

**SECTION 1: Identification****1.1 Product identifier**

Product name	Gorilla Glue #4
Brand	True Terpenes

**1.4 Supplier's details**

Name	True Terpenes
Address	Portland , Oregon
Telephone	(888) 954-8550
email	info@TrueTerpenes.com

**1.5 Emergency phone number(s)**

Poison Control Help Line:  
1 (800) 222-1222

**SECTION 2: Hazard identification****2.1 Classification of the substance or mixture**

- Acute toxicity, dermal (chapter 3.1), Cat. 5
- Aspiration hazard (C.4.13), Cat. 1
- Flammable liquids (C.4.19), Cat. 3
- Sensitization, skin (C.4.7), Cat. 1
- Skin corrosion/irritation (C.4.4), Cat. 2
- Eye damage/irritation (C.4.5), Cat. 2A
- Flammable liquids (C.4.19), Cat. 4
- Specific target organ toxicity (single exposure) (C.4.11), Cat. 3
- Acute toxicity, dermal (C.4.2), Cat. 4
- Acute toxicity, inhalation (C.4.3), Cat. 4
- Acute toxicity, oral (C.4.1), Cat. 4
- Flammable solids (C.4.20), Cat. 2
- Eye damage/irritation (C.4.5), Cat. 1
- Acute toxicity, inhalation (chapter 3.1), Cat. 5

**2.2 GHS label elements, including precautionary statements****Pictogram****Signal word****Warning****Hazard statement(s)**

H226	Flammable liquid and vapor
H227	Combustible liquid
H228	Flammable solid
H302	Harmful if swallowed
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled
H303	May be harmful if swallowed
H303+H313	May be harmful if swallowed or in contact with skin
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H313	May be harmful in contact with skin
H315	Causes skin irritation
H315+H320	Causes skin and eye irritation
H316	Causes mild skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer [route]
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

**Precautionary statement(s)**

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P233	Keep container tightly closed.

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P240	Ground/bond container and receiving equipment.
P337+P313	If eye irritation persists: Get medical advice/attention.
P241	Use explosion-proof electrical/ventilating/lighting/.../equipment.
P362	Take off contaminated clothing.
P271	Use only outdoors or in a well-ventilated area.
P242	Use only non-sparking tools.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P243	Take precautionary measures against static discharge.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash ... thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P223	Do not allow contact with water.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P270	Do not eat, drink or smoke when using this product.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor/... if you feel unwell.
P330	Rinse mouth.
P321	Specific treatment (see ... on this label).
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention.
P331	Do NOT induce vomiting.
P201	Obtain special instructions before use.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P202	Do not handle until all safety precautions have been read and understood.
P362+P364	Take off contaminated clothing and wash it before reuse.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell,
P310	Immediately call a POISON CENTER/doctor/...
P370+P378	In case of fire: Use ... to extinguish.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P391	Collect spillage.
P403+P235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to ...
P280	Wear protective gloves/eye protection/face protection.

P280	Wear protective gloves.
P363	Wash contaminated clothing before reuse.
P280	Wear eye protection/face protection.
P280	Wear protective gloves/protective clothing.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

##### 1. Beta Caryophyllene

Concentration	<= 35 % (volume)
CAS no.	87-44-5

##### 2. Limonene

Concentration	<= 18 % (volume)
EC no.	227-813-5
CAS no.	5989-27-5

- Acute toxicity, dermal (chapter 3.1), Cat. 5
- Acute toxicity, oral (chapter 3.1), Cat. 5
- Aspiration hazard (chapter 3.10), Cat. 1
- Flammable liquids (chapter 2.6), Cat. 3
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1
- Sensitization, skin (chapter 3.4), Cat. 1
- Skin corrosion/irritation (chapter 3.2), Cat. 2

H226	Flammable liquid and vapor
H303+H313	May be harmful if swallowed or in contact with skin
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

##### 3. Myrcene

Concentration	<= 17 % (volume)
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CAS no. 123-35-3

- Aspiration hazard (chapter 3.10), Cat. 1
- Eye damage/irritation (chapter 3.3), Cat. 2A
- Flammable liquids (chapter 2.6), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 2

H226 Flammable liquid and vapor  
H226 Flammable liquid and vapor  
H304 May be fatal if swallowed and enters airways  
H315 Causes skin irritation  
H319 Causes serious eye irritation

#### 4. Humulene

Concentration  $\geq 10$  % (volume)  
CAS no. 6753-98-6

- Eye damage/irritation (chapter 3.3), Cat. 2A
- Flammable liquids (chapter 2.6), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

H227 Combustible liquid  
H315 Causes skin irritation  
H319 Causes serious eye irritation  
H335 May cause respiratory irritation

#### 5. Alpha Bisabolol

Concentration  $\leq 5$  % (volume)  
CAS no. 515-69-5

- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 2
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 2

H401 Toxic to aquatic life  
H411 Toxic to aquatic life with long lasting effects

#### 6. Linalool

Concentration  $\geq 3$  % (volume)  
EC no. 201-134-4

CAS no. 78-70-6

- Acute toxicity, dermal (chapter 3.1), Cat. 4
- Acute toxicity, oral (chapter 3.1), Cat. 5
- Eye damage/irritation (chapter 3.3), Cat. 2A
- Flammable liquids (chapter 2.6), Cat. 4
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 2

H227	Combustible liquid
H303	May be harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H315+H320	Causes skin and eye irritation
H319	Causes serious eye irritation
H402	Harmful to aquatic life

**7. Beta Pinene**

Concentration	<= 3 % (volume)
EC no.	No data available.
CAS no.	127-91-3

- Acute toxicity, dermal (chapter 3.1), Cat. 4
- Acute toxicity, inhalation (chapter 3.1), Cat. 4
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Aspiration hazard (chapter 3.10), Cat. 1
- Eye damage/irritation (chapter 3.3), Cat. 2A
- Flammable liquids (chapter 2.6), Cat. 3
- Sensitization, skin (chapter 3.4), Cat. 1
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

H226	Flammable liquid and vapor
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H335	May cause respiratory irritation

**8. Nerolidol**

Concentration 2 % (volume)  
CAS no. 7212-44-4

- Eye damage/irritation (chapter 3.3), Cat. 2A
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1

H319 Causes serious eye irritation  
H410 Very toxic to aquatic life with long lasting effects

**9. Fenchol**

Concentration <= 2 % (volume)  
CAS no. 1632-73-1

- Eye damage/irritation (chapter 3.3), Cat. 2A
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 3
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

H315 Causes skin irritation  
H319 Causes serious eye irritation  
H335 May cause respiratory irritation  
H412 Harmful to aquatic life with long lasting effects

**10. Terpineol**

Concentration <= 2 % (volume)  
CAS no. 8000-41-7

- Eye damage/irritation (chapter 3.3), Cat. 2A
- Skin corrosion/irritation (chapter 3.2), Cat. 2

H315 Causes skin irritation  
H319 Causes serious eye irritation

**11. Alpha Pinene**

Concentration <= 2 % (volume)  
CAS no. 80-56-8

- Aspiration hazard (chapter 3.10), Cat. 1

- Flammable liquids (chapter 2.6), Cat. 3
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 3
- Sensitization, skin (chapter 3.4), Cat. 1
- Skin corrosion/irritation (chapter 3.2), Cat. 2

H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H402	Harmful to aquatic life

**12. Phytol**

Concentration	<= 1 % (volume)
CAS no.	7541-49-3

- Eye damage/irritation (chapter 3.3), Cat. 2A
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

**13. Pulegone**

Concentration	<= 1 % (volume)
CAS no.	89-82-7

- Acute toxicity, dermal (chapter 3.1), Cat. 5
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Flammable liquids (chapter 2.6), Cat. 4
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 3
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 3

H227	Combustible liquid
H302	Harmful if swallowed
H313	May be harmful in contact with skin
H316	Causes mild skin irritation
H351	Suspected of causing cancer [route]
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects



**14. Borneol**

Concentration < 1 % (volume)  
CAS no. 507-70-0

- Flammable solids (chapter 2.7), Cat. 2

H228 Flammable solid

**15. Camphene**

Concentration < 1 % (volume)  
CAS no. 79-92-5

- Eye damage/irritation (chapter 3.3), Cat. 2A  
- Flammable solids (chapter 2.7), Cat. 2  
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1  
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1

H228 Flammable solid  
H319 Causes serious eye irritation  
H410 Very toxic to aquatic life with long lasting effects

**16. Citronellol**

Concentration < 1 % (volume)  
CAS no. 106-22-9

- Acute toxicity, dermal (chapter 3.1), Cat. 5  
- Acute toxicity, oral (chapter 3.1), Cat. 5  
- Eye damage/irritation (chapter 3.3), Cat. 2A  
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 2  
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 2  
- Sensitization, skin (chapter 3.4), Cat. 1  
- Skin corrosion/irritation (chapter 3.2), Cat. 2

H303+H313 May be harmful if swallowed or in contact with skin  
H315 Causes skin irritation  
H315+H320 Causes skin and eye irritation  
H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation  
H401 Toxic to aquatic life

H411 Toxic to aquatic life with long lasting effects

**17. Valencene**

Concentration < 1 % (volume)  
CAS no. 4630-07-3

- Acute toxicity, oral (chapter 3.1), Cat. 4

H302 Harmful if swallowed

**18. Geranyl Acetate**

Concentration < 1 % (volume)  
CAS no. 105-87-3

- Eye damage/irritation (chapter 3.3), Cat. 2A  
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 2  
- Sensitization, skin (chapter 3.4), Cat. 1  
- Skin corrosion/irritation (chapter 3.2), Cat. 2  
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

H315 Causes skin irritation  
H315+H320 Causes skin and eye irritation  
H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation  
H335 May cause respiratory irritation  
H401 Toxic to aquatic life

**19. Caryophyllene Oxide**

Concentration < 1 % (volume)  
CAS no. 1139-30-6

- Acute toxicity, dermal (chapter 3.1), Cat. 5  
- Eye damage/irritation (chapter 3.3), Cat. 2A  
- Skin corrosion/irritation (chapter 3.2), Cat. 2

H313 May be harmful in contact with skin  
H315 Causes skin irritation  
H319 Causes serious eye irritation

**20. Geraniol**

Concentration	< 1 % (volume)
EC no.	203-377-1
CAS no.	106-24-1

- Eye damage/irritation (chapter 3.3), Cat. 1
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 3
- Sensitization, skin (chapter 3.4), Cat. 1
- Skin corrosion/irritation (chapter 3.2), Cat. 2

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H402	Harmful to aquatic life

**21. Terpinolene**

Concentration	< 1 % (volume)
EC no.	209-578-0
CAS no.	586-62-9

- Flammable liquids (chapter 2.6), Cat. 4
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1

H227	Combustible liquid
H410	Very toxic to aquatic life with long lasting effects

**22. Ocimene**

Concentration	< 1 % (volume)
CAS no.	13877-91-3

- Flammable liquids (chapter 2.6), Cat. 3

H226	Flammable liquid and vapor
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**SECTION 4: First-aid measures****4.1 Description of necessary first-aid measures**

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash off with soap and plenty of water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Personal protective equipment for first-aid responders	No data available.

**4.2 Most important symptoms/effects, acute and delayed**

No data available.

**4.3 Indication of immediate medical attention and special treatment needed, if necessary**

No data available.

**SECTION 5: Fire-fighting measures****5.2 Specific hazards arising from the chemical**

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Beta Caryophyllene: Carbon oxides.

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Limonene: Static charges generated by emptying package in or near flammable vapor may cause flash fire. Fire may produce irritating, corrosive and / or toxic gases.

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Fenchol: No data available.

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Pulegone: Static charges generated by emptying package in or near flammable vapor may cause flash fire. Fire may produce irritation, corrosive and / or toxic gases.

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Borneol: Unsuitable extinguishing agents: water with full jet.

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Valencene: Hazardous decomposition products formed under fire conditions. Carbon oxides.

## SECTION 6: Accidental release measures

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

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.2 Environmental precautions

No data available.

### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition. No smoking. Take measures to prevent the buildup of electrostatic charge. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

#### Specific end use(s)

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**SECTION 8: Exposure controls/personal protection****8.2 Appropriate engineering controls**

No data available.

**8.3 Individual protection measures, such as personal protective equipment ( PPE)****Eye/face protection**

No data available.

**Skin protection**

No data available.

**Body protection**

No data available.

**Respiratory protection**

No data available.

**Thermal hazards**

No data available.

**Control banding approach**

No data available.

**Environmental exposure controls**

No data available.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties**

Appearance/form (physical state, color, etc.)	No data available.
Odor	No data available.
Odor threshold	No data available.
pH	No data available.
Melting point/freezing point	No data available.
Initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.

Flammability (solid, gas)	No data available.
Upper/lower flammability limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	No data available.
Solubility(ies)	No data available.
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

## SECTION 10: Stability and reactivity

### 10.5 Incompatible materials

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Beta Caryophyllene: Strong oxidizing agents.

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Myrcene: Strong oxidizing agents. Heat, flames and sparks.

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Linalool: Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Strong oxidizing agents.

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Beta Pinene: Strong oxidizing agents. Heat, flames, and sparks. Vapors may form explosive mixture with air.

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Terpineol: Oxidizing agents.

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Alpha Pinene: Vapors may form explosive mixture with air. Heat, flames and sparks. Strong oxidizing agents.

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Phytol: No data available.

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Borneol: No further relevant information available.

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Geraniol: Strong oxidizing agents, acid chlorides, acid anhydrides.

#### **10.6 Hazardous decomposition products**

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Beta Caryophyllene: No data available.

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Limonene: No hazardous decomposition products if stored and handled as indicated.

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Valencene: Hazardous decomposition products formed under fire conditions. Carbon oxides.

### **SECTION 11: Toxicological information**

#### **Information on toxicological effects**

##### **Acute toxicity**

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Beta Caryophyllene: No data available.

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Limonene: Maybe fatal if swallowed and enters airways. May be harmful in contact with skin. May cause an allergic skin reaction.

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Alpha Bisabolol: Dermal LD50 Rabbit: > 15,000 mg/kg

Oral LD50 Rat: > 20,000 mg/kg

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Linalool: LD50 Oral: Rat, 2,790 mg/kg  
LD50 Dermal: Rabbit, 2,000 mg/kg

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Pulegone: LD50 Oral: Rat, 470 mg/kg  
LD50 Dermal: Rabbit, 3,090 mg/kg



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Citronellol: LD50 Dermal: Rabbit, 2,650 mg/kg  
LD50 Oral: Rat, 3,450 mg/kg

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Geranyl Acetate: LD50 Oral: Rat, 6,330 mg/kg

Remarks:  
Behavioral: Somnolence (general depressed activity).  
Behavioral: Coma

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Caryophyllene Oxide: LD50 Oral: Rat, > 5,000 mg/kg  
LD50 Dermal: Rabbit, > 2,000 mg/kg

// ----- From the Suggestion report (09/13/2017, 5:18 PM) ----- //

ATE (inhalation, gaseous) of mixture: 150000 ppmv

### **Skin corrosion/irritation**

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Beta Caryophyllene: No data available.

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Limonene: Causes skin irritation.

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Alpha Bisabolol: Prolonged skin contact may cause temporary irritation.

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Linalool: Causes skin irritation.  
Guinea Pig - skin irritation, 24h, Draize Test  
Rabbit - irritant (OECD Guideline 405)

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Pulegone: Causes mild skin irritation.

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Borneol: No irritant effect.

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Camphene: Rabbit, no skin irritation - 4 h (OECD Test Guideline 404)

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Citronellol: Causes skin irritation.

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Geranyl Acetate: Causes skin irritation.  
Species: Rabbit  
Result: Irritant  
Method: OECD Guideline 405

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Caryophyllene Oxide: Rabbit, skin irritation, 24h

**Serious eye damage/irritation**

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Beta Caryophyllene: No data available.

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Limonene: Direct contact with eyes may cause temporary irritation.  
Eyes - rabbit. Result: No eye irritation.  
(OECD Test Guideline 405)

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Linalool: Causes serious eye irritation.  
Rabbit - moderate eye irritation, Draize Test  
Rabbit - slightly irritating (OECD Guideline 405)

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Borneol: No irritating effect.

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Camphene: Rabbit, irritating to eyes - 24 h (OECD Test Guideline 405)

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Geranyl Acetate: Causes serious eye irritation.  
Species: Rabbit  
Result: Irritant  
Method: OECD Guideline 405

**Respiratory or skin sensitization**

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Beta Caryophyllene: No data available.

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Limonene: May cause an allergic skin reaction.  
Mouse. Result: May cause sensitisation by skin contact.  
(OECD Test Guideline 429)

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Alpha Bisabolol: Not a respiratory sensitizer.

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Linalool: Patch-test / Human: Non-sensitizing  
Draize test / Guinea Pig: Non-sensitizing

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Pulegone: Not a respiratory sensitizer. This product is not expected to cause skin sensitization.

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Borneol: No sensitizing effects known.

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Citronellol: Not a respiratory sensitizer. May cause an allergic skin reaction.

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Geranyl Acetate: Not a respiratory sensitizer.

May cause an allergic skin reaction.

Species: Guinea Pig  
Result: Non-sensitizing

**Germ cell mutagenicity**

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Beta Caryophyllene: No data available.

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Limonene: Mouse  
Lymphocyte  
Result: Negative

Rat - Male  
Result: Negative

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Alpha Bisabolol: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

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Linalool: Results from a number of mutagenicity studies with microorganisms, mammalian cell cultures and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic.

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Camphene: Hamster (ovary)

Result: negative

Mouse (lymphocyte)

Result: negative

Mutagenicity (micronucleus test) mouse (male and female)

Result: negative

### **Carcinogenicity**

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Beta Caryophyllene: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probably, possibly or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probably, possibly or confirmed human carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probably, possibly or confirmed human carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probably, possibly or confirmed human carcinogen by OSHA.

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Limonene: 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.

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Myrcene: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

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Alpha Bisabolol: OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.

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Fenchol: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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Alpha Pinene: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

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Pulegone: IARC: Monographs, Overall Evaluation of Carcinogenicity  
p-Menth-4(8)-en-3-one (CAS 89-82-7) 2B Possibly carcinogenic to humans.

OSHA: Specifically Regulated Substances (29 CFR 1910.1001-1050)  
Not listed.

-----

Borneol: IARC: Substance is not listed.

NTP: Substance is not listed.

OSHA- Ca: Substance is not listed.

-----

Valencene: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

-----

Caryophyllene Oxide: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

-----

Terpinolene: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

-----

Ocimene: IARC: No component of this product, present levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product, present levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product, present levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product, present levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

-----

Beta Caryophyllene: No data available.

-----

Limonene: This product is not expected to cause reproductive or developmental effects.

**Summary of evaluation of the CMR properties**

-----

Beta Caryophyllene: No data available.

**STOT-single exposure**

-----

Beta Caryophyllene: No data available.

-----

Limonene: Not classified.

-----

Linalool: Not Classified.

-----

Fenchol: Inhalation - May cause respiratory irritation.

**STOT-repeated exposure**

-----

Beta Caryophyllene: No data available.

-----

Limonene: Repeated dose toxicity - mouse - male and female - No observed adverse effect level - 1,650 mg/kg - Lowest observed adverse effect level - 3,300 mg/kg.

-----

Alpha Bisabolol: Not classified.

-----

Linalool: Not Classified.

### **Aspiration hazard**

-----

Beta Caryophyllene: No data available.

-----

Alpha Bisabolol: Not an aspiration hazard.

## **SECTION 12: Ecological information**

### **Toxicity**

-----

Beta Caryophyllene: No data available.

-----

Limonene: Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

-----

Alpha Bisabolol: EC10 *Pseudomonas putida*: > 10,000 mg/l, 16 hours

LC50 *Leuciscus idus* (Golden orfe): 4.6 - 10 mg/l, 96 hours

-----

Linalool: Activated sludge of a predominantly domestic sewage: EC10, > 100 mg/l, 3 hours

Green Algae (*Chlamydomonas variabilis*): EC50, 88.3 mg/l, 96 hours DIN 38412 Part 9 static. The details of the toxic effect related to the nominal concentration.



Daphnia magna: EC50, 20 mg/l, 48 hours DIN 38412 Part 11 static. The details of the toxic effect related to the nominal concentration.

Ide, silver or golden orfe (*leuciscus idus*): LC50, 22 - 46 mg/l, 96 hours DIN 38412 Part 15 static. The details of the toxic effect related to the nominal concentration.

Fish: LC50-R, 27.8 mg/l, 96 hours.

-----

Pulegone: Water Flea (*Daphnia pulex*): EC50, 24.4 mg/l, 48 hours

-----

Camphene: Fish: Flow-through test LC50 - *Brachydanio rerio* (zebrafish) - 0.72 mg/l - 96 h (OECD Test Guideline 203)

Daphnia and Other Aquatic Invertebrates: Semi-static test EC50 - *Daphnia magna* (water flea) - 0.72 mg/l - 48 h (OECD Test Guideline 202)

Algae: Static test EC50 - *Desmodesmus subspicatus* (*scenedesmus subspicatus*) - > 1,000 mg/l - 72 h (OECD Test Guideline 201)

Bacteria: Respiration inhibition EC50 - Sludge Treatment - > 1,000 mg/l - 3 h (OECD Test Guideline 209)

-----

Citronellol: EC50: Algae, 2.4 mg/l, 72 hours

EC50: *Daphnia*, 17 mg/l, 48 hours

LC50: *Leuciscus idus* (Golden Orfe), 10 - 22 mg/l, 96 hours

-----

Geranyl Acetate: Green Algae (*Chlamydomonas variabilis*): EC50 3.72 mg/l, 72 hours OECD Guideline 201 static. The statement of the toxic effect relates to the analytically determined concentration.

*Daphnia magna*: EC50 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.

Fish: LC50 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.

Bacterium: EC10 >10,000 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.

**Persistence and degradability**

-----

Beta Caryophyllene: No data available.

-----

Limonene: Biodegradability: Result: 71% - Readily biodegradable. (OECD Test Guideline 301B)

-----

Linalool: Biological/Abiological Degradation

Test method: OECD 301D; EEC 92/69, C.4-E (aerobic), municipal sewage treatment plant effl.

Method of analysis: BOD of the ThOD

Degree of elimination: 60 - 70% (28 d)

Evaluation: Readily biodegradable (according to OECD criteria)

-----

Pulegone: No data is available on the degradability of this product.

-----

Camphene: Aerobic - Exposure time 28d. Result: 14% - not readily biodegradable (OECD Test Guideline 301C)

-----

Geranyl Acetate: Biological / Abiological Degradation

Test Method: OECD Guideline 301F (aerobic), activated sludge, domestic

Method of Analysis: BOD of the ThOD

Degree of Elimination: >70% (28d)

Evaluation: Readily biodegradable (according to OECD criteria)

Hydrolysis

Test Method: OECD Guideline 111 (abiotic)

pH7

Half-life: 1.539 h (25°C)

Environmental Mobility:

Transportation between environmental compartments:

Calculated absorption / water-soil

KOC: 1151

Log KOC: 3.06

**Bioaccumulative potential**

-----

Beta Caryophyllene: No data available.

-----

Linalool: Significant accumulation in organisms is not to be expected.

-----

Camphene: Cyprinus carpio (Carp) - 56 d at 25°C - 0.015 mg/l

Bioconcentration factor (BCF): 432 - 922 (OECD Test Guideline 305C)

### **Mobility in soil**

-----

Beta Caryophyllene: No data available.

### **Results of PBT and vPvB assessment**

-----

Beta Caryophyllene: No data available.

### **Other adverse effects**

-----

Beta Caryophyllene: No data available.

-----

Limonene: EC50 Water Flea (*Daphnia pulex*) 69.6 mg/l, 48 hours

LC50 Fathead minnow (*Pimephales promelas*) 0.619 - 0.796 mg/l, 96 hours

LC50 Rainbow trout, donaldson trout (*Oncorhynchus mykiss*) 35 mg/l, 4 days

EC50 Activated sludge 3.94 mg/l

-----

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

## **SECTION 13: Disposal considerations**

### **Disposal of the product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

**Disposal of contaminated packaging**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Waste treatment**

No data available.

**Sewage disposal**

No data available.

**SECTION 14: Transport information****DOT (US)**

UN Number:

Class:

Packing Group:

Proper Shipping Name:

Reportable quantity (RQ):

Marine pollutant:

Poison inhalation hazard:

**IMDG**

UN Number:

Class:

Packing Group:

EMS Number:

Proper Shipping Name:

**IATA**

UN Number:

Class:

Packing Group:

Proper Shipping Name:

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations specific for the product in question**

**CAA Section 112 (HAPs) List**

Not regulated.

**CAA Section 112 HAPs List**

Not regulated.

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

Not regulated.

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

Not regulated.

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

This product does not contain any chemicals known to State of the California to cause cancer, birth defects, or any other reproductive harm.

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any reproductive harm.

**California Proposition 65 - CRT: Listed Substance**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 1910.1001-1050)**

Not listed.

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

Not listed.

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

Not listed.

**DSL Status**

All components of this product are on the Canadian DSL list.

**EPA**

Substance is not listed.

**Massachusetts Right to Know Components**

No components are subject to the Massachusetts Right to Know Act.

Chemical name:  $\alpha$ -Pinene

CAS number: 80-56-8

No components are are subject to the Massachusetts Right to Know Act.

**New Jersey Right To Know Components**

Chemical Name: Caryophyllene

CAS Number: 87-44-5

Chemical Name: 7-Methyl-3-methyleneocta-1,6-diene,

CAS Number: 123-35-3

Chemical Name: Humulene

CAS Number: 6753-98-6

(-)-Pin-2(10)-ene, CAS No: 127-91-3

3,3-Dimethyl-8,9-dinorbornan-2-ol CAS-No. 1632-73-1

2-Hexadecen-1-ol,3,7,11,15-tetramethyl- CAS-No: 7541-49-3

Chemical Name: Camphene

CAS Number: 79-92-5

[1R-(1R\*,4R\*6R\*,10S\*)]-4,12,12-Trimethyl-9-methylene-5-oxatricyclo[8.2.0.0<sup>4,6</sup>]dodecane CAS-No. 1139-30-6

3,7-Dimethylocta-1,3,6-triene CAS No: 13877-91-3

Chemical name:  $\alpha$ -Pinene

CAS number: 80-56-8

No components are subject to the New Jersey Right to Know Act.

#### **NIOSH-Ca**

Substance is not listed.

#### **OSHA Hazards**

No known OSHA hazards.

Irritant.

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

Not listed.

#### **Pennsylvania Right To Know Components**

Chemical Name: Caryophyllene

CAS Number: 87-44-5

Chemical Name: 7-Methyl-3-methyleneocta-1,6-diene,

CAS Number: 123-35-3

Chemical Name: Humulene

CAS Number: 6753-98-6

(-)-Pin-2(10)-ene, CAS No: 127-91-3

3,3-Dimethyl-8,9-dinorbornan-2-ol CAS-No. 1632-73-1

2-Hexadecen-1-ol,3,7,11,15-tetramethyl- CAS-No: 7541-49-3

Chemical Name: Camphene

CAS Number: 79-92-5

[1R-(1R\*,4R\*6R\*,10S\*)]-4,12,12-Trimethyl-9-methylene-5-oxatricyclo[8.2.0.0<sup>4,6</sup>]dodecane CAS-No. 1139-30-6

3,7-Dimethylocta-1,3,6-triene CAS No: 13877-91-3

Chemical name:  $\alpha$ -Pinene

CAS number: 80-56-8

No components are subject to the Pennsylvania Right to Know Act.

**Proposition 65**

Substance is not listed.

**Right to Know Components (Pennsylvania, New Jersey, Massachusetts)**

Terpineol, CAS No. 8000-41-7

**Right to Know Components (Pennsylvania, New Jersey)**

3,7,11-Trimethyldodeca-1,6,10-trien-3-ol, mixed isomers, CAS-No. 7212-44-4

Geraniol, CAS No. 106-24-1

p-Mentha-1,4(8)-diene, CAS No. 586-62-9

**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 302 Extremely Hazardous Substance**

Not listed.

**SARA 304 Emergency Release Notification**

Not regulated.

**SARA 311 / 312**

No SARA hazards.

**SARA 311 / 312 Hazardous Chemical**

Yes

Yes.

No.

**SARA 311 / 312 Hazards**

Fire hazard, acute health hazard

Fire hazard, acute health hazard.

Acute Health Hazard

Acute health hazard.

No SARA Hazards.

Fire Hazard

**SARA 311/312**

Fire hazard.

**SARA 311/312 Hazardous Chemical**

No.

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard

Fire hazard, acute health hazard.

**SARA 313 (TRI Reporting)**

Not regulated.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

**SARA Hazard Categories**

Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - Yes

Pressure Hazard - No

Reactivity Hazard - No

Immediate Hazard - No

Delayed Hazard - No

Flre Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

Immediate Hazard - Yes

Delayed Hazard - Yes

Fire Hazard - Yes

Pressure Hazard - No

Reactivity Hazard - No

Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

**SARA Section 313 (specific toxic chemical listings)**

Substance is not listed.

**SARA Section 355 (extremely hazardous substances)**

Substance is not listed.

**SDWA**

Not regulated.

**TLV**

Substance is not listed.

**TSCA**

Substance is listed.

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

Not regulated.

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



Not regulated.

**US California Proposition 65 - CRT: Listed Date / Carcinogenic Substance**

p-Menth-4(8)-en-3-one (CAS 89-82-7)

Listed: April 18, 2014 Carcinogenic.

**US California Proposition 65 CRT: Listed Substance**

Not listed.

**US Federal Regulations**

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

**US Federal Regulations**

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

**US Massachusetts RTK - Substance List**

Not regulated.

**US New Jersey Work and Community Right-to-Know Act**

Not listed.

**US Pennsylvania Worker and Community Right-to-Know Law**

Not listed.

**US Rhode Island RTK**

Not regulated.

**US. California Proposition 65 - CRT: Listed Substance**

p-Menth-4(8)-en-3-one (CAS 89-82-7)

**US. California Proposition 65 CRT: Listed Substance**

Not listed.

**US. Massachusetts RTK - Substance List**

Not regulated.

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

CARVENE (CAS 5989-27-5)

Not listed.

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

Not listed.

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

Not listed.



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

Not listed.

**US. Rhode Island RTK**

Not regulated.

## SECTION 16: Other information

True Terpenes 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, manufactures, and technical groups and is considered to be accurate to the best of True Terpenes' 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.