



# SAFETY DATA SHEET

## 503554 CARENE DELTA-3 NATURAL

Revision Date: 01-26-2022

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### 1. IDENTIFICATION

**Product Description:** CARENE DELTA-3 NATURAL  
**CAS #** 13466-78-9  
**FEMA Number** 3821  
**Other means of identification**  
**Vigon Item #** 503554  
**Recommended use** Concentrated aromatic and flavor ingredient which may be used in flavor and fragrance compounds according to legal and IFRA or FEMA GRAS/FDA guidelines.  
**Recommended restrictions** For Manufacturing Use Only

#### Company

Vigon International, LLC  
127 Airport Road  
E. Stroudsburg, PA 18301  
For information call: 570-476-6300  
Web Site: www.vigon.com

#### 24 Hour Emergency Response Information

INFOTRAC (ACCT# 78928);  
1-800-535-5053 WITHIN THE U.S.A.  
1-352-323-3500 OUTSIDE THE U.S.A.

#### **Manufacturer/Importer/Supplier/Distributor information**

##### **Manufacturer**

<b>Company name</b>	Vigon International, LLC	
<b>Address</b>	127 Airport Road E. Stroudsburg, PA 18301 United States	
<b>Telephone</b>	For information call:	570-476-6300
<b>Website</b>	www.vigon.com	
<b>E-mail</b>	regulatory@vigon.com	
<b>Emergency phone number</b>	INFOTRAC	(ACCT# 78928);
	1-800-535-5053	WITHIN THE U.S.A.
	1-352-323-3500	OUTSIDE THE U.S.A.

### 2. HAZARD(S) IDENTIFICATION

<b>Physical hazards</b>	Flammable liquids	Category 3
<b>Health hazards</b>	Acute toxicity, oral	Category 5
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Sensitization, skin	Category 1
	Aspiration hazard	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

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### Label elements



**Signal word**

Danger

**Hazard statement**

Flammable liquid and vapor. May be harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Harmful if inhaled. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.

**Storage**

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

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)**

None known.

**Supplemental information**

100% of the substance consists of component(s) of unknown acute dermal toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substances**

Chemical name	Common name and synonyms	CAS number	%
CARENE DELTA	3,7,7-trimethyl bicyclo(4.1.0)hept-3-ene 3,7,7-trimethyl bicyclohept-3-ene 3,7,7-trimethyl-3-norcarene	13466-78-9	100

**Additional components**

Chemical name	Common name and synonyms	CAS number	%
blank		Mixture	

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#### Additional components

Chemical name	Common name and synonyms	CAS number	%
CYMENE PARA	1- methyl-4-propan-2-ylbenzene 4-METHYL ISOPROPYL BENZENE Methyl isopropyl benzene DOLCYMENE 4-iso propyl toluene para-methylcumene camphogen	99-87-6	
DIPENTENE	p- mentha-1,8-diene D,L- limonene 1- methyl-4-prop-1-en-2-ylcyclohexene	138-86-3	
PINENE BETA	7,7-dimethyl-4-methylidenebicyclo[3.1.1] heptane (1)-6,6- dimethyl-2-methylene bicyclo(3.1.1) heptane	127-91-3	
P-MENTHA-1(7),2-DIENE	3- methylidene-6-propan-2-ylcyclohexene BETA-PHELLANDRENE 4 isopropyl-1-methylene-2-cyclohexene 2-P-MENTHADIENE	555-10-2	
TERPINENE ALPHA	terpilene p-Mentha-1,3-diene 1- methyl-4-propan-2-ylcyclohexa-1,3-diene 4-iso-propyl-1-methyl-1,3-cyclohexadiene	99-86-5	
TERPINENE GAMMA	4-iso propyl-4-methyl-1,4-cyclohexadiene p-Mentha-1,4-diene 1,4-p-Menthadiene 1-METHYL-4-(1-METHYLETHYL)- 1,4-CYCLOHEXADIENE	99-85-4	
TERPINOLENE	cyclohexene, 1-methyl-4-(1-methylethylidene)- 1-METHYL-4-PROPAN-2-YLIDENE CYCLOHEXENE p- menth-1,4,8-diene P- METH-1-EN-8-YL-FORMATE 4-iso propylidene-1-methyl cylohexene	586-62-9	

#### 4. FIRST-AID MEASURES

##### Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

##### Skin contact

Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.

##### Eye contact

Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.



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<b>Ingestion</b>	Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.
<b>Most important symptoms/effects, acute and delayed</b>	Aspiration may cause pulmonary edema and pneumonitis. Direct contact with eyes may cause temporary irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
<b>Indication of immediate medical attention and special treatment needed</b>	Not available.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

#### 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	Water spray, fog, CO2, dry chemical, or alcohol resistant foam.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.
<b>Specific methods</b>	Use water spray to cool unopened containers.
<b>General fire hazards</b>	Static charges generated by emptying package in or near flammable vapor may cause flash fire.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.
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### Methods and materials for containment and cleaning up

Collect and dispose of spillage as indicated in section 13 of the SDS.

Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

### Environmental precautions

Retain and dispose of contaminated wash water. Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.

### Conditions for safe storage, including any incompatibilities

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Material	Type	Value
CARENE DELTA (CAS 13466-78-9)	TWA	20 ppm

#### Additional components

Additional components	Type	Value
PINENE BETA (CAS 127-91-3)	TWA	20 ppm

#### US. Workplace Environmental Exposure Level (WEEL) Guides

Additional components	Type	Value
DIPENTENE (CAS 138-86-3)	TWA	165.5 mg/m <sup>3</sup>
		30 ppm

### Biological limit values

No biological exposure limits noted for the ingredient(s).

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#### Exposure guidelines

- Components with limit values that require monitoring at the workplace:
- Delta-3-carene (CAS 13466-78-9)
  - Belgium: limit value - 8 hours = 20 ppm
  - Sweden: limit value - 8 hours = 150 mg/m<sup>3</sup> (25 ppm)
  - Sweden: limit value - short term = 300 mg/m<sup>3</sup> (50 ppm)
  - United Kingdom and Ireland: none
- beta-Pinene (CAS 127-91-3)
  - Belgium: limit value - 8 hours = 20 ppm
  - Denmark: limit value - 8 hours = 140 mg/m<sup>3</sup> (25 ppm)
  - Denmark: limit value - short term = 280 mg/m<sup>3</sup> (50 ppm)
  - Sweden: limit value - 8 hours = 150 mg/m<sup>3</sup> (25 ppm)
  - Sweden: limit value - short term = 300 mg/m<sup>3</sup> (50 ppm)
- Dipentene (dl-limonene - CAS 138-86-3)
  - Sweden: limit value - 8 hours = 150 mg/m<sup>3</sup> (25 ppm)
  - Sweden: limit value - short term = 300 mg/m<sup>3</sup> (50 ppm)
- D-limonene (CAS 5989-27-5) - one of the two isomers of dipentene (CAS 138-86-3)
  - Germany (AGS): limit value - 8 hours = 110 mg/m<sup>3</sup> (20 ppm)
  - Germany (AGS): limit value - short term = 220 mg/m<sup>3</sup> (40 ppm)
  - Germany (DFG): limit value - 8 hours = 28 mg/m<sup>3</sup> (5 ppm)
  - Germany (DFG): limit value - short term = 112 mg/m<sup>3</sup> (20 ppm)
- Paracymene (CAS 99-87-6)
  - Belgium: limit value - 8 hours = 100 mg/m<sup>3</sup> (20 ppm)
  - Denmark: limit value - 8 hours = 135 mg/m<sup>3</sup> (25 ppm)
  - Denmark: limit value - short term = 270 mg/m<sup>3</sup> (50 ppm)
  - Sweden: limit value - 8 hours = 140 mg/m<sup>3</sup> (25 ppm)
  - Sweden: limit value - short term = 190 mg/m<sup>3</sup> (35 ppm)
- Terpenes
  - Austria: limit value - 8 hours = 560 mg/m<sup>3</sup> (100 ppm)
  - Austria: limit value - short term = 560 mg/m<sup>3</sup> (100 ppm)
  - Denmark : limit value - 8 hours = 140 mg/m<sup>3</sup> (25 ppm)
  - Denmark : limit value - short term = 280 mg/m<sup>3</sup> (50 ppm)
  - Sweden: limit value - 8 hours = 150 mg/m<sup>3</sup> (25 ppm)
  - Sweden: limit value - short term = 300 mg/m<sup>3</sup> (50 ppm)
- DNEL (Derived No-Effect Level): Workers - Acute/short-term exposure Local effects - dermal: 161 µg/cm<sup>2</sup>
- DNEL (Derived No-Effect Level): Workers - Long-term exposure Systemic effects - inhalation: 5.98 mg/m<sup>3</sup>
- DNEL (Derived No-Effect Level): General population - Acute/short-term exposure Local effects - dermal: 81 µg/cm<sup>2</sup>
- DNEL (Derived No-Effect Level): General population - Long-term exposure Systemic effects - inhalation: 1.06 mg/m<sup>3</sup>
- Systemic effects - oral: 0.31 mg/kg bw/day
- PNEC (Predicted No-Effect Concentration) aqua (freshwater): 50 µg/L
- PNEC (Predicted No-Effect Concentration) aqua (marine water): 5 µg/L
- PNEC (Predicted No-Effect Concentration) Sewage Treatment Plant: 3.26 mg/L
- PNEC (Predicted No-Effect Concentration) sediment (freshwater): 11.88 mg/kg sediment dw
- PNEC (Predicted No-Effect Concentration) sediment (marine water): 1.19 mg/kg sediment dw
- PNEC (Predicted No-Effect Concentration) soil: 2.48 mg/kg soil dw
- PNEC (Predicted No-Effect Concentration) oral: 1.35 mg/kg food
- Additional information:

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This sheet is based on the current valid lists for occupational exposure limit values. The DNELs and PNECs values are derived from the chemical safety assessment conducted for REACH. Occupational exposure limits and DNELs are health-based but they are not necessarily set in the same way.

The primary duty is to comply with risk management measures which enable to limit exposures as much as possible and to be in line with exposure reference levels.

**Appropriate engineering controls** Use explosion-proof ventilation equipment to stay below exposure limits.

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

**Eye/face protection** Avoid contact with eyes.

**Skin protection**

**Hand protection** Chemical resistant gloves.

**Other** Use of an impervious apron is recommended.

**Respiratory protection** Chemical respirator with organic vapor cartridge and full facepiece.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** Refer to Spec Sheet

**Physical state** Liquid.

**Form** Liquid.

**Color** Refer to Spec Sheet

**Odor** Characteristic.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** < -112 °F (< -80 °C)

**Initial boiling point and boiling range** 338 °F (170 °C)

**Flash point** 117.0 °F (47.2 °C) Closed Cup

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not applicable.

**Upper/lower flammability or explosive limits**

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** 0.28 kPa (77 °F (25 °C))

**Vapor density** Not available.

**Relative density** 0.87 g/ml at 20 °C

**Solubility(ies)**

**Solubility (water)** Insoluble

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**Partition coefficient (n-octanol/water)** log Kow = 4.38 (37°C)  
**Auto-ignition temperature** Not available.  
**Decomposition temperature** Not available.  
**Viscosity** < 7 mm<sup>2</sup>/s at 20 °C Kinematic  
 1.3 - 1.6 mm<sup>2</sup>/s at 25 °C Dynamic

#### Other information

**Explosive properties** Not explosive.  
**Molecular formula** C<sub>10</sub>H<sub>16</sub>  
**Molecular weight** 136.24 g/mol  
**Oxidizing properties** Not oxidizing.  
**Specific gravity** 0.86 at 25 °C

### 10. STABILITY AND REACTIVITY

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.  
**Chemical stability** Material is stable under normal conditions.  
**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.  
**Conditions to avoid** Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.  
**Incompatible materials** Strong oxidizing agents.  
**Hazardous decomposition products** No hazardous decomposition products if stored and handled as indicated.

### 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

**Inhalation** Harmful if inhaled.  
**Skin contact** Causes skin irritation. May cause an allergic skin reaction.  
**Eye contact** Direct contact with eyes may cause temporary irritation.  
**Ingestion** May be harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

**Symptoms related to the physical, chemical and toxicological characteristics** Aspiration may cause pulmonary edema and pneumonitis. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

#### Information on toxicological effects

**Acute toxicity** May be fatal if swallowed and enters airways. Harmful if inhaled.

Product	Species	Test Results
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CARENE DELTA (CAS 13466-78-9)

#### Acute

*Oral*

LD50

Rat

4800 mg/kg



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Additional components	Species	Test Results
CYMENE PARA (CAS 99-87-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
DIPENTENE (CAS 138-86-3)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	5 g/kg
<i>Oral</i>		
LD50	Rat	5 g/kg
TERPINENE ALPHA (CAS 99-86-5)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	1680 mg/kg
TERPINENE GAMMA (CAS 99-85-4)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	3650 mg/kg
TERPINOLENE (CAS 586-62-9)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rat	> 5 ml/kg
<i>Oral</i>		
LD50	Rat	4390 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.  
An in vitro irritation study on reconstructed human epidermis was conducted with the substance. The classification criteria were met.

**Serious eye damage/eye irritation**

Direct contact with eyes may cause temporary irritation.  
The substance is not classified as only reversible effects were observed in an eye irritation study in rabbit (OECD 405).

**Respiratory or skin sensitization**

**ACGIH sensitization**

TURPENTINE AND SELECTED MONOTERPENES (CAS 127-91-3)	Dermal sensitization
TURPENTINE AND SELECTED MONOTERPENES (CAS 13466-78-9)	Dermal sensitization

**Respiratory sensitization**

Due to partial or complete lack of data the classification is not possible.

**Skin sensitization**

May cause an allergic skin reaction.  
Skin sensitization effects were observed with the substance in the Guinea Pig Maximisation Test (GPMT - OECD 406), leading to the classification of the substance as skin sensitiser 1B.

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#### **Germ cell mutagenicity**

Results of tests conducted with the substance and structurally related substances show that delta-3-carene has no genotoxic potential:

- no mutagenicity observed in the Ames test (OECD 471) with the substance and gum turpentine oil (UVCN substance containing delta-3-carene),
- no genotoxicity observed in vitro in mammalian cells with gum turpentine oil (mammalian chromosome aberration test - OECD 473 and mammalian cell gene mutation test - OECD 476),
- no genotoxicity observed in vivo in mouse with alpha-pinene (erythrocyte micronucleus test - OECD 474). Due to partial or complete lack of data the classification is not possible.

#### **Carcinogenicity**

Due to partial or complete lack of data the classification is not possible.

Based on a 90-day toxicity study in rat conducted with a structurally related substance alpha-pinene, the substance is not expected to be carcinogenic for humans.

#### **IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

#### **US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

#### **Reproductive toxicity**

Due to partial or complete lack of data the classification is not possible.

Based on available data from structurally related substances, no toxic effects for reproduction are expected from delta-3-carene based on the following results:

- no effects were observed on reproductive organs in a 90-day inhalation repeated toxicity study in rat, conducted with alpha-pinene;
- no effects were found in a teratogenicity/postnatal development study conducted in rat with an UVCB substance (rowachol) containing delta-3-carene.

#### **Specific target organ toxicity - single exposure**

Due to partial or complete lack of data the classification is not possible.

No specific target organ toxicity was observed in the LD50 determination studies.

#### **Specific target organ toxicity - repeated exposure**

Due to partial or complete lack of data the classification is not possible.

The substance is not classified based on results from a 90-day inhalation toxicity study conducted in mice with a structurally related substance alpha-pinene: NOAEC = 283.24 mg/m<sup>3</sup> (effects on urinary bladder).

#### **Aspiration hazard**

May be fatal if swallowed and enters airways.

If swallowed accidentally, the product may enter the lungs due to its low viscosity.

#### **Chronic effects**

Prolonged inhalation may be harmful.

## 12. ECOLOGICAL INFORMATION

#### **Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

· Toxicity to aquatic microorganisms:

Sewage containing the substance can be treated by a municipal sewage treatment plant (taking into account the PNEC sewage treatment plant given in section 8).

This PNEC is based on the following result: EC50(3 h) = 326 mg/L (respiration rate - OECD 209)

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Product	Species	Test Results
CARENE DELTA (CAS 13466-78-9)		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EC50	Daphnia magna
		0.797, 48 hours (measured concentration - OECD 202)

Additional components	Species	Test Results
CYMENE PARA (CAS 99-87-6)		
Other	EC50	Pseudokirchnerella subcapitata
		5.8, 72 hours
<b>Aquatic</b>		
Fish	LC50	Fish
	NOEC	Sheepshead minnow (Cyprinodon variegatus)
		2, 96 hours (Oryzias latipes)
		10, 96 hours
<i>Acute</i>		
Crustacea	LC50	Water flea (Daphnia magna)
		>= 4.3 - <= 10 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)
		>= 36 - <= 64 mg/l, 96 hours

DIPENTENE (CAS 138-86-3)

**Aquatic**

*Acute*

Fish LC50 Carp (Leuciscus idus melanotus) 34, 48 hours

TERPINOLENE (CAS 586-62-9)

**Aquatic**

Crustacea LC50 Daphnia magna 2.55, 48 h

Fish LC50 Pimephales promelas 0.72, 96 h

**Persistence and degradability**

Readily biodegradable [based on results from alpha-pinene and beta-pinene].  
 alpha-Pinene and beta-Pinene  
 Biodegradation achieved in 28 days for both substances: 76% (oxygen consumption - assay conducted according to the OECD 301 D guideline - activated sludge, domestic, non-adapted).  
 · vPvB: The substance is not considered to be very Persistent and very Bioaccumulative (vPvB).

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available.

**Other adverse effects**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. DISPOSAL CONSIDERATIONS

**Disposal instructions**

Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**

Dispose in accordance with all applicable regulations.

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<b>Hazardous waste code</b>	Not established.
<b>Waste from residues / unused products</b>	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

#### 14. TRANSPORT INFORMATION

##### ADN

<b>UN number</b>	2319
<b>UN proper shipping name</b>	TERPENE HYDROCARBONS, N.O.S. (DELTA-3-CARENE)
<b>Transport hazard class(es)</b>	3
<b>Subsidiary class(es)</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>Labels required</b>	3

##### ADR

<b>UN number</b>	2319
<b>UN proper shipping name</b>	TERPENE HYDROCARBONS, N.O.S.
<b>Transport hazard class(es)</b>	3
<b>Subsidiary class(es)</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>Labels required</b>	3

##### RID

<b>UN number</b>	2319
<b>UN proper shipping name</b>	TERPENE HYDROCARBONS, N.O.S. (DELTA-3-CARENE)
<b>Transport hazard class(es)</b>	3
<b>Subsidiary class(es)</b>	-
<b>Packing Group</b>	III
<b>Environmental Hazards</b>	Yes
<b>Labels required</b>	3
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

##### DOT

##### BULK

<b>UN number</b>	2319
<b>Proper shipping name</b>	TERPENE HYDROCARBONS, N.O.S.
<b>Hazard class</b>	3
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Packaging exceptions</b>	150
<b>Packaging bulk</b>	242
<b>Labels required</b>	3

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**DOT****NON-BULK**

Not regulated as dangerous goods.

**IATA**

UN number	2319
UN proper shipping name	TERPENE HYDROCARBONS, N.O.S.
Transport hazard class(es)	3
Subsidiary class(es)	-
Packing group	III
Environmental hazards	No
Labels required	3

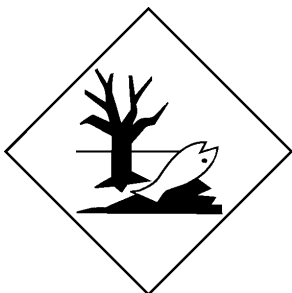
**IMDG**

UN number	2319
UN proper shipping name	TERPENE HYDROCARBONS, N.O.S.
Transport hazard class(es)	3
Subsidiary class(es)	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Labels required	3
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

ADN; ADR; DOT BULK; IATA; IMDG; RID



Marine pollutant





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#### 15. REGULATORY INFORMATION

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Toxic Substances Control Act (TSCA)**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Flammable (gases, aerosols, liquids, or solids)  
Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Respiratory or skin sensitization  
Aspiration hazard

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

#### 16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Issue date** 11-01-2018  
**Revision date** 01-26-2022  
**Version #** 04  
**HMIS® ratings** Health: 2\*  
Flammability: 2  
Physical hazard: 0



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#### **Disclaimer**

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#### **Revision information**

This document has undergone significant changes and should be reviewed in its entirety.