

# MATERIAL SAFETY DATA SHEET

# TREFLAN\* 4L HERBICIDE

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: 1-800-301-7976  
U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: TREFLAN\* 4L HERBICIDE  
CHEMICAL NAME: Trifluralin:  $\alpha, \alpha, \alpha$ -trifluoro-2, 6-dinitro-N, N-dipropyl-p-toluidine  
CHEMICAL FAMILY: Dinitroaniline Herbicide  
EPA REG. NO.: 34704-853  
MSDS Number: 000853-04b-LPI      MSDS Revisions: See section 16      Date Of Issue: 07/12/04      Supersedes: 03/23/04

## 2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN - CAUTION – PRECAUCION - Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle (If you do not understand the label, find someone to explain it to you in detail.) Causes moderate eye irritation. Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Avoid contact with eyes, skin or clothing.

NOTE TO PHYSICIAN: Treflan\* 4L contains naphthalene, which has been determined to be a possible human carcinogen (Group 2B). Trifluralin is not anticipated to be a carcinogenic risk to humans. This product contains an aromatic hydrocarbon and can be extremely harmful if swallowed. Aspiration of this product may produce severe pneumonitis. Stomach lavage with a cuffed endotracheal tube in place and immediate administration of activated charcoal, 6 to 8 teaspoonfuls with water, should be considered. Treatment is otherwise symptomatic and supportive. Pre-existing skin disorders may be aggravated by exposure.  
This product is a clear, deep orange liquid with aromatic odor.

## 3. COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Ingredients:	Percentage by Weight:	CAS No.	TLV (Units)
Trifluralin	43.00	1582-09-8	none established
Inert Ingredients, including Aromatic 200	57.00	64742-94-5	
Contains Naphthalene		91-20-3	50 mg/m <sup>3</sup>

## 4. FIRST AID MEASURES

If in eyes: Hold eye open and rinse slowly and gently with water 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 swallowed: Call a poison control center or doctor immediately for treatment advice. Have a 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 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 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 further treatment advice.  
FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-301-7976. 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): 210°F/98°C (PMCC)  
FLAMMABLE LIMITS (LFL & UFL): LFL: ±1.8%; UFL: ±11.8% (Based on the solvent)  
EXTINGUISHING MEDIA: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide, foam, water spray or fog.  
HAZARDOUS COMBUSTION PRODUCTS: May include but are not limited to oxides of carbon, oxides of nitrogen and fluorinated hydrocarbons.  
SPECIAL FIRE FIGHTING PROCEDURES: May emit toxic fumes. Wear self-contained breathing apparatus and full protective gear.  
UNUSUAL FIRE AND EXPLOSION HAZARDS: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Do not allow water runoff to enter nearby streams, ponds or lakes. Keep containers cool with water spray to avoid possible explosion due to internal pressure buildup.

## 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:  
In case of leak or spill, contain by absorbing spilled liquid with clay or other absorbent material; scoop or sweep up material and place in a container for possible land application according to label use or for proper disposal. Wash the spill area with water containing a strong detergent. Check local, state and federal regulations for proper disposal.  
CAUTION: Keep spills and cleaning runoff from flowing onto adjacent land, or into 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. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. See section 8 for PPE. Keep away from children.

**STORAGE:** Store in original container only. Avoid freezing. Store above 40°F/4.5°C. Do not store near heat or open flame. Do not contaminate water, food, or feed by storage or disposal.

**Personal Protective Equipment (PPE): Applicators and other handlers must wear:** long sleeved shirt and long pants, chemical resistant gloves such as Nitrile, Butyl, Neoprene, or Barrier Laminate, shoes plus socks, and protective eyewear. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

**RESPIRATORY PROTECTION:** Not normally required, if vapors exceed acceptable levels, wear a NIOSH approved pesticide respirator with cartridges for pesticide vapors.

**EYE PROTECTION:** Chemical goggles or shielded safety glasses.

**SKIN PROTECTION:** Wear protective clothing: long-sleeved shirts and pants, hat, rubber boots with socks. Wear rubber or chemical-resistant gloves.

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
Naphthalene	50 mg/m <sup>3</sup>	52 mg/m <sup>3</sup>

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE AND ODOR:** Clear, deep orange liquid with aromatic odor. **SOLUBILITY:** Emulsifies

**SPECIFIC GRAVITY (Water = 1):** 1.12 g/ml **BULK DENSITY:** 9.35 lbs/gal. **pH:** 5-8 (50% solution)

**VAPOR PRESSURE:** (solvent): < 1 mm Hg @ 68°F/20°C **BOILING POINT:** (solvent): 450 to 527°F/232 to 275°C

**PERCENT VOLATILE (by volume):** Not established **EVAPORATION RATE:** 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.

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable **CONDITIONS TO AVOID:** Excessive heat and avoid freezing.

**INCOMPATIBILITY:** Strong oxidizers.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of nitrogen and carbon, fluorinated compounds, and/or other asphyxiants and unknown hazardous materials may be formed in a fire situation.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

**Acute Oral LD<sub>50</sub> (rat):** 3738 mg/kg **Acute Dermal LD<sub>50</sub> (rabbit):** >5000 mg/kg

**Eye Irritation (rabbit):** May cause moderate eye irritation **Skin Irritation (rabbit):** May cause slight irritation

**Inhalation LC<sub>50</sub> (rat):** >5.59 mg/L (4 HR). **Skin Sensitization (guinea pig):** Sensitizer

**Carcinogenic Potential:** Naphthalene has been determined to be a possible human carcinogen (Group 2B) by IARC; not classifiable as a human carcinogen by ACGIH; and possible human carcinogen with further research needed by US EPA. Not listed by OSHA, NTP, or NIOSH.

**12. ECOLOGICAL INFORMATION**

This pesticide is extremely toxic to freshwater marine and estuarine fish and aquatic invertebrates including shrimp and oyster. 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 in a manner that will directly expose canals, lakes streams, ponds, marshes or estuaries to aerial drift. Do not contaminate water when disposing of equipment wash waters. Do not apply when weather conditions favor drift from target area.

**13. DISPOSAL CONSIDERATIONS**

Do not reuse product containers. **Plastic Containers:** Triple rinse (or equivalent), then offer for recycling at an ACRC site (go to <http://www.acrecycle.org/> for locations) or by reconditioning, or 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. **Bulk/Mini-bulk Tank Cleaning:** Triple rinse (or equivalent) and wash with appropriate cleaners before reusing. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food, or feed by storage or disposal.

**14. TRANSPORT INFORMATION**

DOT Shipping Description: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, UN3082, III (TRIFLURALIN) ERG GUIDE 171  
 U.S. Surface Freight Classification: COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2: 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
	1 Instability	2 Moderate	1 Reactivity
		3 High	G PPE
		4 Severe	

SARA Hazard Notification/Reporting

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

Reportable Quantity (RQ) under U.S. CERCLA: Trifluralin (CAS: 1582-09-8) 10 lbs.; Naphthalene (CAS: 91-20-3) 100 lbs.  
 SARA, Title III, Section 313: Trifluralin (CAS: 1582-09-8) 43.0% [TRI Threshold: 100 lbs.]; Naphthalene (CAS: 91-20-3) 7.0%  
 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: Format modified to address changes in ANSI Standard Z400.1-2004

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental/ Regulatory Services

\*Treflan is a trademark of Dow AgroSciences, LLC

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