

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : VERY BERRY SOLVENT FREE TERPENE FLAVOR  
 Product code : TPBL413

#### 1.2. Recommended use and restrictions on use

#### 1.3. Supplier

EXTRACT CONSULTANTS, LLC.  
 TERPENES - FLAVORS - BASES  
 2150 INDUSTRIAL DR, NILES MI 49120  
 www.extractconsultants.com  
 INFORMATION: 1-888-541-9089

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC - USA: 800-424-9300 International: +1 703-527-3887 / 1-800-424-9300  
 CCN 13010

### SECTION 2: Hazard(s) identification

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

##### GHS US classification

|   |  |
|---|--|
| Flammable liquids, Category 3                 | Flammable liquid and vapour.                         |
| Acute toxicity (oral), Category 4             | Harmful if swallowed.                                |
| Skin corrosion/irritation, Category 2         | Causes skin irritation.                              |
| Serious eye damage/eye irritation, Category 2 | Causes serious eye irritation.                       |
| Skin sensitisation, Category 1                | May cause an allergic skin reaction.                 |
| Reproductive toxicity, Category 2             | Suspected of damaging fertility or the unborn child. |
| Aspiration hazard, Category 1                 | May be fatal if swallowed and enters airways.        |

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

: Danger

Hazard statements (GHS US) :

: Flammable liquid and vapour.  
 Harmful if swallowed.  
 May be fatal if swallowed and enters airways.  
 Causes skin irritation.  
 May cause an allergic skin reaction.  
 Causes serious eye irritation.  
 Suspected of damaging fertility or the unborn child.

Precautionary statements (GHS US) :

: Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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 dust/fume/gas/mist/vapours/spray.  
 Wash hands, forearms and face thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Contaminated work clothing must not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.

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If swallowed: Immediately call a poison center or doctor.  
If swallowed: Call a poison center or doctor if you feel unwell.  
If on skin: Wash with plenty of water.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If exposed or concerned: Get medical advice/attention.  
Specific treatment (see supplemental first aid instruction on this label).  
Rinse mouth.  
Do NOT induce vomiting.  
If skin irritation occurs: Get medical advice/attention.  
If skin irritation or rash occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
Wash contaminated clothing before reuse.  
In case of fire: Use media other than water to extinguish.  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards which do not result in classification

No additional information available

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

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

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| Name                                  | Product identifier  | %       | GHS US classification   |
|---------------------------------------|---------------------|---------|---|
| ALPHA PINENE                          | (CAS-No.) 7785-26-4 | 25 – 50 | Flam. Liq. 3, H226<br>Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Skin Sens. 1B, H317<br>Asp. Tox. 1, H304        |
| BETA-PINENE                           | (CAS-No.) 127-91-3  | 10 – 25 | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Skin Sens. 1B, H317<br>Asp. Tox. 1, H304                                     |
| BETA-CARYOPHYLLENE                    | (CAS-No.) 87-44-5   | 5 – 10  | Skin Sens. 1B, H317<br>Asp. Tox. 1, H304  |
| ETHYL BUTYRATE                        | (CAS-No.) 105-54-4  | 5 – 10  | Flam. Liq. 3, H226<br>Eye Irrit. 2A, H319   |
| LINALOOL                              | (CAS-No.) 78-70-6   | 5 – 10  | Flam. Liq. 4, H227<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>Skin Sens. 1B, H317                                   |
| D-LIMONENE                            | (CAS-No.) 5989-27-5 | 1 – 5   | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Skin Sens. 1B, H317<br>Asp. Tox. 1, H304                                     |
| MYRCENE                               | (CAS-No.) 123-35-3  | 1 – 5   | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>Asp. Tox. 1, H304                                     |
| ETHYL CAPROATE                        | (CAS-No.) 123-66-0  | 1 – 5   | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315   |
| ALPHA-TERPINEOL                       | (CAS-No.) 98-55-5   | 1 – 5   | Flam. Liq. 4, H227<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319  |
| 2-Methylbutyric acid                  | (CAS-No.) 116-53-0  | 1 – 5   | Flam. Liq. 4, H227<br>Acute Tox. 4 (Oral), H302<br>Acute Tox. 4 (Dermal), H312<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318 |
| 4-Hydroxy-2,5-dimethyl-3(2H)-furanone | (CAS-No.) 3658-77-3 | 0.1 – 1 | Acute Tox. 4 (Oral), H302<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1A, H317                               |
| GAMMA-TERPINENE                       | (CAS-No.) 99-85-4   | 0.1 – 1 | Flam. Liq. 3, H226<br>Repr. 2, H361<br>Asp. Tox. 1, H304  |

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

|                                       |  |
|---------------------------------------|--|
| First-aid measures general            | : Call a physician immediately.  |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing.   |
| First-aid measures after skin contact | : Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.                                 |
| First-aid measures after eye contact  | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion    | : Rinse mouth. Do not induce vomiting. Call a physician immediately.   |

### 4.2. Most important symptoms and effects (acute and delayed)

|                                     |  |
|-------------------------------------|--|
| Symptoms/effects after inhalation   | : No data available.                               |
| Symptoms/effects after skin contact | : Irritation. May cause an allergic skin reaction. |
| Symptoms/effects after eye contact  | : Eye irritation.                                  |
| Symptoms/effects after ingestion    | : Risk of lung oedema.                             |

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

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

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### 5.2. Specific hazards arising from the chemical

|                  |                                |
|------------------|--------------------------------|
| Fire hazard      | : Flammable liquid and vapour. |
| Explosion hazard | : No direct explosion hazard.  |
| Reactivity       | : Flammable liquid and vapour. |

### 5.3. Special protective equipment and precautions for fire-fighters

|                                |   |
|--------------------------------|---|
| Firefighting instructions      | : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.              |

## SECTION 6: Accidental release measures

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

|                  |   |
|------------------|---|
| General measures | : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage. |
|------------------|---|

#### 6.1.1. For non-emergency personnel

|                      |   |
|----------------------|---|
| Protective equipment | : Wear recommended personal protective equipment.   |
| Emergency procedures | : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. |

#### 6.1.2. For emergency responders

|                      |   |
|----------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel. Stop leak if safe to do so.   |

### 6.2. Environmental precautions

Avoid release to the environment.

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

|                         |   |
|-------------------------|---|
| For containment         | : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible. |
| Methods for cleaning up | : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.   |
| Other information       | : Dispose of materials or solid residues at an authorized site.   |

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

|                                   |   |
|-----------------------------------|---|
| Additional hazards when processed | : Not expected to present a significant hazard under anticipated conditions of normal use.  |
| Precautions for safe handling     | : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. |
| Hygiene measures                  | : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.   |

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

|                     |  |
|---------------------|--|
| Technical measures  | : Ground/bond container and receiving equipment.   |
| Storage conditions  | : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up. |
| Packaging materials | : Always store product in container of same material as original container.                    |

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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|  |
|--|
| <b>VERY BERRY SOLVENT FREE TERPENE FLAVOR</b>            |
| No additional information available                      |
| <b>D-LIMONENE (5989-27-5)</b>                            |
| No additional information available                      |
| <b>GAMMA-TERPINENE (99-85-4)</b>                         |
| No additional information available                      |
| <b>4-Hydroxy-2,5-dimethyl-3(2H)-furanone (3658-77-3)</b> |
| No additional information available                      |
| <b>ETHYL CAPROATE (123-66-0)</b>                         |
| No additional information available                      |
| <b>BETA-CARYOPHYLLENE (87-44-5)</b>                      |
| No additional information available                      |
| <b>MYRCENE (123-35-3)</b>                                |
| No additional information available                      |
| <b>BETA-PINENE (127-91-3)</b>                            |
| No additional information available                      |
| <b>ALPHA PINENE (7785-26-4)</b>                          |
| No additional information available                      |
| <b>LINALOOL (78-70-6)</b>                                |
| No additional information available                      |
| <b>2-Methylbutyric acid (116-53-0)</b>                   |
| No additional information available                      |
| <b>ALPHA-TERPINEOL (98-55-5)</b>                         |
| No additional information available                      |
| <b>ETHYL BUTYRATE (105-54-4)</b>                         |
| No additional information available                      |

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Wear recommended personal protective equipment.

#### Hand protection:

Protective gloves

#### Eye protection:

Chemical goggles or safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.



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### SECTION 9: Physical and chemical properties

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

|   |  |
|---|--|
| Physical state                                  | : Liquid                                   |
| Colour  | : COLORLESS TO PALE YELLOW                 |
| Odour   | : CHARACTERISTIC, MATCHING RETAINER SAMPLE |
| Odour threshold                                 | : No data available                        |
| pH  | : No data available                        |
| Melting point                                   | : Not applicable                           |
| Freezing point                                  | : No data available                        |
| Boiling point                                   | : No data available                        |
| Flash point                                     | : 37 °C                                    |
| Relative evaporation rate (butylacetate=1)      | : No data available                        |
| Flammability                                    | : Not applicable.                          |
| Vapour pressure                                 | : No data available                        |
| Relative vapour density at 20°C                 | : No data available                        |
| Relative density                                | : 0.8854 (0.8754 – 0.8954)                 |
| Solubility                                      | : Insoluble.                               |
| Partition coefficient n-octanol/water (Log Pow) | : No data available                        |
| Auto-ignition temperature                       | : No data available                        |
| Decomposition temperature                       | : No data available                        |
| Viscosity, kinematic                            | : No data available                        |
| Viscosity, dynamic                              | : No data available                        |
| Explosive limits                                | : No data available                        |
| Explosive properties                            | : No data available                        |
| Oxidising properties                            | : No data available                        |

#### 9.2. Other information

|                  |                               |
|------------------|-------------------------------|
| Refractive index | : 1.46094 (1.45094 – 1.47094) |
|------------------|-------------------------------|

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Flammable liquid and vapour.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

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

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

|                             |                         |
|-----------------------------|-------------------------|
| Acute toxicity (oral)       | : Harmful if swallowed. |
| Acute toxicity (dermal)     | : Not classified        |
| Acute toxicity (inhalation) | : Not classified        |

|               |                           |
|---------------|---------------------------|
| ATE US (oral) | 1431.692 mg/kg bodyweight |
|---------------|---------------------------|

#### D-LIMONENE (5989-27-5)

|               |  |
|---------------|--|
| LD50 oral rat | > 2000 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s)) |
|---------------|--|

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|  |   |
|--|---|
| <b>D-LIMONENE (5989-27-5)</b>                            |   |
| LD50 dermal rabbit                                       | > 5000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Read-across, Dermal, 7 day(s))  |
| <b>GAMMA-TERPINENE (99-85-4)</b>                         |   |
| ATE US (oral)  | 3650 mg/kg bodyweight   |
| <b>4-Hydroxy-2,5-dimethyl-3(2H)-furanone (3658-77-3)</b> |   |
| LD50 oral rat  | 2320 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Remarks on results: other:  |
| ATE US (oral)  | 1608 mg/kg bodyweight   |
| <b>MYRCENE (123-35-3)</b>                                |   |
| LD50 oral rat  | > 11390 mg/kg bodyweight Animal: rat  |
| LD50 dermal rabbit                                       | > 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)   |
| <b>BETA-PINENE (127-91-3)</b>                            |   |
| LD50 oral rat  | 4700 mg/kg (Rat, Oral)  |
| ATE US (oral)  | 4700 mg/kg bodyweight   |
| <b>ALPHA PINENE (7785-26-4)</b>                          |   |
| ATE US (oral)  | 500 mg/kg bodyweight  |
| <b>LINALOOL (78-70-6)</b>                                |   |
| ATE US (oral)  | 2790 mg/kg bodyweight   |
| <b>2-Methylbutyric acid (116-53-0)</b>                   |   |
| ATE US (oral)  | 1760 mg/kg bodyweight   |
| ATE US (dermal)  | 1600 mg/kg bodyweight   |
| <b>ALPHA-TERPINEOL (98-55-5)</b>                         |   |
| LD50 oral rat  | 4300 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2900 - 5700                                       |
| LD50 dermal rat  | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)  |
| ATE US (oral)  | 4300 mg/kg bodyweight   |
| <b>ETHYL BUTYRATE (105-54-4)</b>                         |   |
| LD50 oral rat  | > 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Remarks on results: other: |
| LD50 dermal rat  | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:  |
| LC50 Inhalation - Rat [ppm]                              | > 4000 ppm Animal: rat, Guideline: other:, Remarks on results: other:   |
| Skin corrosion/irritation                                | : Causes skin irritation.   |
| Serious eye damage/irritation                            | : Causes serious eye irritation.  |
| Respiratory or skin sensitisation                        | : May cause an allergic skin reaction.  |
| Germ cell mutagenicity                                   | : Not classified  |
| Carcinogenicity  | : Not classified  |
| <b>D-LIMONENE (5989-27-5)</b>                            |   |
| IARC group   | 3 - Not classifiable  |
| <b>MYRCENE (123-35-3)</b>                                |   |
| IARC group   | 2B - Possibly carcinogenic to humans  |

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

STOT-single exposure : Not classified

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STOT-repeated exposure : Not classified

### MYRCENE (123-35-3)

|  |   |
|--|---|
| LOAEL (oral, rat, 90 days)                       | 250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)                       |
| NOAEL (subchronic, oral, animal/male, 90 days)   | 500 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)   |
| NOAEL (subchronic, oral, animal/female, 90 days) | 250 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) |

### ALPHA-TERPINEOL (98-55-5)

|                            |   |
|----------------------------|---|
| NOAEL (oral, rat, 90 days) | ≥ 314 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) |
|----------------------------|---|

Aspiration hazard : May be fatal if swallowed and enters airways.

Viscosity, kinematic : No data available

Symptoms/effects after inhalation : No data available.

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Eye irritation.

Symptoms/effects after ingestion : Risk of lung oedema.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

### D-LIMONENE (5989-27-5)

|                      |   |
|----------------------|---|
| LC50 - Fish [1]      | 720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)               |
| EC50 - Crustacea [1] | 0.307 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP) |
| LC50 - Fish [2]      | 702 µg/l Test organisms (species): Pimephales promelas  |
| EC50 - Crustacea [2] | 0.51 mg/l Test organisms (species): Daphnia magna   |

### 4-Hydroxy-2,5-dimethyl-3(2H)-furanone (3658-77-3)

|                      |  |
|----------------------|--|
| EC50 - Crustacea [1] | 6.8 mg/l Test organisms (species): Daphnia magna |
|----------------------|--|

### MYRCENE (123-35-3)

|                      |   |
|----------------------|---|
| EC50 - Crustacea [1] | 1.47 mg/l Test organisms (species): Daphnia magna |
|----------------------|---|

### BETA-PINENE (127-91-3)

|                 |  |
|-----------------|--|
| LC50 - Fish [1] | 0.557 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Cyprinus carpio, Semi-static system, Fresh water, Weight of evidence, Other isomer)               |
| ErC50 algae     | 0.826 mg/l (OECD 201: Alga, Growth Inhibition Test, 48 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, Other isomer) |

### ALPHA-TERPINEOL (98-55-5)

|                      |  |
|----------------------|--|
| LC50 - Fish [1]      | 70 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) |
| EC50 - Crustacea [1] | 73 mg/l Test organisms (species): Daphnia magna                                  |

### ETHYL BUTYRATE (105-54-4)

|                      |   |
|----------------------|---|
| LC50 - Fish [1]      | ≥ 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) |
| EC50 - Crustacea [1] | 116.6 mg/l Test organisms (species): Daphnia magna                                  |
| NOEC (chronic)       | 28833 mg/l Test organisms (species): Daphnia magna Duration: '21 d'                 |
| NOEC chronic fish    | 1483 mg/l Test organisms (species): other: Duration: '28 d'                         |

### 12.2. Persistence and degradability

### D-LIMONENE (5989-27-5)

|                               |                                    |
|-------------------------------|------------------------------------|
| Persistence and degradability | Readily biodegradable in water.    |
| ThOD                          | 3.29 g O <sub>2</sub> /g substance |



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### BETA-PINENE (127-91-3)

|                               |                                 |
|-------------------------------|---------------------------------|
| Persistence and degradability | Readily biodegradable in water. |
|-------------------------------|---------------------------------|

### 12.3. Bioaccumulative potential

#### D-LIMONENE (5989-27-5)

|   |   |
|---|---|
| BCF - Fish [1]                                  | 864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)               |
| Partition coefficient n-octanol/water (Log Pow) | 4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C) |
| Bioaccumulative potential                       | Potential for bioaccumulation ( $4 \leq \text{Log Kow} \leq 5$ ).   |

#### BETA-PINENE (127-91-3)

|   |  |
|---|--|
| BCF - Fish [1]                                  | 1125 l/kg (BCFBAF v3.01, Pisces, Fresh water, QSAR, Other isomer)              |
| Partition coefficient n-octanol/water (Log Pow) | 4.425 (Similar product, Read-across, Equivalent or similar to OECD 107, 25 °C) |
| Bioaccumulative potential                       | Potential for bioaccumulation ( $4 \leq \text{Log Kow} \leq 5$ ).              |

### 12.4. Mobility in soil

#### D-LIMONENE (5989-27-5)

|  |  |
|--|--|
| Surface tension  | No data available in the literature                          |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value) |
| Ecology - soil   | Low potential for mobility in soil.                          |

#### BETA-PINENE (127-91-3)

|  |   |
|--|---|
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 3.009 – 3.836 (log Koc, Calculated value, Other isomer) |
| Ecology - soil   | Low potential for mobility in soil.                     |

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

|  |   |
|--|---|
| Regional waste regulation                  | : Disposal must be done according to official regulations.                                    |
| Waste treatment methods                    | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Sewage disposal recommendations            | : Disposal must be done according to official regulations.                                    |
| Product/Packaging disposal recommendations | : Disposal must be done according to official regulations.                                    |
| Additional information                     | : Flammable vapours may accumulate in the container. Do not re-use empty containers.          |

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| Transport document description (DOT) | : UN1197 Extracts, liquid, 3, III |
|--------------------------------------|-----------------------------------|

|                            |   |
|----------------------------|---|
| UN-No. (DOT)               | : UN1197  |
| Proper Shipping Name (DOT) | : Extracts, liquid  |
| Class (DOT)                | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |
| Packing group (DOT)        | : III - Minor Danger  |
| Hazard labels (DOT)        | : 3 - Flammable liquid  |



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|  |  |
|--|--|
| DOT Packaging Non Bulk (49 CFR 173.xxx)                          | : 203  |
| DOT Packaging Bulk (49 CFR 173.xxx)                              | : 242  |
| DOT Special Provisions (49 CFR 172.102)                          | : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.<br>IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).<br>T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3)<br>TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. |
| DOT Packaging Exceptions (49 CFR 173.xxx)                        | : 150  |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 60 L   |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)     | : 220 L  |
| DOT Vessel Stowage Location                                      | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.  |
| Emergency Response Guide (ERG) Number                            | : 127  |
| Other information  | : No supplementary information available.  |

### Transportation of Dangerous Goods

|   |                                   |
|---|-----------------------------------|
| Transport document description (TDG)  | : UN1197 EXTRACTS, LIQUID, 3, III |
| UN-No. (TDG)  | : UN1197                          |
| Proper Shipping Name (TDG)  | : EXTRACTS, LIQUID                |
| TDG Primary Hazard Classes  | : 3 - Class 3 - Flammable Liquids |
| Packing group (TDG)   | : III - Minor Danger              |
| Explosive Limit and Limited Quantity Index                                  | : 5 L                             |
| Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index | : 60 L                            |

### Transport by sea

|                                       |  |
|---------------------------------------|--|
| Transport document description (IMDG) | : UN 1197 EXTRACTS, LIQUID, 3, III       |
| UN-No. (IMDG)                         | : 1197                                   |
| Proper Shipping Name (IMDG)           | : EXTRACTS, LIQUID                       |
| Class (IMDG)                          | : 3 - Flammable liquids                  |
| Packing group (IMDG)                  | : III - substances presenting low danger |
| Limited quantities (IMDG)             | : 5 L                                    |

### Air transport

|                                       |                                    |
|---------------------------------------|------------------------------------|
| Transport document description (IATA) | : UN 1197 Extracts, liquid, 3, III |
| UN-No. (IATA)                         | : 1197                             |
| Proper Shipping Name (IATA)           | : Extracts, liquid                 |
| Class (IATA)                          | : 3 - Flammable Liquids            |
| Packing group (IATA)                  | : III - Low danger                 |

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

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### ETHYL CAPROATE (123-66-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 2-Methylbutyric acid (116-53-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

## 15.2. International regulations

### CANADA

#### D-LIMONENE (5989-27-5)

Listed on the Canadian DSL (Domestic Substances List)

#### GAMMA-TERPINENE (99-85-4)

Listed on the Canadian DSL (Domestic Substances List)

#### 4-Hydroxy-2,5-dimethyl-3(2H)-furanone (3658-77-3)

Listed on the Canadian DSL (Domestic Substances List)

#### ETHYL CAPROATE (123-66-0)

Listed on the Canadian DSL (Domestic Substances List)

#### BETA-CARYOPHYLLENE (87-44-5)

Listed on the Canadian DSL (Domestic Substances List)

#### MYRCENE (123-35-3)

Listed on the Canadian DSL (Domestic Substances List)

#### BETA-PINENE (127-91-3)

Listed on the Canadian DSL (Domestic Substances List)

#### ALPHA PINENE (7785-26-4)

Listed on the Canadian NDSL (Non-Domestic Substances List)

#### LINALOOL (78-70-6)

Listed on the Canadian DSL (Domestic Substances List)

#### 2-Methylbutyric acid (116-53-0)

Listed on the Canadian DSL (Domestic Substances List)

#### ALPHA-TERPINEOL (98-55-5)

Listed on the Canadian DSL (Domestic Substances List)

#### ETHYL BUTYRATE (105-54-4)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

No additional information available

### National regulations

#### D-LIMONENE (5989-27-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### GAMMA-TERPINENE (99-85-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### 4-Hydroxy-2,5-dimethyl-3(2H)-furanone (3658-77-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### BETA-CARYOPHYLLENE (87-44-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

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### MYRCENE (123-35-3)

Listed on IARC (International Agency for Research on Cancer)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### BETA-PINENE (127-91-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### ALPHA PINENE (7785-26-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

### LINALOOL (78-70-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### ALPHA-TERPINEOL (98-55-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### ETHYL BUTYRATE (105-54-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 15.3. US State regulations

Prop 65 available upon request

| Component                | State or local regulations  |
|--------------------------|---|
| ETHYL CAPROATE(123-66-0) | U.S. - New Jersey - Right to Know Hazardous Substance List  |
| ETHYL BUTYRATE(105-54-4) | U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List |

## SECTION 16: Other information

Full text of H-statements:

|      |  |
|------|--|
| H226 | Flammable liquid and vapour.                         |
| H227 | Combustible liquid                                   |
| H302 | Harmful if swallowed.                                |
| H304 | May be fatal if swallowed and enters airways.        |
| H312 | Harmful in contact with skin.                        |
| H314 | Causes severe skin burns and eye damage.             |
| H315 | Causes skin irritation.                              |
| H317 | May cause an allergic skin reaction.                 |
| H318 | Causes serious eye damage.                           |
| H319 | Causes serious eye irritation.                       |
| H361 | Suspected of damaging fertility or the unborn child. |

SDS US (GHS HazCom 2012) [Prop65]

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