

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR  
 Product code : TPBL366

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

#### 1.3. Supplier

EXTRACT CONSULTANTS, LLC.  
 TERPENES - FLAVORS - BASES  
 PO BOX 11433, DENVER, CO 80211  
 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 vapor                   |
| Skin corrosion/irritation Category 2         | Causes skin irritation                       |
| Serious eye damage/eye irritation Category 2 | Causes serious eye irritation                |
| Skin sensitization, Category 1               | May cause an allergic skin reaction          |
| Aspiration hazard Category 1                 | May be fatal if swallowed and enters airways |

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

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Flammable liquid and vapor  
 May be fatal if swallowed and enters airways  
 Causes skin irritation  
 May cause an allergic skin reaction  
 Causes serious eye irritation

Precautionary statements (GHS US) :

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/vapors/spray.  
 Wash hands, forearms and face thoroughly after handling.  
 Contaminated work clothing must not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 If swallowed: Immediately call a poison center or doctor.  
 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.  
 Specific treatment (see supplemental first aid instruction on this label).

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

| Name                           | Product identifier   | %       | GHS US classification   |
|--------------------------------|----------------------|---------|---|
| BETA-CARYOPHYLLENE             | (CAS-No.) 87-44-5    | 25 – 50 | Skin Sens. 1B, H317<br>Asp. Tox. 1, H304  |
| ALPHA-TERPINEOL                | (CAS-No.) 98-55-5    | 10 – 25 | Flam. Liq. 4, H227<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319  |
| 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                                   |
| ALPHA PINENE                   | (CAS-No.) 7785-26-4  | 10 – 25 | 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      |
| 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                                   |
| DELTA-3-CARENE                 | (CAS-No.) 13466-78-9 | 1 – 5   | Flam. Liq. 3, H226<br>Acute Tox. 4 (Inhalation), H332<br>Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Asp. Tox. 1, H304 |
| VANILLIN                       | (CAS-No.) 121-33-5   | 1 – 5   | Eye Irrit. 2A, H319   |
| EUGENOL                        | (CAS-No.) 97-53-0    | 1 – 5   | Eye Irrit. 2A, H319<br>Skin Sens. 1B, H317  |
| BUTYL LACTATE                  | (CAS-No.) 138-22-7   | 1 – 5   | Flam. Liq. 4, H227<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318   |
| PHENETHYL ALCOHOL              | (CAS-No.) 60-12-8    | 1 – 5   | Acute Tox. 4 (Oral), H302<br>Eye Irrit. 2A, H319  |
| BETA-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                                   |
| 3-Methylcyclopentane-1,2-dione | (CAS-No.) 765-70-8   | 0.1 – 1 | Acute Tox. 4 (Oral), H302<br>Skin Sens. 1, H317   |
| CINNAMIC ALDEHYDE              | (CAS-No.) 104-55-2   | 0.1 – 1 | Acute Tox. 4 (Dermal), H312<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>Skin Sens. 1A, H317                        |

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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. Remove/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    | : 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 edema.                              |

#### 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.               |

#### 5.2. Specific hazards arising from the chemical

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

#### 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/vapors/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, if possible without risk. |
| 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.   |

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 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 vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/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 | : Store always product in container of same material as original container.                    |

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

|   |                 |
|---|-----------------|
| <b>CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR</b> |                 |
| No additional information available               |                 |
| <b>ALPHA PINENE (7785-26-4)</b>                   |                 |
| No additional information available               |                 |
| <b>BUTYL LACTATE (138-22-7)</b>                   |                 |
| <b>USA - ACGIH - Occupational Exposure Limits</b> |                 |
| Local name  | n-Butyl lactate |
| ACGIH OEL TWA                                     | 5 ppm           |
| Remark (ACGIH)                                    | URT irr         |
| <b>BETA-MYRCENE (123-35-3)</b>                    |                 |
| No additional information available               |                 |
| <b>ALPHA-TERPINEOL (98-55-5)</b>                  |                 |
| No additional information available               |                 |
| <b>DELTA-3-CARENE (13466-78-9)</b>                |                 |
| No additional information available               |                 |
| <b>CINNAMIC ALDEHYDE (104-55-2)</b>               |                 |
| No additional information available               |                 |
| <b>PHENETHYL ALCOHOL (60-12-8)</b>                |                 |
| No additional information available               |                 |
| <b>MYRCENE (123-35-3)</b>                         |                 |
| No additional information available               |                 |
| <b>BETA-CARYOPHYLLENE (87-44-5)</b>               |                 |
| No additional information available               |                 |
| <b>EUGENOL (97-53-0)</b>                          |                 |
| No additional information available               |                 |
| <b>BETA-PINENE (127-91-3)</b>                     |                 |
| No additional information available               |                 |
| <b>VANILLIN (121-33-5)</b>                        |                 |
| No additional information available               |                 |
| <b>3-Methylcyclopentane-1,2-dione (765-70-8)</b>  |                 |
| No additional information available               |                 |

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 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 insufficient ventilation, wear suitable respiratory equipment



## SECTION 9: Physical and chemical properties

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

|   |  |
|---|--|
| Physical state                                  | : Liquid                                   |
| Color   | : PALE YELLOW/AMBER TO YELLOW/AMBER        |
| Odor  | : CHARACTERISTIC, MATCHING RETAINER SAMPLE |
| Odor threshold                                  | : No data available                        |
| pH  | : No data available                        |
| Melting point                                   | : Not applicable                           |
| Freezing point                                  | : No data available                        |
| Boiling point                                   | : No data available                        |
| Flash point                                     | : 50 °C                                    |
| Relative evaporation rate (butyl acetate=1)     | : No data available                        |
| Flammability                                    | : Not applicable.                          |
| Vapor pressure                                  | : No data available                        |
| Relative vapor density at 20°C                  | : No data available                        |
| Relative density                                | : 0.9176 (0.9076 – 0.9276)                 |
| 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                        |
| Explosion limits                                | : No data available                        |
| Explosive properties                            | : No data available                        |
| Oxidizing properties                            | : No data available                        |

### 9.2. Other information

Refractive index : 1.48653 (1.47653 – 1.49653)

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Flammable liquid and vapor.

#### 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) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

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

|               |                       |
|---------------|-----------------------|
| ATE US (oral) | 500 mg/kg body weight |
|---------------|-----------------------|

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

|               |                                       |
|---------------|---------------------------------------|
| LD50 oral rat | > 11390 mg/kg body weight Animal: rat |
|---------------|---------------------------------------|

|                    |  |
|--------------------|--|
| LD50 dermal rabbit | > 5000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
|--------------------|--|

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

|               |  |
|---------------|--|
| LD50 oral rat | 4300 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2900 - 5700 |
|---------------|--|

|                 |   |
|-----------------|---|
| LD50 dermal rat | > 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
|-----------------|---|

|               |                        |
|---------------|------------------------|
| ATE US (oral) | 4300 mg/kg body weight |
|---------------|------------------------|

#### DELTA-3-CARENE (13466-78-9)

|               |                        |
|---------------|------------------------|
| ATE US (oral) | 4800 mg/kg body weight |
|---------------|------------------------|

|                |              |
|----------------|--------------|
| ATE US (gases) | 4500 ppmV/4h |
|----------------|--------------|

|                 |            |
|-----------------|------------|
| ATE US (vapors) | 11 mg/l/4h |
|-----------------|------------|

|                     |             |
|---------------------|-------------|
| ATE US (dust, mist) | 1.5 mg/l/4h |
|---------------------|-------------|

#### CINNAMIC ALDEHYDE (104-55-2)

|               |                        |
|---------------|------------------------|
| ATE US (oral) | 2200 mg/kg body weight |
|---------------|------------------------|

|                 |                        |
|-----------------|------------------------|
| ATE US (dermal) | 1100 mg/kg body weight |
|-----------------|------------------------|

#### PHENETHYL ALCOHOL (60-12-8)

|               |                        |
|---------------|------------------------|
| ATE US (oral) | 1610 mg/kg body weight |
|---------------|------------------------|

|                 |                        |
|-----------------|------------------------|
| ATE US (dermal) | 2500 mg/kg body weight |
|-----------------|------------------------|

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

|               |                                       |
|---------------|---------------------------------------|
| LD50 oral rat | > 11390 mg/kg body weight Animal: rat |
|---------------|---------------------------------------|

|                    |  |
|--------------------|--|
| LD50 dermal rabbit | > 5000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
|--------------------|--|

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

|               |                        |
|---------------|------------------------|
| LD50 oral rat | 4700 mg/kg (Rat, Oral) |
|---------------|------------------------|

|               |                        |
|---------------|------------------------|
| ATE US (oral) | 4700 mg/kg body weight |
|---------------|------------------------|

#### VANILLIN (121-33-5)

|               |   |
|---------------|---|
| LD50 oral rat | 3300 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s)) |
|---------------|---|

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| VANILLIN (121-33-5) |   |
|---------------------|---|
| LD50 dermal rat     | > 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s)) |
| ATE US (oral)       | 3300 mg/kg body weight  |
| ATE US (dermal)     | 2600 mg/kg body weight  |

| 3-Methylcyclopentane-1,2-dione (765-70-8) |  |
|---|--|
| ATE US (oral)                             | 1067 mg/kg body weight                 |
| Skin corrosion/irritation                 | : Causes skin irritation.              |
| Serious eye damage/irritation             | : Causes serious eye irritation.       |
| Respiratory or skin sensitization         | : May cause an allergic skin reaction. |
| Germ cell mutagenicity                    | : Not classified                       |
| Carcinogenicity                           | : Not classified                       |

| BETA-MYRCENE (123-35-3) |                                      |
|-------------------------|--------------------------------------|
| IARC group              | 2B - Possibly carcinogenic to humans |

| MYRCENE (123-35-3) |                                      |
|--------------------|--------------------------------------|
| IARC group         | 2B - Possibly carcinogenic to humans |

| EUGENOL (97-53-0) |                      |
|-------------------|----------------------|
| IARC group        | 3 - Not classifiable |

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

| BETA-MYRCENE (123-35-3)                       |  |
|---|--|
| LOAEL (oral,rat,90 days)                      | 250 mg/kg body weight 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 body weight 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 body weight 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 body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) |

| MYRCENE (123-35-3)                            |  |
|---|--|
| LOAEL (oral,rat,90 days)                      | 250 mg/kg body weight 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 body weight 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 body weight Animal: mouse, Animal sex: female, 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 edema.

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

| BETA-MYRCENE (123-35-3)   |  |
|---------------------------|--|
| EC50 - Crustacea [1]      | 1.47 mg/l Test organisms (species): Daphnia magna  |
| 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  |
| 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) |
| VANILLIN (121-33-5)       |  |
| LC50 - Fish [1]           | 57 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)                             |
| EC50 - Crustacea [1]      | 36.79 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)                   |
| LC50 - Fish [2]           | 123 mg/l Test organisms (species): Pimephales promelas   |
| ErC50 algae               | 120 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)            |
| LOEC (chronic)            | 10 mg/l Test organisms (species): Daphnia magna Duration: '21 d'   |
| NOEC (chronic)            | 5.9 mg/l Test organisms (species): Daphnia magna Duration: '21 d'  |

#### 12.2. Persistence and degradability

| BETA-MYRCENE (123-35-3)                   |  |
|---|--|
| Persistence and degradability             | Readily biodegradable in water.              |
| BETA-PINENE (127-91-3)                    |  |
| Persistence and degradability             | Readily biodegradable in water.              |
| VANILLIN (121-33-5)                       |  |
| Persistence and degradability             | Readily biodegradable in water.              |
| 3-Methylcyclopentane-1,2-dione (765-70-8) |  |
| Persistence and degradability             | Biodegradability in soil: no data available. |

#### 12.3. Bioaccumulative potential

| BETA-MYRCENE (123-35-3)                         |   |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | 5.285 (Literature, 25 °C)   |
| Bioaccumulative potential                       | High potential for bioaccumulation (Log Kow > 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 ≤ Log Kow ≤ 5).  |
| VANILLIN (121-33-5)                             |   |
| Partition coefficient n-octanol/water (Log Pow) | 1.17 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C) |
| Bioaccumulative potential                       | Low potential for bioaccumulation (Log Kow < 4).  |



# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 3-Methylcyclopentane-1,2-dione (765-70-8)

|                           |                                    |
|---------------------------|------------------------------------|
| Bioaccumulative potential | No bioaccumulation data available. |
|---------------------------|------------------------------------|

#### 12.4. Mobility in soil

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

|                |   |
|----------------|---|
| Ecology - soil | No (test)data on mobility of the substance available. |
|----------------|---|

### 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. |
|----------------|-------------------------------------|

### VANILLIN (121-33-5)

|  |                                     |
|--|-------------------------------------|
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 3.438 (log Koc, Experimental value) |
|--|-------------------------------------|

|                |                                     |
|----------------|-------------------------------------|
| 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 vapors 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 (Regulated for Bulk only), 3, III     |
| UN-No. (DOT)                         | : UN1197  |
| Proper Shipping Name (DOT)           | : Extracts, liquid<br>(Regulated for Bulk only)                 |
| 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  |



|   |       |
|---|-------|
| DOT Packaging Non Bulk (49 CFR 173.xxx) | : 203 |
| DOT Packaging Bulk (49 CFR 173.xxx)     | : 242 |

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

|  |  |
|--|--|
| 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 (Regulated for Bulk only), 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

#### BUTYL LACTATE (138-22-7)

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

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 15.2. International regulations

#### CANADA

|  |
|--|
| <b>ALPHA PINENE (7785-26-4)</b>                            |
| Listed on the Canadian NDSL (Non-Domestic Substances List) |
| <b>BUTYL LACTATE (138-22-7)</b>                            |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>BETA-MYRCENE (123-35-3)</b>                             |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>ALPHA-TERPINEOL (98-55-5)</b>                           |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>DELTA-3-CARENE (13466-78-9)</b>                         |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>CINNAMIC ALDEHYDE (104-55-2)</b>                        |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>PHENETHYL ALCOHOL (60-12-8)</b>                         |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>MYRCENE (123-35-3)</b>                                  |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>BETA-CARYOPHYLLENE (87-44-5)</b>                        |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>EUGENOL (97-53-0)</b>                                   |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>BETA-PINENE (127-91-3)</b>                              |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>VANILLIN (121-33-5)</b>                                 |
| Listed on the Canadian DSL (Domestic Substances List)      |
| <b>3-Methylcyclopentane-1,2-dione (765-70-8)</b>           |
| Listed on the Canadian DSL (Domestic Substances List)      |

#### EU-Regulations

No additional information available

#### National regulations

|  |
|--|
| <b>ALPHA PINENE (7785-26-4)</b>  |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active   |
| <b>BETA-MYRCENE (123-35-3)</b>   |
| Listed on IARC (International Agency for Research on Cancer)<br>Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active<br>Listed on INSQ (Mexican National Inventory of Chemical Substances) |
| <b>ALPHA-TERPINEOL (98-55-5)</b>   |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active<br>Listed on INSQ (Mexican National Inventory of Chemical Substances)   |
| <b>DELTA-3-CARENE (13466-78-9)</b>   |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active   |
| <b>CINNAMIC ALDEHYDE (104-55-2)</b>  |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active<br>Listed on INSQ (Mexican National Inventory of Chemical Substances)   |
| <b>PHENETHYL ALCOHOL (60-12-8)</b>   |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active<br>Listed on INSQ (Mexican National Inventory of Chemical Substances)   |

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet


according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

|  |
|--|
| <b>MYRCENE (123-35-3)</b>  |
| Listed on IARC (International Agency for Research on Cancer)<br>Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active<br>Listed on INSQ (Mexican National Inventory of Chemical Substances) |
| <b>BETA-CARYOPHYLLENE (87-44-5)</b>  |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active   |
| <b>EUGENOL (97-53-0)</b>   |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active<br>Listed on INSQ (Mexican National Inventory of Chemical Substances)   |
| <b>BETA-PINENE (127-91-3)</b>  |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active<br>Listed on INSQ (Mexican National Inventory of Chemical Substances)   |
| <b>VANILLIN (121-33-5)</b>   |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active<br>Listed on INSQ (Mexican National Inventory of Chemical Substances)   |
| <b>3-Methylcyclopentane-1,2-dione (765-70-8)</b>   |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active<br>Listed on INSQ (Mexican National Inventory of Chemical Substances)   |

15.3. US State regulations

This product can expose you to toluene - impurity , which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

This product can expose you to chemicals including benzene - impurity, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

 **WARNING:** This product can expose you to safrole, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

This product can expose you to methyl eugenol, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

This product can expose you to myrcene, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

| Component               | State or local regulations   |
|-------------------------|--|
| BUTYL LACTATE(138-22-7) | U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List |

SECTION 16: Other information

# CINNAMON SPICE SOLVENT FREE TERPENE FLAVOR

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases:

|      |  |
|------|--|
| H226 | Flammable liquid and vapor                   |
| H227 | Combustible liquid                           |
| H302 | Harmful if swallowed                         |
| H304 | May be fatal if swallowed and enters airways |
| H312 | Harmful in contact with skin                 |
| H315 | Causes skin irritation                       |
| H317 | May cause an allergic skin reaction          |
| H318 | Causes serious eye damage                    |
| H319 | Causes serious eye irritation                |
| H332 | Harmful if inhaled                           |

SDS US (GHS HazCom 2012)

*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.*