

**SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**COMPANY ADDRESS:** ALBAUGH, LLC  
Ankeny, IA 50021

**EMERGENCY TELEPHONE NUMBERS:**  
(800) 424-9300 (CHEMTREC, transportation and spills)

**PRODUCT NAME :** TRIFLURALIN 4EC  
**CHEMICAL NAME :** Trifluralin  
**PRODUCT USE :** Herbicide  
**PRODUCT CODE :** EPA Reg. No 42750-32

**SECTION 2 - HAZARDS IDENTIFICATION SUMMARY**

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

Dark amber liquid

**HEALTH HAZARDS:** Causes substantial but temporary eye injury. Harmful if swallowed.**PHYSICAL HAZARDS:** May release toxic fumes if burned.**ENVIRONMENTAL HAZARDS:** Very toxic to aquatic life.**SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS**

COMPONENT	PERCENTAGE	CAS NUMBER
Trifluralin	43.0 %	1582-09-8
Naphthalene	< 7.0 %	91-20-3
Inert Ingredients	50.1 %	n/a

**SECTION 4 - FIRST AID MEASURES**

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

**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 SWALLOWED:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.**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.**NOTE TO PHYSICIAN:** This product contains an aromatic hydrocarbon and can be extremely harmful if swallowed. Contains petroleum distillate – vomiting may cause aspiration pneumonia. Stomach lavage with a cuffed endotracheal tube in place and immediate administration of activated charcoal, 6-8 heaping teaspoonfuls with water, should be considered. Treatment is otherwise symptomatic and supportive.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

**SECTION 5 - FIRE FIGHTING MEASURES**

National Fire Protection Rating (NFPA)

HEALTH	2
FLAMMABILITY	1
REACTIVITY	1
4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

**FLASHPOINT:** > 200°F (94°C)

**EXTINGUISHING MEDIA:** Use foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material.

**FIRE AND EXPLOSION HAZARD:** Can form explosive mixtures at temperatures at or above the flashpoint. Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.

**FIRE FIGHTING INSTRUCTIONS:** Evacuate nonessential persons from area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Explosive vapor could form from ruptured containers. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water run off.

**FIRE FIGHTING EQUIPMENT:** Full fire fighting turn-out gear (Bunker gear) including self-contained breathing equipment.

Minimize use of water to prevent environmental contamination

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

**IN CASE OF SPILLS OR LEAKS:** Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

**SMALL SPILL:** Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in appropriate container for disposal.

**LARGE SPILL:** Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, clean contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container. Minimize use of water to prevent environmental contamination

**SECTION 7 - HANDLING AND STORAGE**

KEEP OUT OF REACH OF CHILDREN!

Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate.

**HANDLING:** Use only in a well-ventilated area. Do not reuse this container.

**STORAGE:** Avoid freezing. Store above 40°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.

**SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION****EXPOSURE LIMITS (8 hour TWA, ppm):**

COMPONENT	OSHA PEL	ACIGH TLV
Trifluralin	Not listed	Not listed
Naphthalene	10 ppm	10 ppm

**ENGINEERING CONTROLS:** Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**PERSONAL PROTECTIVE EQUIPMENT:**

EYE PROTECTION - Safety glasses or goggles.

CLOTHING - Long-sleeved shirt and long pants, Shoes plus socks,

GLOVES - Chemical-resistant gloves such as barrier laminate or viton.

RESPIRATOR - When handling in enclosed areas where exposure limits may be exceeded, use a respirator approved for pesticides.

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 such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:** 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 outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Dark amber liquid
<b>Odor:</b>	No data
<b>pH:</b>	4.3 – 5.3
<b>Melting Point:</b>	Not applicable
<b>Boiling Point:</b>	No data
<b>Flash Point:</b>	>100°C
<b>Evaporation Rate:</b>	No data
<b>Flammability:</b>	No data
<b>Flammability Limits:</b>	No data
<b>Vapor Pressure:</b>	6.1 mPa (25°C) (Trifluralin)
<b>Vapor Density:</b>	Not applicable
<b>Density:</b>	1.09 – 1.13 g/ml (9.1 – 9.4 lb/gl)*
<b>Solubility:</b>	Emulsifies
<b>Partition Coefficient:</b>	log Pow = 4.83 (20°C) (Trifluralin)
<b>Auto-Ignition Temperature:</b>	No data
<b>Decomposition Temperature:</b>	No data
<b>Viscosity:</b>	0.505 cSt

\*Listed density is an approximate value and does not necessarily represent that of a specific batch.

**SECTION 10 - STABILITY AND REACTIVITY**

**PRODUCT REACTIVITY:** None known.

**CHEMICAL STABILITY:** Stable under normal storage conditions.

**HAZARDOUS REACTION/POLYMERIZATION:** Product will not undergo polymerization.

**CONDITIONS TO AVOID:** Avoid temperatures above 100°F (38°C) or below 32 F (0 C).

**INCOMPATIBLE MATERIALS:** Strong oxidizing materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of nitrogen and carbon, fluorinated hydrocarbons.

**SECTION 11 - TOXICOLOGICAL INFORMATION****ACUTE TOXICITY:**

Oral LD <sub>50</sub> (rat)	> 5,000 mg/Kg
Dermal LD <sub>50</sub> (rat)	> 2,000 mg/Kg
Inhalation LC <sub>50</sub> (rat)	> 4.02 mg/L
Eye Irritation (rabbit)	Moderately irritating
Skin Irritation (rabbit)	Slight irritant
Sensitization (guinea pig)	Potential sensitizer

**CARCINOGEN STATUS:**

OSHA	- Not listed
NTP	- Not listed
IARC	- Not listed

**TERATOGENICITY:** Developmental effects only noted at maternally toxic doses.

**MUTAGENICITY:** Weight of evidence indicates Trifluralin is non-mutagenic.

**SECTION 12 - ECOLOGICAL INFORMATION**

**ENVIRONMENTAL SUMMARY:** This pesticide is extremely toxic to freshwater, marine, and estuarine fish and aquatic invertebrates including shrimp and oyster. Do not apply in a manner which will directly expose canals, lakes, streams, ponds, marshes or estuaries to aerial drift. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

**FATE:** Trifluralin is moderately persistent with a soil half-life of 6-8 months depending on soil type and weather conditions. It is highly adsorptive and relatively immobile in soil.

**FISH TOXICITY: (Technical)**

96 hour LC <sub>50</sub> , Rainbow trout –	0.41 ppm
96 hour LC <sub>50</sub> , Bluegill –	0.58 ppm

**AVIAN TOXICITY: (Technical)**

Dietary LC <sub>50</sub> , Bobwhite quail -	> 5,000 ppm
Dietary LC <sub>50</sub> , Mallard duck -	> 5,000 ppm

**BEE TOXICITY: (Technical)** > 100 ug/bee (contact)

**SECTION 13 - DISPOSAL CONSIDERATIONS**

Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE WASTE:** Pesticide wastes are acutely hazardous. Dispose of in accordance with applicable Federal, state and local laws and regulations.

**CONTAINER HANDLING:** Non-refillable containers: Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Non-refillable < 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.

Non refillable > 5 gallons: 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. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Refillable container: 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.

Refer to product label to determine if container is refillable and for complete cleaning and disposal instructions.

**SECTION 14 - TRANSPORT INFORMATION****SHIPPING DESCRIPTION:**

(Ground transport)

Containers < 2.5 gallons:

Not regulated

Containers ≥ than 2.5 gallons  
and < 157 gallons:

UN3082, Environmentally Hazardous Substances, Liquid, N.O.S.  
9, UN 3082, PG III, RQ (Trifluralin)

Containers ≥ 157 gallons:

UN3082, Environmentally Hazardous Substances, Liquid, N.O.S., 9,  
PG III, RQ (Trifluralin, naphthalene)

**DOT HAZARD CLASS:**

Class 9

**IDENTIFICATION NUMBER:**

UN3082

**DOT PACKING GROUP:**

PG III

**SECTION 15 - REGULATORY INFORMATION**

**CERCLA REPORTABLE QUANTITY:**

Trifluralin RQ 10 lbs (2.5 gal of product),  
Naphthalene RQ 100 lbs (157 gals of product)

**SARA TITLE III STATUS:**

311/312 Hazard Categories -  
313 Toxic Chemicals -

Immediate and Delayed Health  
Trifluralin, Naphthalene

**CALIFORNIA PROP 65:**

Not listed

**TSCA:**

This product is exempted from TSCA because it is solely for FIFRA regulated use.

**SECTION 16 - OTHER INFORMATION**

HMIS HAZARD RATINGS	HEALTH	2
	FLAMMABILITY	1
	PHYSICAL HAZARD	1
4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal		

**DISCLAIMER:** The information presented herein is based on available data from reliable sources and is correct to the best of Albaugh's knowledge. Albaugh makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling.

It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

**REVISED DATE:** December, 2016

**REFERENCE:** Revised density value in Section 9