

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: 1-866-944-8353  
U.S. Coast Guard National Response Center: 1-800-424-8802

**PRODUCT NAME:** DYNA-SHIELD® FLUDIOXONIL  
**CHEMICAL NAME:** Fludioxonil: 4-(2,2-difluoro-1,3-benzodioxol-4-yl)-1H-pyrrole-3-carbonitrile  
**CHEMICAL FAMILY:** Phenylpyrrole Fungicide  
**EPA REG. NO.:** 34704-1074  
**MSDS Number:** 001074-13-LPI      **MSDS Revisions:** New      **Date of Issue:** 09/11/13      **Supersedes:** New

## 2. HAZARDS IDENTIFICATION SUMMARY

**KEEP OUT OF REACH OF CHILDREN – CAUTION** – Causes moderate eye irritation. Harmful if absorbed through skin or inhaled. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors or spray mist. Remove contaminated clothing and wash clothing before reuse.

This product is a colorless liquid with sweet, latex paint-like odor.

## 3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Fludioxonil	40.30	131341-86-1	not listed
Other Ingredients, including Ethylene Glycol	59.70	107-21-1	100 mg/m <sup>3</sup> (C)

## 4. FIRST AID MEASURES

**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):** 209°F / 98.3°C  
**FLAMMABLE LIMITS (LFL & UFL):** None established  
**EXTINGUISHING MEDIA:** Carbon dioxide (CO<sub>2</sub>), dry chemical, or foam.  
**HAZARDOUS COMBUSTION PRODUCTS:** Heating or fire can release toxic gases.  
**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained breathing apparatus with full protective clothing. Fight fire from upwind and keep all non-essential personnel out of area.  
**UNUSUAL FIRE AND EXPLOSION HAZARDS:** If water is used to fight fire and cool the containers, contain run-off by diking to prevent contamination of water supplies.

## 6. ACCIDENTAL RELEASE MEASURES

### STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Control the spill at its source. Contain the spill to prevent it from spreading, contaminating soil, or entering sewage and drainage systems or any body of water. Clean up spill immediately. Cover entire spill with absorbent material such as sand, diatomaceous earth, or other compatible absorbent material into compatible disposal containers. Scrub the spill area with water and detergent. Pick up wash liquid with additional absorbent and place into disposal container. Once all material is cleaned up and placed in a disposal container, seal the container(s) and handle in an approved manner. 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 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. Do not store in direct sunlight. Protect from freezing temperatures. Do not contaminate water, food or feed by storage or disposal.

**Personal Protective Equipment: Applicators and other handlers must wear:** long-sleeved shirt and long pants, chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride (PVC), or Viton®, and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Maintain exposure levels below exposure limits through the use of general and local exhaust ventilation. Use product in accordance with product labeling and with the requirements listed in the Worker Protection Standard (WPS), 40CFR Part 170.

**RESPIRATORY PROTECTION:** Not normally required, if vapors or mists exceed acceptable levels, wear a NIOSH approved respirator.

**EYE PROTECTION:** Chemical splash goggles.

**SKIN PROTECTION:** Wear protective clothing: coveralls over short-sleeved shirt and short pants, socks and chemical-resistant footwear. Wear rubber or chemical-resistant gloves.

	<b>OSHA PEL 8 hr TWA</b>	<b>ACGIH TLVs</b>
Ethylene Glycol	not listed	100 mg/m <sup>3</sup> (Ceiling – based on aerosol)

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE AND ODOR:** Colorless liquid with sweet, latex paint-like odor.

**SPECIFIC GRAVITY (Water = 1):** 1.22 g/ml

**VAPOR PRESSURE:**  $2.9 \times 10^{-9}$  mmHg @ 77 °F (25°C)

**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.

**SOLUBILITY:** 1.8 mg/l

**pH:** 7 – 8 (1% solution)

**BULK DENSITY:** 10.18 lbs/gal.

**BOILING POINT:** Not established

**EVAPORATION RATE:** Not established

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable.

**CONDITIONS TO AVOID:** None known.

**INCOMPATIBILITY:** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Can decompose at high temperatures forming toxic gases.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

**Acute Oral LD<sub>50</sub> (rat):** >5,050 mg/kg

**Eye Irritation (rabbit):** Minimal irritant

**Inhalation LC<sub>50</sub> (rat):** >3.77 mg/L (4 hr).

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

**Target Organs: Fludioxonil: Liver, kidney. Ethylene Glycol: Blood, kidney, CNS (Central Nervous System)**

**Acute Dermal LD<sub>50</sub> (rabbit):** >2,020 mg/kg

**Skin Irritation (rabbit):** Not an irritant

**Skin Sensitization (guinea pig):** Not a sensitizer

**12. ECOLOGICAL INFORMATION**

Dyna-Shield® Fludioxonil is toxic to fish and aquatic invertebrates. 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 apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment wash water 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. If these wastes cannot be used 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 in proper disposal methods.

**CONTAINER HANDLING:**

**Nonrefillable 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.acrcycle.org](http://www.acrcycle.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 packages greater than 56 gallons:** 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. **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. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**14. TRANSPORT INFORMATION**

**DOT Shipping Description:** NOT REGULATED BY USDOT

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

1 Health  
1 Flammability  
0 Instability

0 Least  
1 Slight  
2 Moderate  
3 High  
4 Severe

## HMIS

1 Health  
1 Flammability  
0 Reactivity  
B PPE

**SARA Hazard Notification/Reporting**

**SARA Title III Hazard Category:** Immediate Y Fire N Sudden Release of Pressure N  
Delayed N Reactive N

**Reportable Quantity (RQ) under U.S. CERCLA:** Ethylene Glycol (CAS: 107-21-1) >=4,450 gal. (based on RQ of 5,000 lbs.)

**SARA, Title III, Section 313:** Ethylene Glycol (CAS: 107-21-1) <= 11% in formulation

**RCRA Waste Code:** Not listed

**CA Proposition 65:** Not listed

**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:** New

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental Health and Safety

*®Dyna-Shield is a registered trademark of Loveland Products, Inc.*

*®Viton is a registered trademark of DUPONT PERFORMANCE ELASTOMERS L.L.C.*

**Disclaimer and Limitation of Liability:** This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and LOVELAND PRODUCTS, INC. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.