



SAFETY DATA SHEET

SDS NUMBER: 000792-16-LPI

SDS REVISIONS: FORMAT

DATE OF ISSUE: 09/08/16

TRIFLURALIN HF

SUPERSEDES: 01/10/12

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:

TRADE NAME: TRIFLURALIN HF

1.2 RECOMMENDED USE: SELECTIVE HERBICIDE FOR PRE-EMERGENCE CONTROL OF LISTED WEEDS AND GRASSES

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

Sensitization – Skin

Category 1

H317

Eye Damage/Irritation

Category 2B

H320

2.2 Label elements



Signal word:

WARNING

Hazard Statement:

H302 – Harmful if swallowed.

H317 – May cause an allergic skin reaction.

H320 – Causes eye irritation.

Precautionary

Statement:

(Prevention):

P264 – Wash face, hands and any exposed skin thoroughly after handling.

P270 – Do not eat, drink or smoke when using this product.

P272 – Contaminated work clothing must not be allowed out of the workplace.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary

Statement:

(Response):

P301+P312 – IF SWALLOWED: Call a poison center or doctor/physician if you feel unwell.

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 additional medical contact information 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.

Precautionary

Statement:

(Storage):

Not applicable or required.

Precautionary

Statement:

(Disposal)

Not applicable or required.

2.3 Other hazards

None known.



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3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Classification according to 29 CFR 1910.1200

Chemical Name:	CAS No.	Concentration [%]
Trifluralin	1582-09-8	43.00
Other ingredients*	n/a	57.00
Solvent Naphtha (Petroleum), Heavy Aromatic, contains Naphthalene)	64742-94-5 91-20-3	

*Ingredients not specifically listed are non-hazardous or are to be considered proprietary or confidential business information per 29 CFR 1910.1200(i)

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 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.
- 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.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Harmful if swallowed. Causes eye irritation. May cause an allergic skin reaction.

4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatic and supportive.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565

Take container, label or product name with you when seeking medical attention.

5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media:

Use medium appropriate to surrounding fire. Foam, carbon dioxide (CO₂), dry chemical, foam or water spray or fog. Do not use water jet as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting:

During a fire, oxides of carbon and oxides of nitrogen can be released.

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:

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.

6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions:

This product 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 in which will directly expose canals, lakes, streams, ponds, marshes or estuaries to aerial drift. Do not contaminate water when disposing of equipment wash waters.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up:

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.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe 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.

7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers:

Store in original containers only. In case of spill, contain material and dispose as waste. 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
Naphthalene	TWA	52 mg/m ³ (Skin)

U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
Naphthalene	TWA	50 mg/m ³

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Specimen
No listings		

8.2 EXPOSURE CONTROLS:

Engineering Measures

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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 plus socks.
Respiratory Protection: Not normally required. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 APPEARANCE : Liquid
ODOR: Mild aromatic.
ODOR THRESHOLD: No data available.
COLOR: Clear orange.
pH: 5.0 (50% solution)
MELTING POINT / FREEZING POINT: No data available.
BOILING POINT: 450 – 527 °F / 232 – 275°C (Solvent)
FLASH POINT: > 210 °F / > 98 °C (PMCC).
FLAMMABILITY (solid, gas): No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: LFL: 1.8% | UFL: 11.8% (Based on the solvent).
VAPOR PRESSURE: < 1mm Hg @ 68 °F / 20 °C.
SOLUBILITY: Emulsifies.
PARTITION CO-EFFICIENT, n-OCTANOL / WATER: No data available.
AUTO-IGNITION TEMPERATURE: No data available.
DECOMPOSITION TEMPERATURE: No data available.
VISCOSITY: No data available.
SPECIFIC GRAVITY (Water = 1): 1.12 g/ml
DENSITY: 9.35 lbs/gal | 1.12 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.

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

Keep away from heat, sparks and open flame. Avoid freezing.

10.5 INCOMPATIBLE MATERIALS

Strong oxidizers.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Oxides of nitrogen, oxides of carbon, fluorinated hydrocarbons and hydrogen fluoride may be formed in a fire situation.

11 TOXICOLOGICAL INFORMATION

11.3 LIKELY ROUTES OF EXPOSURE

Ingestion. Eye Contact. Inhalation. Dermal.

LC₅₀ (rat): > 7.74 mg/L (4 HR).

LD₅₀ Oral (rat): > 5,000 mg/kg

LD₅₀ Dermal (rabbit): > 2,000 mg/kg

Acute Toxicity Estimates: No data available.

Skin Irritation (rabbit): May cause skin irritation.

Eye Irritation (rabbit): Causes eye irritation

Specific Target Organ Toxicity: No data available.

Aspiration: No data available.

Skin Sensitization (guinea pig): May cause an allergic skin reaction.

Carcinogenicity: Naphthalene has been determined to be a Possible Human Carcinogen (Group 2B) by IARC; Confirmed Animal Carcinogen with Unknown Relevance to Humans by ACGIH (A3); Reasonably Anticipated to Be a Human Carcinogen (NTP-R) by NTP; and Cannot Be Determined (EPA-CBD) by US EPA.

Germ Cell Mutagenicity: Not observed in studies.

Interactive Effects: None known

12 ECOLOGICAL INFORMATION

12.3 ECOTOXICITY

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

Ecotoxicological Data

	Species	Test Results
Trifluralin	Rainbow trout	0.41 ppm – 96 hour LC ₅₀
	Bluegill	0.58 ppm – 96 hour LC ₅₀
	Bee	> 100 µ/bee (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: No data available.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY IN SOIL

No data available.

12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.



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13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, 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 or 50 lbs: 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 square bottom caged totes greater than 55 gals.: Triple rinse or 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. Fill the container about 1/4 full with water, rinsing down all sides inside the container thoroughly. Recirculate water with the pump for 2 minutes. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this 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. Do not contaminate water, food or feed by storage or disposal.

14 TRANSPORT INFORMATION

14.3 LAND TRANSPORT

DOT Shipping Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TRIFLURALIN) 9, III ERG GUIDE 171

U.S. Surface Freight Classification: COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2: CLASS 60)

15 REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

NFPA & HMIS Hazard Ratings:

NFPA

2	Health	0	Least
1	Flammability	1	Slight
0	Instability	2	Moderate
		3	High
		4	Severe

HMIS

2	Health
1	Flammability
0	Reactivity
1	PPE



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SARA Hazard Notification/Reporting

SARA Title III Hazard Category:

Immediate
Delayed

Y
Y

Fire
Reactive

N
N

Sudden Release of Pressure

N

Reportable Quantity (RQ) under U.S. CERCLA: Trifluralin (CAS: 1582-09-8) 10 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.

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

Causes moderate eye injury.

Harmful if swallowed.

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

Avoid contact eyes, with skin, or clothing.

16 OTHER INFORMATION

SDS STATUS: Format revised.

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental Health and Safety

EPA REG. NO.: 34704-792

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