

MATERIAL SAFETY DATA SHEET

TREFLAN* E.C.

Page 1 of 4

Issue Date: 10/01

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Product

TREFLAN* E.C.

EPA Reg. No. 17545-9

Common Name: Liquid herbicide.

Chemical Description: Trifluralin.

TSCA/CAS No.: This product is a mixture — there is no specific CAS number.

Manufactured For

Monterey Chemical Company

P. O. Box 35000

Fresno, CA 93745-5000

Emergency Phone Numbers

Emergency Telephone: DAYS: (559) 499-2100 EVES.: (559) 431-7390

CHEMTREC (24-Hour Emergency Number): (800) 424-9300

EPA National Response Center: (800) 424-8802

TREFLAN* is a registered trademark of Dow AgroSciences LLC.

SECTION 2. HAZARDOUS INGREDIENTS

CHEMICAL	CAS NO.	%	TLV OR PEL	RQ (lbs)
Trifluralin	1582-09-8	43.0	N.A.*	10
Aromatic 200 Contains Naphthalene	64742-94-5 91-20-3	7.0	N.A.	100

* N.A. - Not available.

SECTION 3. EMERGENCY/HAZARDS OVERVIEW

Clear deep orange liquid with aromatic odor. May cause moderate eye irritation. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with strong oxidizers. Contain any liquid runoff. D.O.T. regulated. ERG #171.

HEALTH: 2 REACTIVITY: 1 FLAMMABILITY: 1 ENVIRONMENT: 1
(0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme)

SECTION 4. FIRST AID

Eyes: Immediately flush eyes with plenty of water. Contact a physician for treatment advice.

Skin: Immediately flush skin with plenty of water. Wash with plenty of soap and water. Remove and wash contaminated clothing before reuse. Get medical attention if irritation persists.

Ingestion: Seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Note to Physician: The decision of whether to induce vomiting or not should be made by an attending physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

Inhalation: Remove victim to fresh air. If effects occur, consult a physician.

SECTION 5.	FIRE AND EXPLOSION HAZARDS
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Flash Point:	210°F (99°C).
Test Method:	PMCC
LFL Flammable Limits:	1.8% approximately.
UFL Flammable Limits:	11.8% approximately.
Autoignition Temperature:	Not available.
Flammability Classification:	Nonflammable.
Known Hazardous Products of Combustion:	Nitrogen oxides, carbon monoxide, carbon dioxide, and fluorinated hydrocarbons.
Properties that Initiate/Contribute to Intensity of Fire:	Not available.
Potential For Dust Explosion:	None.
Reactions that Release Flammable Gases or Vapors:	None known.
Potential For Release of Flammable Vapors:	Not known.
Unusual Fire & Explosion Hazards:	Closed containers may explode due to pressure build-up when subjected to excessive heat or intense fire.
Extinguishing Media:	Water, CO ₂ , or dry chemicals.
Special Firefighting Procedures:	Stay upwind of smoke. Wear full protective clothing, positive pressure, self-contained breathing apparatus and protective firefighting clothing. Contain any liquid runoff.

SECTION 6.	SPILLS AND LEAKS
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Containment:	Product is toxic to fish. Prevent product spillage from entering drinking water supplies or streams.
Clean Up:	Collect liquid or absorb onto absorbent material and package for disposal according to local, state and federal regulations.
Evacuation:	Not necessary but restrict entry.
Reporting:	When spills of Trifluralin and naphthalene exceed the RQ it must be reported as a priority pollutant under the CERCLA spill reporting requirements.

SECTION 7.	STORAGE AND HANDLING
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Storage:	Store in plastic or stainless steel container in a cool, well-ventilated, dry place at temperatures above 40°F. Do not contaminate water, food or feed. Do not stack pallets more than two (2) high.
Transfer Equipment:	Transfer product using chemical-resistant plastic or stainless steel tanks, pumps, valves, etc.
Work/Hygienic Practices:	Causes moderate eye irritation. Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing spray mist. Avoid contact with eyes, skin, or clothing. Causes eye irritation. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Keep children and domestic animals off treated areas until washed into the soil. Avoid contamination of feed or food products.

SECTION 8.	PERSONAL PROTECTIVE EQUIPMENT
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Eyes:	Protective eyewear.
Skin:	Long sleeved shirt and long pants; chemical-resistant gloves such as Barrier Laminate or Viton; shoes plus socks.
Respiratory:	Not normally needed. If use generates a respiratory irritation, use NIOSH-approved dust/mist respirator (such as 3M #8710).
Ventilation:	Recommended but no TLV established.

SECTION 9.	PHYSICAL AND CHEMICAL DATA
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Appearance:	Clear, deep orange liquid.
Odor:	Aromatic.
pH:	5.0 to 8.0 (aqueous 50/50)
Vapor Pressure:	< 1 mm Hg at 68°F (solvent)
Vapor Density (Air = 1):	4.7 (solvent)
Boiling Point:	450 to 527°F (232-275°C).
Freezing Point:	Not available.
Water Solubility:	Emulsifies in water.
Density:	9.34 lbs./gal.
Evaporation Rate (butyl acetate = 1):	Not available.
Viscosity:	Not available.
% Volatile:	Not available.
Octanol/Water Partition Coefficient:	Not available.
Saturated Vapor Concentration:	Not available.

SECTION 10.	STABILITY AND REACTIVITY
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Stability:	Stable under recommended storage conditions. Avoid freezing.
Conditions To Avoid:	Avoid freezing. Do not store near heat or flames.
Incompatibility:	Avoid contact with strong oxidizers.
Hazardous Decomposition Products:	May include but are not limited to carbon dioxide, carbon monoxide, nitrogen oxides, and fluorinated hydrocarbons.
Hazardous Polymerization:	Not known to occur.

SECTION 11.	POTENTIAL HEALTH EFFECTS
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<u>Acute Effects:</u>	
Eyes:	May cause moderate irritation. Corneal injury is unlikely.
Skin:	Short single exposure may cause slight skin irritation. May cause drying or flaking of skin. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. LD ₅₀ (Rabbits) > 5000 mg/kg.
Ingestion:	Single dose oral toxicity is low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. If aspirated (liquid enters the lung), may cause lung damage or even death due to chemical pneumonia. Oral LD ₅₀ (Rats) > 3738 mg/kg.
Inhalation:	Single exposure to vapors is not likely to be hazardous. LD ₅₀ for rats is 5.59 mg/L (males) and > 6.05 mg/L (females) for 4 hours.
<u>Systemic (Other Target Organ) Effects:</u>	For Trifluralin, in animals, effects have been reported on the following organs: blood, kidney and liver. For the solvent, in animals, effects have been reported on the following organs: lungs, stomach, thyroid gland and urinary tract. Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.
<u>Cancer Information:</u>	Contains naphthalene, which has caused cancer in some laboratory animals. A low incidence of urinary tract tumors was seen in one strain of rat in one chronic study of five 2-year studies on Trifluralin conducted in rats; Trifluralin is not anticipated to be a carcinogenic risk to man.
<u>Teratology (Birth Defects):</u>	Trifluralin did not cause birth defects; other fetal effects occurred only at doses toxic to the mother.
<u>Reproductive Effects:</u>	Trifluralin did not interfere with reproduction in animal studies.

SECTION 12. ECOLOGICAL INFORMATION

Algal/Lemna Growth Inhibition:	Not known.
Toxicity to Fish and Invertebrates:	Toxic.
Toxicity to Plants:	Toxic.
Toxicity in Birds:	Practically non-toxic. LC ₅₀ is > 2000 mg/kg.

SECTION 13. DISPOSAL

Do not contaminate lakes, streams, ponds, estuaries, oceans or other waters by discharge of waste effluents or equipment washwaters. Dispose of waste effluents according to state and local regulations. Also, chemical additions or other alterations of this product may invalidate any disposal information in this MSDS. Therefore, consult local waste regulators for proper disposal. Do not discharge.

SECTION 14. TRANSPORTATION

D.O.T. Proper Shipping Description:	Environmentally Hazardous Substance, Liquid, N.O.S. (Trifluralin), 9, UN3082, PG III
Other Shipping Description:	Compounds, Tree or Weed Killing (Herbicide), Liquid. NMFC Item 50320, LTL Class 60

SECTION 15. REGULATORY INFORMATION

CERCLA: Trifluralin and naphthalene are listed as priority pollutants under the Clean Water Act and, as such, fall under the CERCLA spill reporting requirements of 40 CFR 302.

SARA TITLE III, Section 313 Toxic Chemicals: Trifluralin (43.0%) and Naphthalene (7.0%).

PROPOSITION 65: None.

SECTION 16. OTHER

All information appearing in this document was based on data provided by third party sources and was compiled to comply with the Federal Hazard Communication Standard and the California Hazardous Substances Information and Training Act. The information is believed to be accurate as of the preparation date, but is not warranted as being the final authority in the use of this product. This information does not purport to be legal or medical advice.