

**SECTION 1: Identification**

**1.1. Identification**

Product form : Mixture  
 Product name : Tundra™ EC

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Use of the substance/mixture : Industrial use

**1.3. Details of the supplier of the safety data sheet**

Winfield Solutions LLC  
 P.O. Box Po Box 64281  
 St. Paul, MN 55164 - US  
 T 651-375-5747

**1.4. Emergency telephone number**

Emergency number : 1-800-704-9215

**SECTION 2: Hazard(s) identification**

**2.1. Classification of the substance or mixture**

**GHS-US classification**

Flam. Liq. 4	H227 -	Combustible liquid
Acute Tox. 2 (Oral)	H300 -	Fatal if swallowed
Acute Tox. 4 (Inhalation:dust,mist)	H332 -	Harmful if inhaled
Skin Sens. 1	H317 -	May cause an allergic skin reaction
Carc. 2	H351 -	Suspected of causing cancer
STOT RE 1	H372 -	Causes damage to organs (central nervous system) through prolonged or repeated exposure

Full text of H statements : see section 16

**2.2. Label elements**

**GHS-US labeling**

Hazard pictograms (GHS-US) :

  
 GHS06

  
 GHS07

  
 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :

- H227 - Combustible liquid
- H300 - Fatal if swallowed
- H317 - May cause an allergic skin reaction
- H332 - Harmful if inhaled
- H351 - Suspected of causing cancer
- H372 - Causes damage to organs (central nervous system) through prolonged or repeated exposure

Precautionary statements (GHS-US) :

- P201 - Obtain special instructions before use
- P202 - Do not handle until all safety precautions have been read and understood
- P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- P260 - Do not breathe fume, mist, spray, vapors
- P261 - Avoid breathing fume, mist, spray, vapors
- P264 - Wash hands thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P271 - Use only outdoors or in a well-ventilated area
- P272 - Contaminated work clothing must not be allowed out of the workplace
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P301+P310 - If swallowed: Immediately call a POISON CENTER
- P302+P352 - If on skin: Wash with plenty of water
- P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
- P308+P313 - If exposed or concerned: Get medical advice/attention
- P312 - Call a doctor if you feel unwell
- P314 - Get medical advice/attention if you feel unwell
- P321 - Specific treatment (see ... on this label)

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P330 - Rinse mouth  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention  
P363 - Wash contaminated clothing before reuse  
P370+P378 - In case of fire: Use dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2) to extinguish  
P403+P235 - Store in a well-ventilated place. Keep cool  
P405 - Store locked up  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Solvent naphtha, petroleum, heavy aromatic	(CAS No) 64742-94-5	39.6	Flam. Liq. 3, H226 Asp. Tox. 1, H304
bifenthrin (ISO); (2-methylbiphenyl-3-yl)methyl rel-(1R,3R)-3-[(1Z)-2-chloro-3,3,3-trifluoroprop-1-en-1-yl]-2,2-dimethylcyclopropanecarboxylate	(CAS No) 82657-04-3	25.4	Acute Tox. 2 (Oral), H300 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Sens. 1B, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Acute Tox. 3 (Inhalation), H331

Full text of H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.  
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Rinse mouth. Call a physician immediately.

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

Symptoms/injuries after skin contact : May cause an allergic skin reaction.  
Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.  
Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid.  
Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Only qualified personnel equipped with suitable protective equipment may intervene.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : In case of large spillages: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Sweep up or vacuum up the product. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe fume, mist, spray, vapors. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Store locked up.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Hand protection : Protective gloves.

Eye protection : Safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Wear respiratory protection.

Environmental exposure controls : Avoid release to the environment.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Colourless.

Odor : Odourless.

Odor threshold : No data available

pH : 4.68

Melting point : Not applicable

Freezing point : No data available

Boiling point : No data available

Flash point : 171 °F

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Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 0.958 g/cm <sup>3</sup>
Solubility	: Water: Solubility in water of component(s) of the mixture : • Solvent naphtha, petroleum, heavy aromatic: < 1 mg/l (at 20 °C)
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. On combustion, forms: carbon oxides (CO and CO<sub>2</sub>).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure	: Ingestion; Inhalation
Acute toxicity	: Oral: Fatal if swallowed. Inhalation:dust,mist: Harmful if inhaled.

Tundra™ EC	
ATE US (oral)	19.685 mg/kg body weight
ATE US (dust, mist)	1.969 mg/l/4h
Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2 ml/kg
LC50 inhalation rat (mg/l)	> 590 mg/m <sup>3</sup> (Exposure time: 4 h)
bifenthrin (ISO); (2-methylbiphenyl-3-yl)methyl rel-(1R,3R)-3-[(1Z)-2-chloro- 3,3,3-trifluoroprop-1-en-1-yl]- 2,2-dimethylcyclopropanecarboxylate (82657-04-3)	
ATE US (oral)	5.000 mg/kg body weight
ATE US (dust, mist)	0.500 mg/l/4h
Skin corrosion/irritation	: Not classified pH: 4.68

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Serious eye damage/irritation	: Not classified pH: 4.68
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Causes damage to organs (central nervous system) through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Symptoms/injuries after skin contact	: May cause an allergic skin reaction.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Toxic to aquatic life.

#### Solvent naphtha, petroleum, heavy aromatic (64742-94-5)

LC50 fish 1	19 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	0.95 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	2.34 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

#### Solvent naphtha, petroleum, heavy aromatic (64742-94-5)

BCF fish 1	61 - 159
Log Pow	2.9 - 6.1

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Effect on global warming : No known ecological damage caused by this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Avoid release to the environment.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN2902 Pesticides, liquid, toxic, n.o.s. (Bifenthrin ), 6.1, II

UN-No.(DOT) : UN2902

Proper Shipping Name (DOT) : Pesticides, liquid, toxic, n.o.s.

Bifenthrin

Class (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132

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Hazard labels (DOT) : 6.1 - Poison



Packing group (DOT) : II - Medium Danger

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 243

DOT Symbols : G - Identifies PSN requiring a technical name

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized

T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3)  
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where:  $t_r$  is the maximum mean bulk temperature during transport,  $t_f$  is the temperature in degrees celsius of the liquid during filling, and  $a$  is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling ( $t_f$ ) and the maximum mean bulk temperature during transportation ( $t_r$ ) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where:  $d_{15}$  and  $d_{50}$  are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively

TP13 - Self-contained breathing apparatus must be provided when this hazardous material is transported by sea

TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP

DOT Packaging Exceptions (49 CFR 173.xxx) : 153

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Other information : No supplementary information available.

### TDG

No additional information available

### Transport by sea

Class (IMDG) : Not determined

### Air transport

Class (IATA) : Not determined

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

bifenthrin (ISO); (2-methylbiphenyl-3-yl)methyl rel-(1R,3R)-3-[(1Z)-2-chloro-3,3,3-trifluoroprop-1-en-1-yl]-2,2-dimethylcyclopropanecarboxylate	CAS No 82657-04-3	25.4%
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This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

EPA Registration Number : 1381-196

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FIFRA Hazard Statement	:	Keep reach out of reach of children. WARNING. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get into eyes or on clothing. Wear protective eyewear such as goggles or safety glasses. Harmful if inhaled, or absorbed through skin. Avoid breathing vapor or spray mist. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
FIFRA Signal Word	:	WARNING
FIFRA Other	:	Restricted Use Pesticide: Toxic to fish and aquatic organisms.

### 15.2. International regulations

#### CANADA

##### Solvent naphtha, petroleum, heavy aromatic (64742-94-5)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

##### Solvent naphtha, petroleum, heavy aromatic (64742-94-5)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)

##### Soybean oil, methyl ester (67784-80-9)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

Revision date : 05/09/2016

Full text of H-phrases:

H226	Flammable liquid and vapor
H227	Combustible liquid
H300	Fatal if swallowed
H304	May be fatal if swallowed and enters airways
H317	May cause an allergic skin reaction
H331	Toxic if inhaled
H332	Harmful if inhaled
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS US (GHS HazCom 2012 - FIFRA)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*