



MATERIAL SAFETY DATA SHEET

Product: Gowan Trifluralin E.C.

Formulator: Gowan Company
P.O. Box 5569
Yuma, Arizona 85366-5569
(520) 783-8844

Emergency Phone: (520) 783-3803
For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC[®]:

For MEDICAL Emergency:

(520) 783-3803

Inside the U.S.: (800) 424-9300
Outside the U.S.: (703) 527-3887
(800) 225-5635 ext. 283

1. CHEMICAL IDENTIFICATION

Product: Trifluralin E.C.
EPA Signal Word: Warning
Active Ingredient: Trifluralin (44.5%)
Chemical Name: α, α, α -trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine
Chemical Class: Herbicide

EPA Registration No.: 10163-101
CAS No.: 1582-09-8

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	OSHA – PEL	ACGIH – TLV	OTHER	NTP/IARC/OSHA CARCINOGEN
Trifluralin (44.5%)	Not applicable	Not applicable	Not established	No
n-Butanol (2.3%) CAS# 71-36-3	300 mg/m ³	150 mg/m ³	Not established	No
Xylene, Mixed O, M, & P Isomers (9.5%) CAS# 1330-20-7	435 mg/m ³	435 mg/m ³	Not established	No
Ethyl Benzene (1.9%) CAS# 100-41-4	200 ppm	100 ppm	Not established	No

3. HAZARDS IDENTIFICATION

Physical Properties

Appearance: Clear, orange liquid

Odor: Aromatic odor

Symptoms of Overexposure

Trifluralin is considered only slightly toxic; however, the solvents may cause poisoning if ingested. Signs and symptoms may include nausea, dizziness, eye and skin irritation and irritation of nasal passages, diarrhea, vomiting and hypertension. Severe cases may result in liver damage. Inhalation of over 200 ppm can have an anesthetic effect. Eye contact with this product may cause substantial but temporary eye injury. Eyes may show a slight corneal opacity, marked iritis and conjunctivitis. Repeated contact may lead to skin sensitization.

Medical Conditions Likely to be Aggravated by Exposure

None known

Primary Routes of Exposure

Harmful if ingested, inhaled, or if it comes into contact with skin or eyes.

3. HAZARDS IDENTIFICATION (continued)

Hazardous Decomposition Products

Nitrogen oxides, carbon oxides

Unusual Fire, Explosion, and Reactivity Hazards

Classified as a combustible liquid (F.P.= 114°-119°F/45.6°-48.3°C). Closed containers may explode due to pressure build-up when exposed to excessive heat or intense fire.

4. FIRST AID MEASURES

If poisoning is suspected, immediately contact a physician, the nearest hospital, or the nearest Poison Control Center. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given.

Ingestion: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger, or, if available, by administering syrup of ipecac. Do not induce vomiting or give anything by mouth to an unconscious person.

Inhalation: Remove victim to fresh air. Apply artificial respiration if indicated.

Eye Contact: Flush eyes with plenty of clear water for at least 15 minutes. Get medical attention.

Skin Contact: Remove contaminated clothing and wash skin immediately with soap and warm water.

!! IN ALL CASES OF SUSPECTED POISONING, GET MEDICAL ATTENTION IMMEDIATELY !!

For emergency **MEDICAL** response and hazard communication **ONLY**, call:

Hazard Information Services at (800) 228-5635 ext. 283.

5. FIRE FIGHTING MEASURES

Flashpoint (test method): 114° to 119°F (45.6° to 48.3°C)

Flammable Limits (% in air): 1.2 ± 0.1 mol. % @ 203°F (95°C)

Autoignition Temperature: Not available

Appropriate Extinguishing Media

Use water, CO₂ or dry chemicals to extinguish.

Fire Fighting Guidance

Will emit toxic fumes as it burns. Wear full protective clothing and use self-contained breathing apparatus. Non-essential personnel should be restricted from area of intense smoke. Do not allow water run-off from fire site to enter nearby streams, ponds or lakes. Keep containers cooled with water spray.

Unusual Fire, Explosion, and Reactivity Hazards

Classified as a combustible liquid (F.P.= 114°-119°F/45.6°-48.3°C). Closed containers may explode due to pressure build-up when exposed to excessive heat or intense fire.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spills or Leaks

Eliminate ignition sources in area. Contain spill; absorb liquids by covering with clay or other absorbent material; vacuum, scoop or sweep up wastes and place in container for disposal.

7. HANDLING AND STORAGE

May be harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing. Store in the original container and keep closed. Store containers in a cool dry place.

Precautions in storing

DO NOT contaminate water, food or feed by storage or disposal. Store away from children, seed and fertilizer. Do not contaminate other products, water supplies or the storage area by storage of this product. Keep work and storage areas clean.

Storing

Avoid freezing. Store above 40°F. If frozen, poor weed control may result. Do not store near heat or flame.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:	Work in well-ventilated area. Use local exhaust for use in manufacturing plants, and for work in confined areas.
Eye/Face:	Wear protective eyewear appropriate to exposure potential.
Skin Protection:	Applicators and other handlers must wear long-sleeved shirt and long pants, chemical-resistant gloves, such as barrier laminate or Viton ≥ 14 mils, and shoes plus socks.
Respiratory Protection:	Not required; however, to avoid inhalation of excess spray mist or vapor, wear an approved dust/mist respirator for pesticides.
Other/General Protection:	Emergency eyewash should be available on site. 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/maintaining personal protective equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.
Applicators/Handlers:	Applicators and other handlers must wear long-sleeved shirt and long pants, chemical-resistant gloves, such as barrier laminate or Viton ≥ 14 mils, and shoes plus socks.
User Safety Recommendations:	Users should 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, orange liquid
Odor:	Aromatic odor
Melting Point:	280°F (138°C)
Boiling Point:	Not applicable
Specific Gravity/ Density:	1.08 @ 25°C / 9.0 lbs./gal
Solubility in H₂O Trifluralin	Emulsifies
Vapor Pressure Trifluralin	7.0 mm Hg at 23°C

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Decomposition Products:	Nitrogen oxides and carbon oxides
Hazardous Mixtures:	None known
Conditions To Avoid:	Do not store near heat or open flame

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies

Ingestion:	Acute Oral LD ₅₀ (rat):	>10,000 mg/kg body weight
Dermal:	Acute Dermal LD ₅₀ (rabbit):	>2,000 mg/kg body weight
Eye Contact:	Irritant	
Skin Contact:	Slight irritant	
Dermal Sensitization:	Not expected to cause sensitization	

11. TOXICOLOGICAL INFORMATION (Continued)

Mutagenic Potential

Not available

Reproductive Hazard Potential

Not available

Chronic/Subchronic Toxicity Studies

Not available

Carcinogenic Potential

None

Other Toxicity Information

Not available

12. ECOLOGICAL INFORMATION

Summary of Effects

Trifluralin

This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff from treatment areas may be hazardous to aquatic organisms and neighboring aquatic sites. Do not contaminate water by cleaning of equipment or disposal of wastes.

Other Environmental Information Use Precautions

Not available

13. DISPOSAL CONSIDERATION

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. For information concerning the proper disposal of pesticide-related wastes, contact your State Environmental Department, State Department of Agriculture, or the Regional Office of the Environmental Protection Agency for your area.

Container Disposal

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

14. TRANSPORT INFORMATION

DOT Classification

RQ, Compounds, Weed Killing, Liquid, (Trifluralin, Xylene-range Solvents), Combustible Liquid, NA 1993, PG III, NAERG# 128

International Maritime Organization

RQ, Flammable Liquid, N.O.S., (Trifluralin, Xylene-range Solvents), 3, UN 1993, PG III, EmS 3-07, MFAG# 530, NAERG# 128

International Civil Aviation Organization

RQ, Flammable liquid, N.O.S., (Trifluralin, Xylene-range Solvents), 3, UN 1993, PG III, NAERG# 128

15. REGULATORY INFORMATION

SARA Title III Classification

Section 302/304: Not applicable

Section 311/312: Immediate (acute) health hazard
Fire hazard

Section 313 chemical(s): Trifluralin, n-Butanol, Xylene (Mixed O, M, and O Isomers), and Ethyl Benzene

Proposition 65

Not applicable

15. REGULATORY INFORMATION (Continued)

CERCLA Reportable Quantity (RQ)

2.5 gals. of product (10 lbs. of Trifluralin)

RCRA Classification

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA Status

Exempt from TSCA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 2
Flammability: 2
Reactivity: 0

0	Least
1	Slight
2	Moderate
3	High
4	Severe

Notice: The information and recommendations contained herein are provided in good faith and are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information herein.

Prepared By:

Gowan Company
(520) 783-8844