and Safety

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