SAFETY DATA SHEET

1. Identification

Product identifier: Mega Mango Micro Metered Air Freshener

Other means of identification
SDS number: RE1000004799

Recommended restrictions
Product Use: Air Freshener
Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer
Company Name: CLAIRE MANUFACTURING COMPANY
Address: 1000 Integram Dr
          Pacific, MO 63069
Telephone: 1-630-543-7600
Fax: 

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards
Flammable aerosol Category 1

Health Hazards
Serious Eye Damage/Eye Irritation Category 2A
Skin sensitizer Category 1
Specific Target Organ Toxicity - Single Exposure Category 3

Target Organs
1. Narcotic effect.

Environmental Hazards
Acute hazards to the aquatic environment Category 3

Label Elements

Hazard Symbol:
Signal Word: Danger

Hazard Statement: Extremely flammable aerosol. Causes serious eye irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. Harmful to aquatic life.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: 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. IF ON SKIN: Wash with plenty of water/... If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Wash contaminated clothing before reuse.

Storage: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients
### Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td>67-64-1</td>
<td>50 - &lt;100%</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>10 - &lt;20%</td>
</tr>
<tr>
<td>Butane</td>
<td>106-97-8</td>
<td>10 - &lt;20%</td>
</tr>
<tr>
<td>Oils, orange, sweet</td>
<td>8008-57-9</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Terpenes and Terpenoids, sweet orange-oil</td>
<td>68647-72-3</td>
<td>0.1 - &lt;1%</td>
</tr>
<tr>
<td>Oils, orange, sweet, terpene-free</td>
<td>68606-94-0</td>
<td>0.1 - &lt;1%</td>
</tr>
<tr>
<td>Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-</td>
<td>1222-05-5</td>
<td>0.1 - &lt;1%</td>
</tr>
<tr>
<td>Ethanol, 2,2',2''-nitrilotris-</td>
<td>102-71-6</td>
<td>0 - &lt;0.1%</td>
</tr>
<tr>
<td>Ethanol, 2,2''-iminobis-</td>
<td>111-42-2</td>
<td>0 - &lt;0.1%</td>
</tr>
</tbody>
</table>

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

**Ingestion:** Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

**Inhalation:** Move to fresh air.

**Skin Contact:** If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

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

**Symptoms:** No data available.

**Hazards:** No data available.

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

**Treatment:** No data available.

### 5. Fire-fighting measures

**General Fire Hazards:** Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical:
Vapors may travel considerable distance to a source of ignition and flash back.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:
No data available.

Special protective equipment for fire-fighters:
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up:
Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures:
Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk.

Environmental Precautions:
Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling:
Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities:
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Aerosol Level 3

8. Exposure controls/personal protection

Control Parameters
Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td>STEL</td>
<td>1,000 ppm 2,400 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>750 ppm 1,780 mg/m³</td>
<td>US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09)</td>
</tr>
<tr>
<td>Substance</td>
<td>REL</td>
<td>Value</td>
<td>Source</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------</td>
<td>-----------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Propane</td>
<td>1,000 ppm</td>
<td>1,800 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards (2005)</td>
</tr>
<tr>
<td>Butane</td>
<td>800 ppm</td>
<td>1,900 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards (2005)</td>
</tr>
<tr>
<td>Ethanol, 2,2',2''-nitrilotris-</td>
<td>5 mg/m³</td>
<td></td>
<td>US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)</td>
</tr>
</tbody>
</table>

**PEL**

<table>
<thead>
<tr>
<th>Substance</th>
<th>REL</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane</td>
<td>1,000 ppm</td>
<td>2,400 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
</tbody>
</table>

**AN ESL**

<table>
<thead>
<tr>
<th>Substance</th>
<th>REL</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>3,000 ppb</td>
<td>7,100 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
</tr>
</tbody>
</table>

**ST ESL**

<table>
<thead>
<tr>
<th>Substance</th>
<th>REL</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>28,000 ppb</td>
<td>66,000 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
</tr>
</tbody>
</table>

**ST ESL**

<table>
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<th>Substance</th>
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<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>5 mg/m³</td>
<td></td>
<td>US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)</td>
</tr>
</tbody>
</table>

**ST ESL**

<table>
<thead>
<tr>
<th>Substance</th>
<th>REL</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>50 µg/m³</td>
<td></td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
</tr>
</tbody>
</table>
Ethanol, 2,2'-iminobis- 
Inhalable fraction and vapor.

<table>
<thead>
<tr>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA 5 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2008)</td>
</tr>
<tr>
<td>AN ESL 5 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
</tr>
<tr>
<td>TWA 1 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2009)</td>
</tr>
</tbody>
</table>

Ethanol, 2,2'-iminobis-

<table>
<thead>
<tr>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>REL 3 ppm 15 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards (2005)</td>
</tr>
<tr>
<td>TWA 3 ppm 15 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)</td>
</tr>
<tr>
<td>TWA 3 ppm 15 mg/m³</td>
<td>US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)</td>
</tr>
<tr>
<td>TWA PEL 0.46 ppm 2 mg/m³</td>
<td>US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)</td>
</tr>
<tr>
<td>AN ESL 7 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
</tr>
<tr>
<td>ST ESL 97 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
</tr>
</tbody>
</table>

**Biological Limit Values**

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone (acetone: Sampling time: End of shift.)</td>
<td>25 mg/l (Urine)</td>
<td>ACGIH BEL (03 2015)</td>
</tr>
</tbody>
</table>

**Appropriate Engineering Controls**

<table>
<thead>
<tr>
<th>Engineering controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>No data available.</td>
</tr>
</tbody>
</table>

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

**General information:** Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Eye/face protection:** Wear safety glasses with side shields (or goggles).

**Skin Protection**

**Hand Protection:** No data available.

**Other:** Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

**Respiratory Protection:** In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

**Hygiene measures:** Avoid contact with eyes. Observe good industrial hygiene practices. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.
9. Physical and chemical properties

Appearance

- Physical state: liquid
- Form: Spray Aerosol
- Color: 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: -104.44 °C
- Evaporation rate: No data available.
- Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

- Flammability limit - upper (%): No data available.
- Flammability limit - lower (%): No data available.
- Explosive limit - upper (%): No data available.
- Explosive limit - lower (%): No data available.

Vapor pressure: 3,102.6408 - 4,481.5922 hPa (20 °C)

Vapor density: No data available.
Density: No data available.
Relative density: No data available.
Solubility(ies)

- Solubility in water: No data available.
- Solubility (other): 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.

10. Stability and reactivity

Reactivity: No data available.
Chemical Stability: Material is stable under normal conditions.
Possibility of hazardous reactions: No data available.
Conditions to avoid: Avoid heat or contamination.
Incompatible Materials: No data available.
Hazardous Decomposition Products: No data available.
11. Toxicological information

Information on likely routes of exposure

Inhalation: No data available.
Skin Contact: No data available.
Eye contact: No data available.
Ingestion: No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.
Skin Contact: No data available.
Eye contact: No data available.
Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: Not classified for acute toxicity based on available data.

Specified substance(s):
2-Propanone LD 50 (Rat): 5,800 mg/kg
Oils, orange, sweet LD 50: > 2,000 mg/kg
Terpenes and Terpenoids, sweet orange-oil LD 50: > 2,000 mg/kg
Oils, orange, sweet, terpene-free LD 50: > 2,000 mg/kg
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl- LD 50 (Rat): > 4,640 mg/kg
Ethanol, 2,2',2"-nitrilotris- LD 50 (Rat): 6,400 mg/kg
Ethanol, 2,2'-iminobis- LD 50 (Rat): 1,100 mg/kg
LD 50 (Rat): 1,600 mg/kg
LD 50 (Rat): 2,500 mg/kg
LD 50 (Rat): 1,820 mg/kg
Dermal Product: Not classified for acute toxicity based on available data.

Specified substance(s):
- 2-Propanone
  LD 50 (Rabbit): > 7,426 mg/kg
- Oils, orange, sweet
  LD 50: > 2,000 mg/kg
- Terpenes and Terpenoids, sweet orange-oil
  LD 50: > 2,000 mg/kg
- Oils, orange, sweet, terpene-free
  LD 50: > 2,000 mg/kg
- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-
  LD 50 (Rat): > 10,000 mg/kg
- Ethanol, 2,2',2''-nitrilotris-
  LD 50 (Rabbit): > 2,000 mg/kg
- Ethanol, 2,2'-iminobis-
  LD 50: > 2,000 mg/kg

Inhalation Product: Not classified for acute toxicity based on available data.
**Specified substance(s):**
- 2-Propanone
  - LC 50 (Rat): 50.1 mg/l
- Propane
  - LC 50 (Mouse): 1,237 mg/l
- Butane
  - LC 50 (Mouse): 1,237 mg/l
- Oils, orange, sweet
  - LC 50: > 5 mg/l
  - LC 50: > 20 mg/l
- Terpenes and Terpenoids, sweet orange-oil
  - LC 50: > 5 mg/l
  - LC 50: > 20 mg/l
- Oils, orange, sweet, terpene-free
  - LC 50: > 5 mg/l
  - LC 50: > 20 mg/l
- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-
  - LC 50: > 20 mg/l
- Ethanol, 2,2',2''-nitrilotris-
  - LC 0 (Rat): 1.8 mg/m3
  - LC 50: > 5 mg/l
- Ethanol, 2,2'-iminobis-
  - LC 0 (Rat): 0.2 mg/l
  - LC 0 (Rat): 3.35 mg/l

**Repeated dose toxicity**
**Product:**
No data available.

**Specified substance(s):**
- 2-Propanone
  - NOAEL (Rat(Male), Oral, 13 Weeks): 10,000 ppm(m) Oral Experimental result, Key study
- Propane
  - NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study
  - LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study
- Butane
  - NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study
  - LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study
- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-
  - NOAEL (Rat(Female, Male), Oral, 13 Weeks): 150 mg/kg Oral Experimental result, Key study
- Ethanol, 2,2',2''-nitrilotris-
  - NOAEL (Rat(Female, Male), Oral, 91 d): 1,000 mg/kg Oral Experimental result, Key study
NOAEL (Rat(Female, Male), Inhalation): 0.5 mg/l Inhalation Experimental result, Key study
NOAEL (Rat(Male), Dermal, 90 d): 125 mg/kg Dermal Experimental result, Key study
NOAEL (Rat(Female), Dermal, 90 d): 250 mg/kg Dermal Experimental result, Key study

Ethanol, 2,2'-iminobis-

LOAEL (Rat(Female), Oral, 13 Weeks): 160 ppm(m) Oral Experimental result, Key study
LOAEL (Rat(Male), Oral, 13 Weeks): 25 mg/kg Oral Experimental result, Key study
NOAEL (Rat(Female, Male), Inhalation): 0.2 mg/l Inhalation Experimental result, Supporting study
LOAEL (Rat(Female, Male), Inhalation): 15 mg/m3 Inhalation Experimental result, Key study
LOAEL (Rat(Female), Oral, 13 Weeks): 14 mg/kg Oral Experimental result, Key study

Skin Corrosion/Irritation
Product: No data available.
Specified substance(s):
- 2-Propanone in vivo (Rabbit): Not irritant Experimental result, Supporting study
- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,7,8-hexamethyl-
- Ethanol, 2,2',2''-nitrilotris-

Serious Eye Damage/Eye Irritation
Product: No data available.
Specified substance(s):
- 2-Propanone Irritating.
  Rabbit, 24 hrs: Minimum grade of severe eye irritant

Respiratory or Skin Sensitization
Product: No data available.
Specified substance(s):
- 2-Propanone Skin sensitization:, in vivo (Guinea pig): Non sensitising
- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,7,8-hexamethyl-
- Ethanol, 2,2',2''-nitrilotris-
- Ethanol, 2,2'-iminobis-

Carcinogenicity
Product: No data available.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.
Specified substance(s):
2-Propanone: Inhalation - vapor: Narcotic effect. - Category 3 with narcotic effects.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.
Specified substance(s):
Ethanol, 2,2'-iminobis-: Category 2

Target Organs
Specific Target Organ Toxicity - Single Exposure: Narcotic effect.

Aspiration Hazard
Product: No data available.
Specified substance(s):
Oils, orange, sweet: May be fatal if swallowed and enters airways.
Terpenes and Terpenoids, sweet orange-oil: May be fatal if swallowed and enters airways.
Oils, orange, sweet, terpene-free: May be fatal if swallowed and enters airways.

Other effects: No data available.
12. Ecological information

Ecotoxicity:

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

- 2-Propanone
  
  LC 50 (Oncorhynchus mykiss, 96 h): 5,540 mg/l Experimental result, Key study

- Propane
  
  LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study

- Butane
  
  LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study

- Oils, orange, sweet
  
  LC 50 (96 h): < 1 mg/l

- Terpenes and Terpenoids, sweet orange-oil
  
  LC 50 (96 h): < 10 mg/l

- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8-hexamethyl-
  
  LC 50 (Lepomis macrochirus, 96 h): 1.36 mg/l Experimental result, Key study

- Ethanol, 2,2',2"-nitrilotris-
  
  LC 50 (Pimephales promelas, 96 h): 11,800 mg/l Experimental result, Key study

- Ethanol, 2,2'-iminobis-
  
  LC 50 (Western mosquitofish (Gambusia affinis), 6 d): 560 mg/l Mortality
  
  LC 50 (Western mosquitofish (Gambusia affinis), 24 h): 1,800 mg/l Mortality
  
  LC 50 (Bluegill (Lepomis macrochirus), 24 h): 2,100 mg/l Mortality
  
  LC 50 (Goldfish (Carassius auratus), 24 h): 800 mg/l Mortality
  
  LC 50 (Goldfish (Carassius auratus), 24 h): > 5,000 mg/l Mortality

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s):**

- 2-Propanone
  
  LC 50 (Daphnia pulex, 48 h): 8,800 mg/l Experimental result, Key study

- Butane
  
  LC 50 (Daphnia sp., 48 h): 69.43 mg/l QSAR QSAR, Key study

- Oils, orange, sweet, terpene-free
  
  EC 50 (48 h): < 100 mg/l

- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8-hexamethyl-
  
  EC 50 (Daphnia magna, 48 h): 0.885 mg/l Experimental result, Not specified

- Ethanol, 2,2',2"-nitrilotris-
  
  EC 50 (Ceriodaphnia dubia, 48 h): 609.88 mg/l Experimental result, Key study

- Ethanol, 2,2'-iminobis-
  
  EC 50 (Water flea (Ceriodaphnia dubia), 48 h): 61.8 - 86.04 mg/l Intoxication
LC 50 (Water flea (Daphnia magna), 24 h): 140 - 180 mg/l Mortality
LC 50 (Water flea (Daphnia magna), 24 h): 170 mg/l Mortality
LC 50 (Water flea (Daphnia magna), 24 h): 154 - 196 mg/l Mortality
LC 50 (Water flea (Daphnia magna), 24 h): 180 mg/l Mortality

Chronic hazards to the aquatic environment:

**Fish**

Product: No data available.

**Specified substance(s):**
- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-
  - LC 50 (Lepomis macrochirus): 0.452 mg/l Experimental result, Key study
  - LOAEL (Pimephales promelas): 0.14 mg/l Experimental result, Key study

- Ethanol, 2,2'-iminobis-
  - NOAEL (Various): > 1 mg/l Estimated by calculation, Supporting study

**Aquatic Invertebrates**

Product: No data available.

**Specified substance(s):**
- 2-Propanone
  - LOAEL (Daphnia magna): 2,212 mg/l Experimental result, Key study
  - NOAEL (Daphnia magna): 2,212 mg/l Experimental result, Key study

- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8-hexamethyl-
  - NOAEL (Daphnia magna): 111 µg/l Experimental result, Key study
  - EC 50 (Daphnia magna): 282 µg/l Experimental result, Key study

- Ethanol, 2,2',2''-nitrilotris-
  - NOAEL (Daphnia magna): 16 mg/l Experimental result, Key study
  - NOAEL (Daphnia magna): 125 mg/l Experimental result, Key study
  - NOAEL (Daphnia magna): 250 mg/l Experimental result, Key study

- Ethanol, 2,2'-iminobis-
  - LC 0 (Daphnia magna): 3.13 mg/l Experimental result, Key study
  - LOAEL (Daphnia magna): 1.56 mg/l Experimental result, Key study
  - NOAEL (Daphnia magna): 0.78 mg/l Experimental result, Key study

**Toxicity to Aquatic Plants**

Product: No data available.

Persistence and Degradability

**Biodegradation**

Product: No data available.

**Specified substance(s):**
- 2-Propanone
  - 90.9 % (28 d) Detected in water. Experimental result, Key study

- Propane
  - 100 % (385.5 h) Detected in water. Experimental result, Key study
  - 50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study

- Butane
  - 100 % (385.5 h) Detected in water. Experimental result, Key study
  - 50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study
Oils, orange, sweet < 70 % (10 d, Assessment)
Terpenes and Terpenoids, sweet orange-oil < 70 %
Oils, orange, sweet, terpene-free Expected to be inherently biodegradable.
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl- 60 % (28 d) Sediment Experimental result, Key study
Ethanol, 2,2',2"-nitrilotris- 100 % (3 d) Sediment Experimental result, Key study
Ethanol, 2,2' -iminobis- 96 % (10 d) Detected in water. Experimental result, Supporting study
96 % (10 d) Detected in water. Experimental result, Supporting study
93 % (28 d) Detected in water. Experimental result, Supporting study
97 % (28 d) Detected in water. Experimental result, Supporting study
93 % (28 d) Detected in water. Experimental result, Key study

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Specified substance(s):
2-Propanone Haddock, adult, Bioconcentration Factor (BCF): 0.69 Aquatic sediment Experimental result, Not specified
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl- Lepomis macrochirus, Bioconcentration Factor (BCF): 1,550 Aquatic sediment Experimental result, Key study
Ethanol, 2,2',2"-nitrilotris- Cyprinus carpio, Bioconcentration Factor (BCF): < 3.9 Aquatic sediment Experimental result, Key study
Ethanol, 2,2' -iminobis- Various, Bioconcentration Factor (BCF): 0.65 Aquatic sediment QSAR, Weight of Evidence study
Various, Bioconcentration Factor (BCF): 0.23 Aquatic sediment QSAR, Weight of Evidence study
Various, Bioconcentration Factor (BCF): 1.34 Aquatic sediment QSAR, Weight of Evidence study
Various, Bioconcentration Factor (BCF): 1.65 Aquatic sediment QSAR, Weight of Evidence study
Various, Bioconcentration Factor (BCF): 3 Aquatic sediment Estimated by calculation, Weight of Evidence study

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s): SDS_US - RE1000004799
Ethanol, 2,2',2''-nitrilotris- Log Kow: -1.75 - -1.32 No Estimated by calculation, Weight of Evidence study

**Mobility in soil:**
No data available.

**Known or predicted distribution to environmental compartments**
- 2-Propanone: No data available.
- Propane: No data available.
- Butane: No data available.
- Oils, orange, sweet: No data available.
- Terpenes and Terpenoids, sweet orange-oil: No data available.
- Oils, orange, sweet, terpene-free: No data available.
- Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-
- Ethanol, 2,2',2''-nitrilotris- No data available.
- Ethanol, 2,2'-iminobis- No data available.

**Other adverse effects:**
Harmful to aquatic organisms.

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**13. Disposal considerations**

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

**Contaminated Packaging:** No data available.

---

**14. Transport information**

**DOT**

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Number</td>
<td>UN 1950</td>
</tr>
<tr>
<td>UN Proper Shipping Name</td>
<td>Aerosols, flammable</td>
</tr>
<tr>
<td>Transport Hazard Class(es)</td>
<td>2.1</td>
</tr>
<tr>
<td>Class</td>
<td>2.1</td>
</tr>
<tr>
<td>Label(s)</td>
<td>–</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
<tr>
<td>Marine Pollutant</td>
<td>No</td>
</tr>
<tr>
<td>Environmental Hazards</td>
<td>No</td>
</tr>
<tr>
<td>Marine Pollutant</td>
<td>No</td>
</tr>
</tbody>
</table>
Special precautions for user: Not regulated.

IMDG
UN Number: UN 1950
UN Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)
  Class: 2
  Label(s): –
  EmS No.: –
Packing Group: –
Environmental Hazards: No
Marine Pollutant: No
Special precautions for user: Not regulated.

IATA
UN Number: UN 1950
Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)
  Class: 2.1
  Label(s): –
Packing Group: –
Environmental Hazards: No
Marine Pollutant: No
Special precautions for user: Not regulated.

15. Regulatory information

US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td>lbs. 5000</td>
</tr>
<tr>
<td>Propane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Butane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Ethanol, 2,2'-iminobis-</td>
<td>lbs. 100</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Fire Hazard
- Immediate (Acute) Health Hazards
- Flammable aerosol
- Serious Eye Damage/Eye Irritation
- Skin sensitizer
- Specific Target Organ Toxicity - Single Exposure
SARA 302 Extremely Hazardous Substance

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable Quantity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td>lbs. 5000</td>
</tr>
<tr>
<td>Propane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Butane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Ethanol, 2,2’-iminobis-</td>
<td>lbs. 100</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Chemicals

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Propane</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Butane</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Oils, orange, sweet</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Terpenes and Terpenoids, sweet orange-oil</td>
<td>10000 lbs</td>
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<td>Oils, orange, sweet, terpene-free</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,-hexamethyl-</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Ethanol, 2,2’,2”-nitrilotris-</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Ethanol, 2,2’,2’-iminobis-</td>
<td>10000 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

US State Regulations

US. California Proposition 65
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Ethanol, 2,2’-iminobis- Carcinogenic. 07 2012

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

US. Massachusetts RTK - Substance List
No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

Ethanol, 2,2’-iminobis- Carcinogenic. 07 2012
US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable
Inventory Status:

Australia AICS: Not in compliance with the inventory.

Canada DSL Inventory List: On or in compliance with the inventory.

EINECS, ELINCS or NLP: Not in compliance with the inventory.

Japan (ENCS) List: Not in compliance with the inventory.

China Inv. Existing Chemical Substances: Not in compliance with the inventory.

Korea Existing Chemicals Inv. (KECI): Not in compliance with the inventory.

Canada NDSL Inventory: Not in compliance with the inventory.

Philippines PICCS: Not in compliance with the inventory.

US TSCA Inventory: On or in compliance with the inventory.

New Zealand Inventory of Chemicals: Not in compliance with the inventory.

Japan ISHL Listing: Not in compliance with the inventory.

Japan Pharmacopoeia Listing: Not in compliance with the inventory.

Mexico INSQ: Not in compliance with the inventory.

Ontario Inventory: Not in compliance with the inventory.

Taiwan Chemical Substance Inventory: Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

Issue Date: 04/15/2019

Revision Information: No data available.

Version #: 1.0

Further Information: No data available.

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.