

**SAFETY DATA SHEET****503489 DIPENTENE 38 PF**

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**1. IDENTIFICATION****Product Description:** DIPENTENE 38 PF**CAS #** MIXTURE**Other means of identification****Vigon Item #** 503489**Recommended use** Concentrated aromatic ingredient which may be used fragrance compounds according to legal and IFRA guidelines.**Recommended restrictions** None known.CompanyVigon International, LLC  
127 Airport Road  
E. Stroudsburg, PA 18301  
For information call: 570-476-6300  
Web Site: www.vigon.com24 Hour Emergency Response InformationINFOTRAC (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****Company name** Vigon International, LLC  
**Address** 127 Airport Road  
E. Stroudsburg, PA 18301  
United States  
**Telephone** For information call: 570-476-6300  
**Website** www.vigon.com  
**E-mail** regulatory@vigon.com**Emergency phone number** 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****Physical hazards** Flammable liquids Category 3**Health hazards** Skin corrosion/irritation Category 2

Sensitization, skin Category 1

**Environmental hazards** Hazardous to the aquatic environment, acute hazard Category 1

Hazardous to the aquatic environment, long-term hazard Category 1

**Label elements****Signal word**

Danger

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<b>Hazard statement</b>	Flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. May cause allergic skin reaction.
<b>Precautionary statement</b>	
<b>Prevention</b>	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/eye protection/face protection.
<b>Response</b>	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/shower. 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.
<b>Storage</b>	Store in a well-ventilated place. Keep cool. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
DIPENTENE 38 PF		MIXTURE	100

#### Additional components

Chemical name	Common name and synonyms	CAS number	%
CAMPHENE	dextro,laevo-camphene 6,6- dimethyl-5-methylidenebicyclo [2.2.1]heptane 2,2-DIMETHYL-3-METHYLENE NORBORNANE 3,3-DIMETHYL-2-METHYLENE NORCAMPHANE	79-92-5	
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	
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	

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### Additional components

Chemical name	Common name and synonyms	CAS number	%
PELLANDRENE ALPHA	2-methyl-5-propan-2-ylcyclohexa-1,3-diene 1,3- cyclohexadiene, 2-methyl-5-(1-methylethyl)- p- mentha-1,5-diene 1- methyl-4-isopropyl-1,5-cyclohexadiene 2-methyl-5-propan-2-ylcyclohexa-1,3-diene	99-83-2	
PINENE ALPHA	dextro,laevo-pin-2(3)-ene 2,6,6 - trimethyl bicyclo-3,1,1-2-heptene 4,7,7- trimethylbicyclo[3.1.1]hept-3-ene	80-56-8	
PINENE BETA	7,7-dimethyl-4-methylidenebicyclo[3.1.1]heptane heptane (1)-6,6- dimethyl-2-methylene bicyclo(3.1.1) heptane	127-91-3	

### Composition comments

According to REACH identification rules, this product is a multiconstituent substance, consisting of the following constituents (> 10%):

- d-limonene (1-methyl-4-(1-methylethenyl)-, (4R)-, cyclohexene - CAS 5989-27-5)
- l-limonene (1-methyl-4-(1-methylethenyl)-, (4S)-, cyclohexene - CAS 5989-54-8)
- terpinolene (1-methyl-4-(1-methylethylidene)-cyclohexene - CAS 586-62-9)
- alpha terpinene (1-methyl-4-(1-methylethyl)-1,3-cyclohexadiene - CAS 99-86-5)
- gamma terpinene (1-methyl-4-(1-methylethyl)-1,4-cyclohexadiene - CAS 99-85-4)

According to REACH, components present at less than 10% are considered as impurities.

- Identification number(s)
- EU list number: 931-893-3
- Description:

Reaction mass of d-limonene ((R)-p-mentha-1,8-diene - CAS 5989-27-5), l-limonene ((S)-p-mentha- 1,8-diene - CAS 5989-54-8), terpinolene (p-mentha-1,4(8)-diene - CAS 586-62-9), alpha terpinene (p-mentha-1,3-diene - CAS 99-86-5) and gamma terpinene (p-mentmentha-1,4-diene - CAS 99-85-4)

## 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.

### Ingestion

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.

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

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.



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**Indication of immediate medical attention and special treatment needed**

Not available.

**General information**

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

**Suitable extinguishing media**

Water spray, fog, CO2, dry chemical, or alcohol resistant foam.

**Unsuitable extinguishing media**

Do not use a solid water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical**

Fire may produce irritating, corrosive and/or toxic gases.

**Special protective equipment and precautions for firefighters**

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.

**Fire fighting equipment/instructions**

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.

**Specific methods**

Use water spray to cool unopened containers.

**General fire hazards**

Static charges generated by emptying package in or near flammable vapor may cause flash fire.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

**Methods and materials for containment and cleaning up**

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.

The product is immiscible with water and will spread on the water surface.

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. Prevent product from entering drains. Do not allow material to contaminate ground water system. 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.

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Collect and dispose of spillage as indicated in section 13 of the SDS.



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

### 7. HANDLING AND STORAGE

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

**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

Additional components	Type	Value
CARENE DELTA (CAS 13466-78-9)	TWA	20 ppm
PINENE ALPHA (CAS 80-56-8)	TWA	20 ppm
PINENE BETA (CAS 127-91-3)	TWA	20 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:

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)

Germany (AGS): limit value - 8 hours = 110 mg/m<sup>3</sup> (20 ppm)

Germany (AGS): limit value - short term - 15 min = 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 - 15 min = 112 mg/m<sup>3</sup> (20 ppm)

P-cymene (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 hour = 140 mg/m<sup>3</sup> (25 ppm)

Sweden: limit value - short term = 190 mg/m<sup>3</sup> (35 ppm)

Delta 3 carene (CAS 13466-78-9)

Belgium: limit value - 8 hour = 20 ppm

Sweden: limit value - 8 hour = 150 mg/m<sup>3</sup> (25 ppm)

Sweden: limit value - short term = 300 mg/m<sup>3</sup> (50 ppm)

Alpha pinene (CAS 80-56-8)

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)

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 hour = 150 mg/m<sup>3</sup> (25 ppm)

Sweden: limit value - short term = 300 mg/m<sup>3</sup> (50 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: 0.222 mg/cm<sup>2</sup>

· DNEL (Derived No-Effect Level): Workers - Long-term exposure Systemic effects - inhalation: 33.3 mg/m<sup>3</sup>

· DNEL (Derived No-Effect Level): General population - Long-term exposure

Systemic effects - dermal: 4.76 mg/kg bw/day

Systemic effects - inhalation: 8.33 mg/m<sup>3</sup>

Systemic effects - oral: 4.76 mg/kg bw/day

· PNEC (Predicted No-Effect Concentration) aqua (freshwater): 5.4 ug/L

· PNEC (Predicted No-Effect Concentration) aqua (marine water): 0.54 ug/L

· PNEC (Predicted No-Effect Concentration) Sewage Treatment Plant: 1.8 mg/L

· PNEC (Predicted No-Effect Concentration) sediment (freshwater): 1.649 mg/kg sediment dw

· PNEC (Predicted No-Effect Concentration) sediment (marine water): 0.165 mg/kg sediment dw

· PNEC (Predicted No-Effect Concentration) soil: 0.328 mg/kg soil dw

The primary duty is to comply with risk management measures which enable to limit exposures as

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much as possible and to be in line with exposure reference levels.  
Occupational exposure limits and DNELs are health-based but they are not necessarily set in the same way.

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.

· PNEC (Predicted No-Effect Concentration) oral: 3.33 mg/kg food

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

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

**Eye/face protection** Wear safety glasses with side shields (or goggles). Face shield is recommended.

**Skin protection**

**Hand protection** Chemical resistant gloves.

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

**Respiratory protection** Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.

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

**General hygiene considerations** When using do not smoke. 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** 348.8 - 352.4 °F (176 - 178 °C)

**Flash point** 124.0 °F (51.1 °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** 4.77 hPa at 20 °C

**Vapor density** 4.7

**Relative density** Not available.

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### Solubility(ies)

**Solubility (water)** Insoluble

**Partition coefficient (n-octanol/water)** 4.59 at 25 °C

**Auto-ignition temperature** Not available.

**Decomposition temperature** When heated to decomp, emits acrid smoke and fumes.

**Viscosity** 0.85 mPa·s at 25 °C

### Other information

**Flammability class** Combustible II estimated

**Molecular formula** C10-H16

**Molecular weight** 136.23 g/mol

**Specific gravity** 0.85 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** No adverse effects due to inhalation are expected.

**Skin contact** Causes skin irritation. May cause an allergic skin reaction.

**Eye contact** Direct contact with eyes may cause temporary irritation. Causes mild eye irritation.

**Ingestion** 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. May cause an allergic skin reaction.

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Product	Species	Test Results
DIPENTENE 38 PF		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg studies performed with individual constituents of dipentene multiconstituent.
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg OECD 401
Additional components	Species	Test Results
CARENE DELTA (CAS 13466-78-9)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	4800 mg/kg
CYMENE PARA (CAS 99-87-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
PINENE ALPHA (CAS 80-56-8)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Causes skin irritation. Some constituents of the substance were tested in rabbits (d-limonene, l-limonene and gamma terpinene) and induced skin irritation effects.
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation. Only slight to moderate irritating effects were observed in an acute eye irritation study performed with the substance in rabbits, according to the OECD guideline 405. The CLP regulation and the directive 67/548/EEC criteria for classification were not met

#### 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
TURPENTINE AND SELECTED MONOTERPENES (CAS 80-56-8)	Dermal sensitization

**Respiratory sensitization** Not a respiratory sensitizer.

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<b>Skin sensitization</b>	<p>May cause an allergic skin reaction.</p> <p>D-limonene and l-limonene were found to be skin sensitizing in several animal studies especially in assays performed in mice according to the OECD guideline 429 (LLNA - Local Lymph Node Assay). Human studies confirmed these data.</p> <p>Results on d-limonene and l-limonene are deemed to be representative of the skin sensitizing properties of dipentene multiconstituent.</p>
<b>Germ cell mutagenicity</b>	<p>Dipentene multiconstituent did not induce mutations in bacteria in a reverse mutation test (OECD 471 - Ames test).</p> <p>Other in vitro genotoxicity tests were conducted with either d-limonene or other structural similar compounds, constituents of the substance:</p> <ul style="list-style-type: none"><li>- a chromosome aberration test in human lymphocytes and a sister chromatid exchange in Chinese hamster ovary cells,</li><li>- a gene mutation test in mouse lymphoma L5178Y cells.</li></ul> <p>These studies did not show any genotoxic effects.</p> <p>D-limonene was also tested in vivo in several comet assays. No genotoxic effects were observed.</p>
<b>Carcinogenicity</b>	<p>D-limonene was tested in a 2-year oral carcinogenicity study in mice and rats. This constituent induced a male-rat specific carcinogenic effect on kidneys, not relevant for humans.</p> <p>Results obtained with d-limonene are deemed to be representative of the different constituents of dipentene multiconstituent.</p>
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	<p>Not listed.</p>
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>	<p>Not listed.</p>
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>	<p>Not listed.</p>
<b>Reproductive toxicity</b>	<p>No reliable data available for this substance.</p> <p>Testing will be performed for REACH purposes.</p>
<b>Specific target organ toxicity - single exposure</b>	<p>No specific target organ toxicity was observed in the LD determination studies.</p>
<b>Specific target organ toxicity - repeated exposure</b>	<p>Several oral repeated dose toxicity studies were carried out with d-limonene in different species (rat, mouse, dog). Clinical signs were only observed for doses <math>\geq</math> 1000 mg/kg bw/d. The most relevant NOAEL value is considered to be:</p> <p>500 mg/kg bw/d from a 90-d mouse study.</p> <p>Results obtained with d-limonene are deemed to be representative of the different constituents of the substance.</p>
<b>Aspiration hazard</b>	<p>May be fatal if swallowed and enters airways.</p> <p>If swallowed accidentally, the product may enter the lungs due to its low viscosity.</p>

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic life with long lasting effects.

D-limonene (CAS 5989-27-5)  
 LC50 (96h), fish (*Pimephales promelas*): 0.70 mg/L (measured concentration)  
 EC50 (48 h), daphnia (*Daphnia magna*): 0.36 mg/L (nominal concentration, OECD 202)  
 EC50 (48 h), daphnia (*Daphnia magna*): 0.42 mg/L (measured concentration)  
 LC50 (48 h), daphnia (*Daphnia magna*): 0.57 mg/L (measured concentration)

DL-limonene (CAS 138-86-3)  
 LC50 (96 h), fish (*Oryzias latipes*): 1.1 mg/L  
 EC50 (48 h), daphnia (*Daphnia magna*): 0.7 mg/L  
 NOAEC (21 d), daphnia (*Daphnia magna*): 0.27 mg/L  
 EC50 (72 h), algae (*Pseudokirchneriella subcapitata*): > 1.6 mg/L (based on growth rate)  
 EC50 (72 h), algae (*Pseudokirchneriella subcapitata*): > 21 mg/L (based on biomass)  
 NOEC (72 h), algae (*Pseudokirchneriella subcapitata*): 1.6 mg/L (based on growth rate)

Gamma terpinene (CAS 99-85-4)  
 EC50 daphnia (*Daphnia magna*): > 1.51 mg/L (measured concentration, OECD 202)

Alpha terpinene (CAS 99-86-5)  
 EC50 (48 h), daphnia (*Daphnia magna*): 1.85 mg/L (measured concentration)  
 LC50 (48 h), daphnia (*Daphnia magna*): 1.85 mg/L (measured concentration)

Terpinolene (CAS 586-62-9)  
 LC50 (48 h), daphnia (*Daphnia magna*): 1.38 mg/L (measured concentration)  
 LC50 (48 h), daphnia (*Daphnia magna*): 2.55 mg/L (measured concentration)  
 Toxicity to aquatic microorganisms: EC50 (3 h): 209 mg/L (respiration rate - nominal concentration - OECD 209)

Product		Species	Test Results
DIPENTENE 38 PF			
	<b>Aquatic</b>		
	Crustacea	EC50 Daphnia	36, 48 hours Calculated
	Fish	LC50 Fish	7.9565, 96 h Calculated
	<b>Additional components</b>		
		Species	Test Results
CAMPHENE (CAS 79-92-5)			
	<b>Aquatic</b>		
	Algae	EC50 Green algae ( <i>Desmodesmus subspicatus</i> )	> 1000 mg/l, 72 hours Method: OECD Test Guideline 201
	Crustacea	EC50 <i>Daphnia magna</i>	0.72, 48 hours Method: OECD Test Guideline 202
	Fish	LC50 <i>Danio rerio</i>	0.72, 96 hours Method: OECD Test Guideline 203
	Other	EC50 Activated Sludge	> 1000 mg/l, 3 hours Method: OECD Test Guideline 209

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<b>CARENE DELTA (CAS 13466-78-9)</b>		
<i>Aquatic</i>		
<i>Acute</i>		
Crustacea	EC50	Daphnia magna
		0.797, 48 hours (measured concentration - OECD 202)
<b>CYMENE PARA (CAS 99-87-6)</b>		
Other	EC50	Pseudokirchnerella subcapitata
		5.8, 72 hours
<i>Aquatic</i>		
Fish	LC50	Fish
		2, 96 hours (Oryzias latipes)
	NOEC	Sheepshead minnow (Cyprinodon variegatus)
		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
<b>PINENE ALPHA (CAS 80-56-8)</b>		
<i>Aquatic</i>		
Crustacea	LC50	Daphnia magna
		41, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)
		0.28, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** Readily biodegradable.  
Degradation after 28 days: 80% (O2 consumption) - OECD 301D - activated sludge, domestic, non-adapted.

**Bioaccumulative potential**

**Partition coefficient n-octanol / water (log Kow)**  
DIPENTENE 38 PF 4.59, at 25 °C

**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.

**Hazardous waste code** Not established.

**Waste from residues / unused products** 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).

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**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. TRANSPORT INFORMATION

#### ADN

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

#### ADR

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

#### RID

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
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

#### DOT

#### BULK

UN number	2319
Proper shipping name	TERPENE HYDROCARBONS, N.O.S.
Hazard class	3
Packing group	III
Environmental hazards	
Marine pollutant	No
Labels required	3

#### 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

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**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** No  
**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

**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.



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### 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.

### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

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



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### **Disclaimer**

The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. Vigon International, Inc. has performed no testing on these products in e-cig/vaping applications. It is the sole responsibility of the individual(s) purchasing this product to assess its' safety in the final application. The information in the sheet was written based on the best knowledge and experience currently available. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Vigon's knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.