

**SAFETY DATA SHEET****502203 LAVENDER 40/42**

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**1. IDENTIFICATION****Product Description:** LAVENDER 40/42**CAS #** MIXTURE**Other means of identification****Vigon Item #** 502203**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

CompanyVigon International, Inc.  
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.**2. HAZARD(S) IDENTIFICATION**

<b>Physical hazards</b>	Flammable liquids	Category 4
<b>Health hazards</b>	Acute toxicity, dermal	Category 5
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1
	Specific target organ toxicity, single exposure	Category 2 (respiratory system)
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1 (nervous system, respiratory system)
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

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

Danger

**Hazard statement**H227 Combustible liquid.  
H313 May be harmful in contact with skin.  
H315 Causes skin irritation.

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H315 + H320	Causes skin and eye irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H371	May cause damage to organs (respiratory system).
H372	Causes damage to organs (nervous system, respiratory system) through prolonged or repeated exposure.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

### Precautionary statement

#### Prevention

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260	Do not breathe mist or vapor.
P264	Wash 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 should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.

#### Response

P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use appropriate media to extinguish.

#### Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

#### Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** 17.44% of the mixture consists of component(s) of unknown acute dermal toxicity. 52.33% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 81.4% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixtures

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Chemical name	Common name and synonyms	CAS number	%
LINALOOL	2,6-DIMETHYL-2,7-OCTADIENE-6-OL 1,6-Octadien-3-ol, 3,7-dimethyl- 3,7-Dimethylocta-1,6-dien-3-ol LINALYL ALCOHOL	78-70-6	25 - < 50
LINALYL ACETATE	3,7- dimethylocta-1,6-dien-3-yl acetate (1)-1,5-dimethyl-1-vinyl hex-4-enyl acetate LINALOOL ACETATE	115-95-7	25 - < 50
DL-BORNAN-2-ONE		21368-68-3	2.5 - < 10
EUCALYPTOL	4,7,7- trimethyl-8-oxabicyclo[2.2.2]octane 1,8-cineole 1,3,3-trimethyl oxabicyclo(2.2.2)octane 1,8-oxi-do-para-menthane	470-82-6	2.5 - < 10
ISO TRIDECYL ALCOHOL	iso tridecan-1-ol 11- methyl-dodecan-1-ol	68526-86-3	2.5 - < 10
BORNEOL ISO	2-HYDROXYCAMPHANE BORNEO CAMPHOR 2-CAMPHANOL	507-70-0	0 - < 2.5
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	0 - < 2.5
CARVENE	DIPENTENE (+)-P-MENTHA-1,8-DIENE (R)-(+)-Limonene (R)-4-Isopropenyl-1-methyl-1-cyclohexene 1- methyl-4-prop-1-en-2-ylcyclohexene	5989-27-5	0 - < 2.5
CARYOPHYLLENE BETA	(1R,4E,9S)-4,11,11-trimethyl- 8-methylidenebicyclo[7.2.0]undec-4-ene	87-44-5	0 - < 2.5
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	0 - < 2.5
GERANYL ACETATE	geranyl ethanoate 2,6-DIMETHYL-2,6-OCTADIENE-8-YL ACETATE 3,7-DIMETHYL-2-TRANS-6-OCTADIENYL ACETATE [(2E)-3,7- dimethylocta-2,6-dienyl] acetate	105-87-3	0 - < 2.5
LAVANDIN ABSOLUTE		8022-15-9	0 - < 2.5

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Chemical name	Common name and synonyms	CAS number	%
OCIMENE	1,3,6-Octatriene, 3,7-dimethyl-3,7-Dimethylocta-1,3,6-triene	13877-91-3	0 - < 2.5
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	0 - < 2.5
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	0 - < 2.5
TERPINEN-4-OL	4-METHYL-1-(PROPAN-2-YL)CYCLOHEX-3-EN-1-OL p-Mentha-1-en-4-ol 4-CARVOMENTHENOL	562-74-3	0 - < 2.5

#### 4. FIRST-AID MEASURES

<b>Inhalation</b>	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.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.
<b>Eye contact</b>	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.
<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>	Decrease in motor functions. Behavioral changes. Narcosis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
<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.



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<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>	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.
<b>Methods and materials for containment and cleaning up</b>	<p>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.</p> <p>The product is immiscible with water and will spread on the water surface.</p> <p>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.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>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.</p>
<b>Environmental precautions</b>	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

<b>Precautions for safe handling</b>	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.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.



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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Occupational exposure limits

##### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
DL-BORNAN-2-ONE (CAS 21368-68-3)	PEL	2 mg/m <sup>3</sup>

##### US. ACGIH Threshold Limit Values

Components	Type	Value
DL-BORNAN-2-ONE (CAS 21368-68-3)	STEL	3 ppm
	TWA	2 ppm
PINENE ALPHA (CAS 80-56-8)	TWA	20 ppm
PINENE BETA (CAS 127-91-3)	TWA	20 ppm

##### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
DL-BORNAN-2-ONE (CAS 21368-68-3)	TWA	2 mg/m <sup>3</sup>

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

Components	Type	Value
CARVENE (CAS 5989-27-5)	TWA	165.5 mg/m <sup>3</sup>
		30 ppm

#### Biological limit values

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

#### Appropriate engineering controls

Use explosion-proof ventilation equipment to stay below exposure limits. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

#### 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. 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.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Refer to Spec Sheet
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Refer to Spec Sheet
<b>Odor</b>	Characteristic.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	167.0 °F (75.0 °C) Closed Cup
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Flammability class</b>	Combustible IIIA estimated
<b>Molecular formula</b>	Not applicable
<b>Specific gravity</b>	0.89 at 25 °C

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### 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.

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<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products if stored and handled as indicated.

### 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

<b>Inhalation</b>	May cause damage to organs by inhalation. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye irritation. Causes mild eye irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Behavioral changes. Decrease in motor functions. Narcosis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

#### Information on toxicological effects

**Acute toxicity** May be harmful in contact with skin. May cause an allergic skin reaction. May cause respiratory irritation.

Product	Species	Test Results
LAVENDER 40/42		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	3739.1299 mg/kg Calculated
	Rat	16082.0098 mg/kg Calculated
<i>Oral</i>		
LD50	Mouse	6144.8799 mg/kg Calculated
	Rat	5053.7979 mg/kg Calculated
<b>Components</b>		
<b>Species</b>		
<b>Test Results</b>		
BORNEOL ISO (CAS 507-70-0)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	500 mg/kg
CAMPHENE (CAS 79-92-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2.5 g/kg



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Components	Species	Test Results
<i>Oral</i>		
LD50	Rat	> 5 g/kg
CARVENE (CAS 5989-27-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	5 g/kg
<i>Oral</i>		
LD50	Rat	4400 mg/kg
CARYOPHYLLENE BETA (CAS 87-44-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
CYMENE PARA (CAS 99-87-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	4750 mg/kg
DL-BORNAN-2-ONE (CAS 21368-68-3)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	1.5 mg/l, 4 hours
<i>Oral</i>		
LD50	Rat	1500 mg/kg
EUCALYPTOL (CAS 470-82-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	2480 mg/kg Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Coma.

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Components	Species	Test Results
GERANYL ACETATE (CAS 105-87-3)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	6330 mg/kg Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Coma.
LINALOOL (CAS 78-70-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2000 mg/kg
<i>Oral</i>		
LD50	Rat	2790 mg/kg
LINALYL ACETATE (CAS 115-95-7)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	14.55 g/kg Remarks: Behavioral:General anesthetic. Behavioral:Somnolence (general depressed activity). Behavioral:Ataxia.
OCIMENE (CAS 13877-91-3)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
PINENE ALPHA (CAS 80-56-8)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	3700 mg/kg Remarks: Brain and Coverings:Recordings from specific areas of CNS. Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Other changes.
PINENE BETA (CAS 127-91-3)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	4700 mg/kg



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Components	Species	Test Results
TERPINEN-4-OL (CAS 562-74-3)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2500 mg/kg
<i>Oral</i>		
LD50	Rat	1300 mg/kg

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

<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

### Carcinogenicity

#### ACGIH Carcinogens

PINENE ALPHA (CAS 80-56-8)

A4 Not classifiable as a human carcinogen.

PINENE BETA (CAS 127-91-3)

A4 Not classifiable as a human carcinogen.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

CARVENE (CAS 5989-27-5)

3 Not classifiable as to carcinogenicity to humans.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	May cause damage to organs (respiratory system). May cause respiratory irritation.
<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to organs (nervous system, respiratory system) through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

Product	Species	Test Results
LAVENDER 40/42		
<b>Aquatic</b>		
Crustacea	EC50 Daphnia	28.9154 mg/l, 48 hours Calculated
Fish	LC50 Fish	11.4173 mg/l, 96 hours Calculated

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Components		Species	Test Results
<b>CAMPHENE (CAS 79-92-5)</b>			
<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 mg/l, 48 hours Method: OECD Test Guideline 202
Fish	LC50	<i>Danio rerio</i>	0.72 mg/l, 96 hours Method: OECD Test Guideline 203
Other	EC50	Activated Sludge	> 1000 mg/l, 3 hours Method: OECD Test Guideline 209
<b>CARVENE (CAS 5989-27-5)</b>			
<b>Aquatic</b>			
Crustacea	EC50	Water flea ( <i>Daphnia pulex</i> )	69.6 mg/l, 48 hours
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	0.619 - 0.796 mg/l, 96 hours
		Rainbow trout, donaldson trout ( <i>Oncorhynchus mykiss</i> )	35 mg/l, 4 days
Other	EC50	Activated Sludge	3.94 mg/l
<b>CYMENE PARA (CAS 99-87-6)</b>			
Other	EC50	<i>Pseudokirchnerella subcapitata</i>	5.8 mg/l, 72 hours
<b>Aquatic</b>			
Crustacea	LC50	Water flea ( <i>Daphnia magna</i> )	4.3 - 10 mg/l, 48 hours
Fish	LC50	Fish	2 mg/l, 96 hours ( <i>Oryzias latipes</i> )
		Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	36 - 64 mg/l, 96 hours
		NOEC	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )
<b>EUCALYPTOL (CAS 470-82-6)</b>			
<b>Aquatic</b>			
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	95.4 - 109 mg/l, 96 hours
<b>GERANYL ACETATE (CAS 105-87-3)</b>			
<b>Aquatic</b>			
Algae	EC50	Green algae ( <i>Chlamydomonas variabilis</i> )	3.72 mg/l, 72 hours OECD Guideline 201 static. The statement of the toxic effect relates to the analytically determined concentration.
Crustacea	EC50	<i>Daphnia magna</i>	14.1 mg/l, 48 hours Directive 84/449/EEC, C.2 static. The statement of the toxic effect relates to the analytically determined concentration.

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Components		Species	Test Results
Fish	LC50	Fish	68.12 mg/l, 96 hours Cyprinus carpio. OECD Guideline 203 static. The product has not been tested. The statement has been derived from products of a similar structure or composition.
Other	EC10	Bacterium	> 10000 mg/l, 0.5 hours DIN 38412 Part 27 (draft) aquatic. The statement of the toxic effect relates to the analytically determined concentration. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested.
<b>LINALOOL (CAS 78-70-6)</b>			
Other	EC10	Activated sludge of a predominantly domestic sewage	> 100 mg/l, 3 hours
<b>Aquatic</b>			
Algae	EC50	Green algae ( <i>Chlamydomonas variabilis</i> )	88.3 mg/l, 96 hours DIN 38412 Part 9 static. The details of the toxic effect related to the nominal concentration.
Crustacea	EC50	Daphnia magna	20 mg/l, 48 hours DIN 38412 Part 11 static. The details of the toxic effect related to the nominal concentration.
Fish	LC50	Ide, silver or golden orfe ( <i>Leuciscus idus</i> )	22 - 46 mg/l, 96 hours DIN 38412 Part 15 static. The details of the toxic effect related to the nominal concentration.
	LC50-R	Fish	27.8 mg/l, 96 hours
<b>PINENE ALPHA (CAS 80-56-8)</b>			
<b>Aquatic</b>			
Crustacea	LC50	Daphnia magna	41 mg/l, 48 hours
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	0.28 mg/l, 96 hours

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

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential**

**Partition coefficient n-octanol / water (log Kow)**

CARVENE	4.232
CYMENE PARA	4.1
EUCALYPTOL	2.74
LINALOOL	2.97, (OECD Guideline 107)
PINENE ALPHA	4.83

**Mobility in soil** No data available.

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**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).

**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

Not regulated as dangerous goods.

#### ADR

Not regulated as dangerous goods.

#### RID

Not regulated as dangerous goods.

#### DOT

##### BULK

<b>UN number</b>	NA1993
<b>Proper shipping name</b>	COMBUSTIBLE LIQUID, N.O.S. (EUCALYPTOL)
<b>Hazard class</b>	Combustible liq
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No
<b>Packaging exceptions</b>	150
<b>Packaging bulk</b>	242
<b>Labels required</b>	None

#### DOT

##### NON-BULK

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

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DOT BULK



### 15. REGULATORY INFORMATION

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

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

Not listed.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

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

Not regulated.

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

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - Yes  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**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.

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#### US state regulations

##### US. Massachusetts RTK - Substance List

BORNEOL ISO (CAS 507-70-0)

CYMENE PARA (CAS 99-87-6)

PINENE ALPHA (CAS 80-56-8)

##### US. New Jersey Worker and Community Right-to-Know Act

BORNEOL ISO (CAS 507-70-0)

CARVENE (CAS 5989-27-5)

CYMENE PARA (CAS 99-87-6)

PINENE ALPHA (CAS 80-56-8)

##### US. Pennsylvania Worker and Community Right-to-Know Law

BORNEOL ISO (CAS 507-70-0)

CYMENE PARA (CAS 99-87-6)

PINENE ALPHA (CAS 80-56-8)

##### US. Rhode Island RTK

Not regulated.

##### US. California Proposition 65

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

#### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
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)	Yes
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	11-19-2015
Revision date	02-23-2015
Version #	01





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**HMIS® ratings**

Health: 2\*  
Flammability: 2  
Physical hazard: 0

**Disclaimer**

Vigon cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. 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.