



Safety Data Sheet

Report Date 16-Nov-16

Page 1 of 5

1. Identification

Product Name : TRIFLURALIN 4 E.C. HERBICIDE
Synonyms : None
Product Use : Selective Herbicide
Manufacturer/Supplier : Helena Chemical Company
Address : 225 Schilling Blvd. Collierville, TN 38017
General Information : 901-761-0050
Transportation Emergency Number : CHEMTREC:800-424-9300

2. Hazard Identification



Signal Word : Danger
Skin Irritation : Causes skin irritation
Eye Irritation : Causes serious eye irritation
Acute Toxicity Oral : LD50 3,200 mg/kg (rat)
Acute Toxicity Dermal : No LD50 data available

Hazard Categories : Oral/Dermal/Inhalation Tox-5/5/4; Eye/Skin Irr-2A/2; Skin Sensitizer-1B; Aspiration-1; Carcinogen-2

Hazard Statement : May be harmful if swallowed
May be harmful in contact with skin
Causes serious eye irritation
Causes skin irritation
Harmful if inhaled
May cause an allergic skin reaction
May be fatal if swallowed and enters airways
Suspected of causing cancer

3. Composition / Information on Ingredients

Component	CAS Number	Weight %
Trifluralin (Alpha, alpha-trifluoro-2,6-Dinitro-N, N-Dipropyl-P-Toluidine)	1582-09-8	43.00
Aromatic Hydrocarbon	64742-94-5	50.35
Inert ingredients	Proprietary	6.65



Safety Data Sheet

Report Date 16-Nov-16

Page 2 of 5

4. First Aid Measures

- Eye** : Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
- Skin** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
- Inhalation** : 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.
- Ingestion** : Call a poison control center or doctor immediately for treatment advice. Rinse mouth with water. Do not induce vomiting. Do not give anything by mouth if unconscious.
- Indication of Immediate Medical Attention and Special Treatment Needed** : Treat symptoms. Contains aromatic hydrocarbon and can be extremely harmful if swallowed and enters airways. Stomach lavage with a cuffed endotracheal tube in place and immediate administration of activated charcoal should be considered.

5. Fire Fighting Measures

- Extinguishing Media** : Use foam, dry chemical, carbon dioxide or water spray.
- Specific Hazards Arising from the Chemical** : Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.
- Special Fire Fight Proc** : Wear self-contained breathing apparatus and full protective clothing.

6. Accidental Release Measures

- Personal Precautions** : Isolate spill area. Keep unprotected and unnecessary personnel out of spill area.
- Protective Equipment** : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Use a respirator approved for pesticides if in enclosed areas where exposure limits may be exceeded. Eyewash and emergency shower should be available in work area.
- Emergency Procedures** : Minimize use of water when cleaning up spills to prevent environmental contamination.
- Methods and Materials for Containment and Cleanup** : For small spills, absorb onto sand, vermiculite or other inert absorbent. Collect and place in suitable container for disposal. For large spills, dike using absorbent material, such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, then collect for disposal. After removal, clean contaminated area thoroughly with water. Pickup wash water with additional absorbent and place in suitable containers for disposal.

7. Handling and Storage

- Precautions for Safe Handling** : Use only in a well-ventilated area. Do not reuse containers unless designated as refillable and only refill with same product.



Safety Data Sheet

Report Date 16-Nov-16

Page 3 of 5

Conditions for Safe Storage : Avoid freezing. Store at temperatures above 40 Degrees F. If frozen, poor weed control may result. Store in original container only. Keep container closed when not in use. Keep away from food, feed and drinking water. Store in a well-ventilated, dry place away from heat and other sources of ignition.

8. Exposure Controls / Personal Protection

TLV/PEL : No PEL or TLV for active ingredient (trifluralin). Solvent naphtha (Petroleum): PEL=500 ppm.

Appropriate Engineering Controls : General and/or local exhaust ventilation recommended.

Personal Protective Equipment : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Use a respirator approved for pesticides when handling in enclosed areas. Eyewash and emergency shower should be available in work area.

9. Physical and Chemical Properties

Odor/Appearance : Clear, orange liquid with aromatic odor.

Flash Point, °F : >200 Degrees F.

Boiling Point, °F : >363 Degrees F.

Melting Point(Freezing point), °C : <40 Degrees F.

Vapor Pressure, mm Hg @ 20 °C : 0.5 mmHg @ 20 Degrees C.

Vapor Density : <4.6

Solubility in Water : Emulsifiable

Molecular Formula : Not applicable, formulated mixture.

Density, g/mL @ 25 °C : 1.059-1.079

Evaporation Rate(Butyl Acetate = 1) : No information found

Octanol/Water Partition Coefficient : No information found

pH : 6.5 to 7.0 (5%)

Flammable Limits (approximate volume % in air) : No information found

Auto-ignition Temperature : No information found

Decomposition temperature : No information found

10. Stability and Reactivity

Reactivity : Not reactive

Chemical Stability : Stable

Hazardous Decomposition Products : Oxides of carbon and nitrogen, fluorinated hydrocarbons.

Hazardous Polymerization : Will not occur

Conditions to Avoid : Avoid temperatures above 100 Degrees F. or below 40 Degrees F.



Safety Data Sheet

Report Date 16-Nov-16

Page 4 of 5

Incompatible Materials : Strong oxidizing materials.

11. Toxicological Information

- Acute Toxicity (Oral LD50)** : 3,200 mg/kg (rat). May be harmful if swallowed.
- Acute Toxicity (Dermal LD50)** : No LD50 data available. May be harmful in contact with skin.
- Acute Toxicity Inhalation LC50** : 3.05 mg/L/4.5 hour exposure to dust/mist of undiluted material. Harmful if inhaled.
- Likely Routes of Exposure** : Eyes, skin, inhalation
- Skin Irritation** : Causes skin irritation.
- Eye Irritation** : Causes serious eye irritation.
- Skin Sensitization** : Product is a contact sensitizer. May cause an allergic skin reaction.
- Carcinogenic** : Suspected of causing cancer (contains solvent naphtha (petroleum)).
- Chronic Effects** : No information found
- Other Hazards** : Aspiration Hazard: May be fatal if swallowed and enters airways.

12. Ecological Information

- Ecotoxicity** : Trifluralin is extremely toxic to freshwater, marine and estuarine fish and aquatic invertebrates including shrimp and oyster.
- Persistence and Degradability** : Trifluralin is moderately persistent with a soil half-life of 6 to 8 months depending on soil type and weather conditions.
- Bioaccumulative Potential** : No information found
- Mobility in Soil** : Trifluralin is highly adsorptive and relatively immobile in soil.
- Other Adverse Effects** : No information found

13. Disposal Considerations

- Waste Disposal Method** : This material must be disposed of according to Federal, State or Local procedures under the Resource Conservation and Recovery Act.

14. Transport Information

- UN Proper Shipping Name** : RQ, Environmentally Hazardous Substance, Liquid, n.o.s., (Trifluralin)
- Transport Hazard Class** : Class 9
- UN Identification Number** : UN3082
- Packaging Group** : PG III
- Environmental Hazards** : Reportable Quantity = 10 lbs (>= 2.5 gallons). Not a Marine Pollutant per Appendix B to 49 CFR 172.101.
- Transport in Bulk** : No additional information provided



Safety Data Sheet

Report Date 16-Nov-16

Page 5 of 5

Special Precautions for Transportation : If shipped by air (IATA) or water (IMDG), ship as: UN3082, Environmentally Hazardous Substance, Liquid, n.o.s., (Trifuralin), 9, PG III, Marine Pollutant
Freight Classification : Pesticides, NOI, Herbicides, Other than Poison (NMFC Item 155050, Sub 11, Class 70)

15. Regulatory Information

National Fire Protection Association Rating :

Health: 2 Fire: 1 Reactivity: 1
Rating Level: (4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Minimum)

S.A.R.A Title III Hazard Classification (Yes/No) :

Immediate(Acute) Health: Y
Delayed (Chronic) Health: Y
Sudden Release of N
Pressure:
Fire: N
Reactive: N

FIFRA Information : This Chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labelling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Registration Number : 5905-519

FIFRA Signal Word : Warning

FIFRA Label Statement : Keep out of reach of children.

FIFRA Label Statement : Causes substantial but temporary eye injury.

FIFRA Label Statement : Harmful if swallowed or absorbed through the skin.

FIFRA Label Statement : Do not get in eyes or on clothing.

FIFRA Label Statement : Avoid contact with skin.

FIFRA Label Statement : Wash thoroughly with soap and water after handling.

FIFRA Label Statement : Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16. Other Information

Data of Preparation/Revision : 16-November-2016