

# SAFETY DATA SHEET



Revision date 17-May-2021

Revision Number 1

## 1. Identification

### Product identifier

Product Name Trifluralin 4EC

### Other means of identification

Product Code(s) 42750-32

UN/ID no. UN3082

Synonyms None

Registration Number(s) 42750-32

### Recommended use of the chemical and restrictions on use

Recommended use Herbicide

Restrictions on use Follow label instructions

### Details of the supplier of the safety data sheet

#### Company Address

ALBAUGH LLC  
1525 NE 36th St,  
Ankeny, IA 50211

#### Emergency telephone number

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call  
CHEMTREC Day or Night

- Within USA and Canada: 1-800-424-9300
- Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by US EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

## 2. Hazard(s) identification

### Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1
Carcinogenicity	Category 2
Aspiration hazard	Category 1

### Hazards not otherwise classified (HNOC)

Not applicable

**Label elements****Danger****Hazard statements**

Harmful if inhaled  
Causes eye irritation  
May cause an allergic skin reaction  
Suspected of causing cancer  
May be fatal if swallowed and enters airways

**Appearance** No data available**Physical state** Liquid**Odor** No data available**Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wash face, hands and any exposed skin thoroughly after handling  
Contaminated work clothing must not be allowed out of the workplace

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
Specific treatment (see .? on this label)  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
IF ON SKIN: Wash with plenty of water and soap  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
IF SWALLOWED: Immediately call a POISON CENTER or doctor  
Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other information**

May be harmful if swallowed. May be harmful in contact with skin. Causes mild skin irritation. Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

**3. Composition/information on ingredients****Substance**

Not applicable.

**Mixture**

Chemical name	CAS No	Weight-%	Active Ingredient
Solvent Naphtha (Petroleum), Heavy Aromatic	64742-94-5	48.87-51.89	
Trifluralin	1582-09-8	41.7-44.3	X
Other Ingredients	PROPRIETARY	>6.0	

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. First-aid measures

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention. Immediate medical attention is required.
<b>Inhalation</b>	Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical advice/attention. Delayed pulmonary edema may occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Get medical attention if irritation develops and persists. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Skin contact</b>	Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
<b>Ingestion</b>	ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Avoid breathing vapors or mists. See section 8 for more information.

### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Itching. Rashes. Hives. Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Prolonged contact may cause redness and irritation.
-----------------	--

### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	May cause sensitization in susceptible persons. Treat symptomatically. Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.
---------------------------	--

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical** Product is or contains a sensitizer. May cause sensitization by skin contact.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapors or mists.

**Other information** Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store away from other materials.

## 8. Exposure controls/personal protection

### Control parameters

**Exposure Limits** The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

**Biological occupational exposure limits**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering controls**                      Showers  
    Eyewash stations  
    Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection**                      Wear safety glasses with side shields (or goggles). None required for consumer use.

**Hand protection**                              Wear suitable gloves.

**Skin and body protection**                      Wear suitable protective clothing.

**Respiratory protection**                      No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations**                      Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing.

## **9. Physical and chemical properties**

### Information on basic physical and chemical properties

**Physical state**                                      Liquid  
**Appearance**                                      No data available  
**Color**    Amber  
**Odor**    No data available  
**Odor threshold**                                      No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.3 5.3	
Melting point / freezing point	No data available	
Boiling point / boiling range	No data available	
Flash point	> 105.0 >200	
Evaporation rate	No data available	
Flammability (solid, gas)	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	6.1 mPa (25°C) (Trifluralin)	
Vapor density	No data available	
Relative density	No data available	
Water solubility	No data available	
Solubility(ies)	Emulsifies	
Partition coefficient	log Pow = 4.83 (20°C) (Trifluralin)	
Autoignition temperature	No data available	
Decomposition temperature		
Kinematic viscosity	0.505 cSt	
Dynamic viscosity	No data available	
<u>Other information</u>		
Explosive properties	No data available	
Oxidizing properties	No data available	
Softening point	No data available	

<b>Molecular weight</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Liquid Density</b>	1.09-1.13
<b>Bulk density</b>	No data available

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

## 10. Stability and reactivity

<b>Reactivity</b>	No data available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Excessive heat.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Causes eye irritation. May cause redness, itching, and pain.
<b>Skin contact</b>	May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Repeated exposure may cause skin dryness or cracking. Causes mild skin irritation. May be harmful in contact with skin.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Itching. Rashes. Hives. Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation.
-----------------	---

### Acute toxicity

#### Numerical measures of toxicity

<b>Oral LD50</b>	> 5,000 mg/kg
<b>Dermal LD50</b>	> 2,000 mg/kg
<b>Inhalation LC50</b>	> 4.02 mg/l
<b>Component Information</b>	

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Solvent Naphtha (Petroleum), Heavy Aromatic 64742-94-5	> 5000 mg/kg ( Rat )	> 2 mL/kg ( Rabbit )	> 590 mg/m <sup>3</sup> ( Rat ) 4 h
Trifluralin 1582-09-8	= 2517 mg/kg ( Rat ) = 1930 mg/kg ( Rat )	> 5000 mg/kg ( Rat ) > 5 g/kg ( Rat )	= 2800 mg/m <sup>3</sup> ( Rat ) 1 h

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	May cause skin irritation. Classification based on data available for ingredients.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Irritating to eyes.
<b>Respiratory or skin sensitization</b>	May cause sensitization by skin contact.
<b>Germ cell mutagenicity</b>	No data available.
<b>Carcinogenicity</b>	Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Trifluralin 1582-09-8	-	Group 3	-	-

#### Legend

**IARC (International Agency for Research on Cancer)**

Group 3 - Not Classifiable as to Carcinogenicity in Humans

<b>Reproductive toxicity</b>	No data available.
<b>STOT - single exposure</b>	No data available.
<b>STOT - repeated exposure</b>	No data available.
<b>Aspiration hazard</b>	May be fatal if swallowed and enters airways.
<b>Other adverse effects</b>	No data available.
<b>Interactive effects</b>	No data available.

## 12. Ecological information

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Solvent Naphtha (Petroleum), Heavy Aromatic 64742-94-5	EC50: =2.5mg/L (72h, Skeletonema costatum)	LC50: =19mg/L (96h, Pimephales promelas) LC50: =2.34mg/L (96h, Oncorhynchus mykiss) LC50: =1740mg/L (96h, Lepomis macrochirus) LC50: =45mg/L (96h, Pimephales promelas) LC50: =41mg/L (96h, Pimephales promelas)	-	EC50: =0.95mg/L (48h, Daphnia magna)
Trifluralin 1582-09-8	-	LC50: 0.083 - 0.134mg/L (96h, Pimephales promelas) LC50: =0.099mg/L (96h,	-	EC50: 0.32 - 1mg/L (48h, Daphnia magna) EC50: 0.16 - 0.36mg/L (48h, Daphnia pulex)

		Pimephales promelas) LC50: 0.0072 - 0.014mg/L (96h, Oncorhynchus mykiss) LC50: 0.0168 - 0.0199mg/L (96h, Lepomis macrochirus) LC50: 0.036 - 0.051mg/L (96h, Cyprinus carpio)		
--	--	--	--	--

**Persistence and degradability** No data available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical name	Partition coefficient
Solvent Naphtha (Petroleum), Heavy Aromatic 64742-94-5	6.1

**Other adverse effects** No data available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

<b><u>DOT</u></b>	Not regulated
<b>Notes</b>	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)
<b>UN/ID no.</b>	UN3082
<b>Transport hazard class(es)</b>	9
<b>Packing group</b>	III
<b>DOT reportable quantity - lbs</b>	Trifluralin RQ 10 lbs (2.5 gal of product), Naphthalene RQ 100 lbs (157 gals of product)
<b><u>TDG</u></b>	Not regulated
<b><u>MEX</u></b>	Not applicable
<b><u>ICAO (air)</u></b>	Not regulated
<b><u>IATA</u></b>	Not applicable
<b><u>IMDG</u></b>	Not regulated
<b><u>RID</u></b>	Not applicable
<b><u>ADR</u></b>	Not applicable
<b><u>ADN</u></b>	Not applicable



**15. Regulatory information****U.S. EPA Label Information**

EPA Pesticide Registration Number 42750-32

EPA Pesticide Label Caution. Causes moderate eye irritation. Harmful if Swallowed.

**International Inventories**

TSCA	Does not comply
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

**Legend:****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Trifluralin - 1582-09-8	1.0

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Trifluralin 1582-09-8	10 lb	-

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Trifluralin 1582-09-8	X	X	X

## 16. Other information

<b>NFPA</b>	<b>Health hazards</b> 2	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and chemical properties</b> -
<b>HMIS</b>	<b>Health hazards</b> 2 *	<b>Flammability</b> 0	<b>Physical hazards</b> 0	<b>Personal protection</b> X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

**Revision date** 17-May-2021  
**Revision Note** No data available.

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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.

**End of Safety Data Sheet**