SAFETY DATA SHEET
Nashua 357 Spray Adhesive

Section 1. Identification

<table>
<thead>
<tr>
<th>Product code / Name</th>
<th>Nashua 357 Spray Adhesive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product description</td>
<td>Premium Web Spray Adhesive</td>
</tr>
</tbody>
</table>

Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>Adhesive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses advised against</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Supplier/Manufacturer

<table>
<thead>
<tr>
<th>Berry Global, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2320 Bowling Green Road</td>
</tr>
<tr>
<td>Franklin, KY 42134</td>
</tr>
</tbody>
</table>

Email

| regulatoryaffairs@berryglobal.com |

Emergency telephone number (with hours of operation)

| Chemtrec 24 Hour Emergency Response Number +1-800-424-9300 CCN22955 |
| +1-800-248-7659 M-F 8AM-5PM |

Section 2. Hazards identification

OSHA/HCS status

| This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |

Classification of the substance or mixture

| FLAMMABLE AEROSOLS - Category 1 |
| GASES UNDER PRESSURE - Compressed gas |
| SKIN IRRITATION - Category 2 |
| EYE IRRITATION - Category 2A |
| SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 |

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 12.6%

GHS label elements

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Flammable Icon" /> <img src="image" alt="Corrosive Icon" /> <img src="image" alt="Toxic Icon" /></td>
</tr>
</tbody>
</table>

Signal word

| Danger |

Hazard statements

| Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes serious eye irritation. Causes skin irritation. May cause drowsiness or dizziness. |

Precautionary statements

| Prevention |
| Wear protective gloves. Wear eye or face protection. 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. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use. |

| Response |
| IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. 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 attention. |

| Storage |
| Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place. |
Section 2. Hazards identification

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazard not otherwise classified: None known.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Hazardous ingredients Name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>acetone</td>
<td>≥10 - ≤25</td>
<td>67-64-1</td>
</tr>
<tr>
<td></td>
<td>methyl acetate</td>
<td>≤10</td>
<td>79-20-9</td>
</tr>
<tr>
<td></td>
<td>heptane</td>
<td>≤3</td>
<td>142-82-5</td>
</tr>
</tbody>
</table>

Non-hazardous ingredients Name

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Non-hazardous ingredients Name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>propane</td>
<td>10 - 25</td>
<td>74-98-6</td>
</tr>
<tr>
<td></td>
<td>butane</td>
<td>10 - 25</td>
<td>106-97-8</td>
</tr>
<tr>
<td></td>
<td>Dimethyl Ether</td>
<td>3 - 5</td>
<td>115-10-6</td>
</tr>
<tr>
<td></td>
<td>4-chloro-α,α,α-trifluorotoluene</td>
<td>3 - 5</td>
<td>98-56-6</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Causes serious eye irritation.

Inhalation: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact: Causes skin irritation.

Ingestion: Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms
Section 4. First aid measures

**Eye contact**

- Adverse symptoms may include the following:
  - pain or irritation
  - watering
  - redness

**Inhalation**

- Adverse symptoms may include the following:
  - respiratory tract irritation
  - coughing
  - nausea or vomiting
  - headache
  - dizziness/fatigue
  - dizziness/vertigo
  - unconsciousness

**Skin contact**

- Adverse symptoms may include the following:
  - irritation
  - redness

**Ingestion**

- No specific data.

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

**Notes to physician**

- In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments**

- No specific treatment.

**Protection of first-aiders**

- No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

**Extinguishing media**

- **Suitable extinguishing media**
  - Use an extinguishing agent suitable for the surrounding fire.

- **Unsuitable extinguishing media**
  - None known.

**Specific hazards arising from the chemical**

- Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

**Hazardous thermal decomposition products**

- Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - halogenated compounds
  - carbonyl halides

**Special protective actions for fire-fighters**

- Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters**

- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

Environmental precautions: Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits
## Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
</table>
| acetone         | ACGIH TLV (United States, 3/2016).  
TWA: 250 ppm 8 hours.  
STEL: 500 ppm 15 minutes.  
**OSHA PEL 1989 (United States, 3/1989).**  
TWA: 750 ppm 8 hours.  
TWA: 1800 mg/m³ 8 hours.  
STEL: 1000 ppm 15 minutes.  
STEL: 2400 mg/m³ 15 minutes.  
**NIOSH REL (United States, 10/2013).**  
TWA: 250 ppm 10 hours.  
TWA: 590 mg/m³ 10 hours.  
**OSHA PEL (United States, 6/2016).**  
TWA: 1000 ppm 8 hours.  
TWA: 2400 mg/m³ 8 hours.  |
| methyl acetate  | ACGIH TLV (United States, 3/2016).  
TWA: 200 ppm 8 hours.  
TWA: 606 mg/m³ 8 hours.  
STEL: 250 ppm 15 minutes.  
STEL: 757 mg/m³ 15 minutes.  
**OSHA PEL 1989 (United States, 3/1989).**  
TWA: 200 ppm 8 hours.  
TWA: 610 mg/m³ 8 hours.  
STEL: 250 ppm 15 minutes.  
STEL: 760 mg/m³ 15 minutes.  
**NIOSH REL (United States, 10/2013).**  
TWA: 200 ppm 10 hours.  
TWA: 610 mg/m³ 10 hours.  
STEL: 250 ppm 15 minutes.  
STEL: 760 mg/m³ 15 minutes.  
**OSHA PEL (United States, 6/2016).**  
TWA: 200 ppm 8 hours.  
TWA: 610 mg/m³ 8 hours.  |
| heptane         | ACGIH TLV (United States, 3/2016).  
TWA: 400 ppm 8 hours.  
TWA: 1640 mg/m³ 8 hours.  
STEL: 500 ppm 15 minutes.  
STEL: 2050 mg/m³ 15 minutes.  
**OSHA PEL 1989 (United States, 3/1989).**  
TWA: 400 ppm 8 hours.  
TWA: 1600 mg/m³ 8 hours.  
STEL: 500 ppm 15 minutes.  
STEL: 2000 mg/m³ 15 minutes.  
**NIOSH REL (United States, 10/2013).**  
TWA: 85 ppm 10 hours.  
TWA: 350 mg/m³ 10 hours.  
CEIL: 440 ppm 15 minutes.  
CEIL: 1800 mg/m³ 15 minutes.  
**OSHA PEL (United States, 6/2016).**  
TWA: 500 ppm 8 hours.  
TWA: 2000 mg/m³ 8 hours.  |

**Appropriate engineering controls**: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
# Section 8. Exposure controls/personal protection

## Environmental exposure controls
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

### Hygiene measures
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Eye/face protection
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

### Skin protection

#### Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

#### Body protection
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

#### Other skin protection
Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

### Respiratory protection
Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

# Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid. [Aerosol. Liquefied compressed gas.]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>67.05°C (152.7°F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>Open cup: -104.4°C (-155.9°F)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>
| Lower and upper explosive (flammable) limits | Lower: 2.2%  
Upper: 11.4% |
| Vapor pressure | Not available.                             |
| Vapor density  | Not available.                             |
| Relative density| Not available.                            |
| Solubility     | Not available.                             |
| Partition coefficient: n-octanol/water | Not applicable.                      |
Section 9. Physical and chemical properties

**Auto-ignition temperature**: 385.69°C (726.2°F)

**Decomposition temperature**: Not available.

**Viscosity**: Not applicable.

**Aerosol product**

- **Type of aerosol**: Spray
- **Heat of combustion**: 22.82 kJ/g

Section 10. Stability and reactivity

**Reactivity**

No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability**

The product is stable.

**Possibility of hazardous reactions**

Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid**

Avoid all possible sources of ignition (spark or flame).

**Incompatible materials**

No specific data.

**Hazardous decomposition products**

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

Section 11. Toxicological information

**Information on toxicological effects**

### Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetone</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>heptane</td>
<td>LC50 Inhalation Gas</td>
<td>Rat</td>
<td>48000 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>103 g/m³</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

### Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetone</td>
<td>Eyes - Mild irritant</td>
<td>Human</td>
<td>-</td>
<td>186300 parts per million</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 microliters</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>20 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>395 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>methyl acetate</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitization**

No known significant effects or critical hazards.

**Mutagenicity**

No known significant effects or critical hazards.
Nashua 357 Spray Adhesive

Section 11. Toxicological information

**Carcinogenicity**
No known significant effects or critical hazards.

**Reproductive toxicity**
No known significant effects or critical hazards.

**Teratogenicity**
No known significant effects or critical hazards.

**Specific target organ toxicity (single exposure)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetone</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>methyl acetate</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>heptane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**
No known significant effects or critical hazards.

**Aspiration hazard**

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>heptane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact**: Adverse symptoms may include the following:
- pain or irritation
- watering
- redness

**Inhalation**: Adverse symptoms may include the following:
- respiratory tract irritation
- coughing
- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness

**Skin contact**: Adverse symptoms may include the following:
- irritation
- redness

**Ingestion**: No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

- Potential immediate effects: Not applicable.
- Potential delayed effects: Not applicable.

**Long term exposure**

- Potential immediate effects: Not applicable.
- Potential delayed effects: Not applicable.

**Potential chronic health effects**
No known significant effects or critical hazards.

- General: No known significant effects or critical hazards.
- Carcinogenicity: No known significant effects or critical hazards.
- Mutagenicity: No known significant effects or critical hazards.
Section 11. Toxicological information

Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates
Not applicable.

Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetone</td>
<td>Acute EC50 20.565 mg/l Marine water</td>
<td>Algae - Ulva pertusa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 6000000 µg/l Fresh water</td>
<td>Crustaceans - Gammarus pulex</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 10000 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 5600 ppm Fresh water</td>
<td>Fish - Poecilia reticulata</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 4.95 mg/l Marine water</td>
<td>Algae - Ulva pertusa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.016 ml/L Fresh water</td>
<td>Crustaceans - Daphniidae</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.1 ml/L Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>21 days</td>
</tr>
<tr>
<td>methyl acetate</td>
<td>Acute LC50 320000 µg/l Fresh water</td>
<td>Fish - Gasterosteus aculeatus - Larvae</td>
<td>42 days</td>
</tr>
<tr>
<td>heptane</td>
<td>Acute LC50 3750000 µg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 375000 µg/l Fresh water</td>
<td>Fish - Oreochromis mossambicus</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability

Not applicable.

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetone</td>
<td>-0.23</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>methyl acetate</td>
<td>0.18</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>heptane</td>
<td>4.66</td>
<td>552</td>
<td>high</td>
</tr>
</tbody>
</table>

Mobility in soil

Soil/water partition coefficient (K_{oc}): Not applicable.

Other adverse effects: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Do not puncture or incinerate container. Dispose of according to all federal, state and local applicable regulations.

United States - RCRA Toxic hazardous waste "U" List

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS #</th>
<th>Status</th>
<th>Reference number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone (I); 2-Propanone (I)</td>
<td>67-64-1</td>
<td>Listed</td>
<td>U002</td>
</tr>
</tbody>
</table>
**Section 14. Transport information**

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN1950</td>
<td>UN1950</td>
<td>UN1950</td>
<td>UN1950</td>
<td>UN1950</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>AEROSOLS</td>
<td>AEROSOLS</td>
<td>AEROSOLS</td>
<td>AEROSOLS</td>
<td>Aerosols, flammable</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2</td>
<td>2.1</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
<td>Yes.</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
</tr>
<tr>
<td>Additional information</td>
<td>Reportable quantity 20394 lbs / 9258.9 kg [4632.5 gal / 17535.8 L]</td>
<td>Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.7 (Marine pollutant mark).</td>
<td>-</td>
<td>The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.</td>
<td>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</td>
</tr>
</tbody>
</table>

**Section 15. Regulatory information**

**U.S. Federal regulations**
- **Clean Air Act (CAA) 112 regulated flammable substances**: propane; butane; dimethyl ether
- **TSCA**: All components are listed or exempted.
- **Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)**: Not listed
- **Clean Air Act Section 602 Class I Substances**: Not listed
- **Clean Air Act Section 602 Class II Substances**: Not listed
- **SARA 302/304**: Not listed
Section 15. Regulatory information

Composition/information on ingredients

No ingredients were found.

SARA 304 RQ : Not applicable.

SARA 311/312
Classification : Fire hazard
Sudden release of pressure
Immediate (acute) health hazard

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
</table>

Canada

WHMIS (Canada) : Class B-2: Flammable liquid
Class B-5: Flammable aerosol.
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI : The following components are listed: Volatile organic compounds; Propane; Butane (all isomers); Dimethylether; Volatile organic compounds; Heptane (all isomers)

CEPA Toxic substances : The following components are listed: Volatile organic compounds; Volatile organic compounds

Canada inventory : All components are listed or exempted.

International lists

National inventory

Australia : All components are listed or exempted.
China : All components are listed or exempted.
Europe : All components are listed or exempted.
Japan : Japan inventory (ENCS): All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.
Malaysia : Not determined.
New Zealand : All components are listed or exempted.
Philippines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.

Section 16. Other information

History

Date of issue/Date of revision : 4/10/2017
Date of previous issue : 3/28/2017
Version : 1.01
Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
UN = United Nations
Section 16. Other information

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