## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>CW8400 Circuit-Works® Lead-Free Flux Dispensing Pen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product code</strong></td>
<td>CW8400</td>
</tr>
<tr>
<td><strong>Product description</strong></td>
<td>Fluxing agents</td>
</tr>
<tr>
<td><strong>Product type</strong></td>
<td>Liquid.</td>
</tr>
<tr>
<td><strong>Other means of identification</strong></td>
<td>Circuit-Works® Lead-Free Flux Dispensing Pen, CW8400</td>
</tr>
</tbody>
</table>

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

Not applicable.

### 1.3 Details of the supplier of the safety data sheet

| **E-mail address of person responsible for this SDS** | askchemtronics@chemtronics.com |

**National contact**

ITW Contamination Control BV  
Saffierlaan 5  
VZ-2132 Hoofddorp  
The Netherlands  
Email: info@itw-cc.com  
Tel: +31 88 1307 400  
FAX: +31 88 1307 499

### 1.4 Emergency telephone number

**National advisory body/Poison Centre**

| **Telephone number** | EMERGENCY HEALTH INFORMATION:  
Chemtrec - 1-800-424-9300 or collect 703-527-3887 |

**Supplier**

| **Telephone number** | Chemtronics Product Information: 800-TECH-401 (800-832-4401)  
Chemtronics Customer Service: 800-645-5244  
Chemtrec 800-424-9300  
Hours of operation | Chemtrec - 1-800-424-9300 or collect 703-527-3887  
For emergency responders  
24/7  
Information limitations | EMERGENCY HEALTH INFORMATION:  
EMERGENCY SPILL INFORMATION:  
Transport information |
SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 2, H225
Eye Irrit. 2, H319
STOT SE 3, H336
STOT RE 2, H373

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity: 21 percent of the mixture consists of component(s) of unknown toxicity

Ingredients of unknown ecotoxicity: Contains 21 % of components with unknown hazards to the aquatic environment

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms:

Signal word: Danger

Hazard statements:
Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

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. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Do not breathe vapour.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage:
Keep cool.

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

Hazardous ingredients:
propan-2-ol
solvent naphtha (petroleum), medium aliph.

Supplemental label elements:
FOR INDUSTRIAL USE ONLY

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles:
Not applicable.

Special packaging requirements:
Containers to be fitted with child-resistant fastenings:
Not applicable.

Tactile warning of danger:
Not applicable.

2.3 Other hazards

Date of issue/Date of revision: 5/15/2017
Date of previous issue: No previous validation
Version: 1
SECTION 2: Hazards identification

Other hazards which do not result in classification

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>solvent naphtha (petroleum), medium aliph.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type
[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of 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.

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 following exposure or if feeling unwell. 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.
SECTION 4: First aid measures

**Medical attention immediately.** Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**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.

4.2 Most important symptoms and effects, both acute and delayed

**Over-exposure signs/symptoms**

<table>
<thead>
<tr>
<th align="left">Eye contact</th>
<th align="center">: Adverse symptoms may include the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td align="left">:</td>
<td align="center">pain or irritation</td>
</tr>
<tr>
<td align="left">:</td>
<td align="center">watering</td>
</tr>
<tr>
<td align="left">:</td>
<td align="center">redness</td>
</tr>
</tbody>
</table>

**Inhalation**

| : Adverse symptoms may include the following: |
| : nausea or vomiting |
| : headache |
| : drowsiness/fatigue |
| : dizziness/vertigo |
| : coughing |
| : wheezing and breathing difficulties |

**Skin contact**

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

**Ingestion**

| : Adverse symptoms may include the following: |
| : nausea or vomiting |

4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician:** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments:** No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

**Suitable extinguishing media:** Use dry chemical, CO₂, water spray (fog) or foam.

**Unsuitable extinguishing media:** Do not use water jet.

5.2 Special hazards arising from the substance or mixture

**Hazardous combustion products:** Hazardous decomposition products. Decomposition products may include the following materials:

- carbon dioxide
- carbon monoxide

5.3 Advice for firefighters

**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.
SECTION 5: Firefighting measures

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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. Do not touch or walk through spill material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
SECTION 7: Handling and storage

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.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Seveso Directive - Reporting thresholds (in tonnes)

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>P5c: Flammable liquids 2 and 3 not falling under P5a or P5b</td>
</tr>
<tr>
<td>Notification and MAPP threshold</td>
</tr>
<tr>
<td>Safety report threshold</td>
</tr>
<tr>
<td>5000</td>
</tr>
<tr>
<td>50000</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s)

Recommendations: Not available.

Industrial sector specific solutions: Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available.

8.2 Exposure controls
SECTION 8: Exposure controls/personal protection

**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, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**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. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

**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.

**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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

**Physical state**

Liquid. [Liquid.]

**Colour**

Colourless to light yellow.

**Odour**

Alcohol-like. [Slight]

**Odour threshold**

Not available.

**pH**

Not available.

**Melting point/freezing point**

-89°C

**Initial boiling point and boiling range**

82°C

**Flash point**

Closed cup: 17°C [Tagliabue.]
SECTION 9: Physical and chemical properties

Evaporation rate : >1 (butyl acetate = 1)
Flammability (solid, gas) : Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Upper/lower flammability or explosive limits : Not available.
Vapour pressure : 4.4 kPa [room temperature]
Vapour density : >1 [Air = 1]
Relative density : 0.81
Solubility(ies) : Not available.
Partition coefficient: n-octanol/ water : Not available.
Auto-ignition temperature : 399°C
Decomposition temperature : Not available.
Viscosity : Not available.
Explosive properties : Not available.
Oxidising properties : Not available.

9.2 Other information
Solubility in water : Not available.
No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability : The product is stable.
10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
10.5 Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials
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

<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>propan-2-ol</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>12800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>succinic acid</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2260 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary : Not available.

Acute toxicity estimates
Not available.

Irritation/Corrosion

Date of issue/Date of revision : 5/15/2017  Date of previous issue : No previous validation  Version : 1  8/14
SECTION 11: Toxicological information

### Potential acute health effects

**Eye contact**: Causes serious eye irritation.

**Inhalation**: Harmful by inhalation. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen. Vapours may cause drowsiness and dizziness. Avoid breathing fumes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitisation by inhalation.

**Skin contact**: May cause skin irritation. May cause sensitisation by skin contact.

**Ingestion**: Harmful if swallowed. Irritating to mouth, throat and stomach.

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

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

### Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>succinic acid</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>solvent naphtha (petroleum), medium aliph.</td>
<td>Category 1</td>
<td>Not determined</td>
<td>central nervous system (CNS)</td>
</tr>
</tbody>
</table>

**Aspiration hazard**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>solvent naphtha (petroleum), medium aliph.</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

### Information on likely routes of exposure

**Potential acute health effects**

**Eye contact**: Causes serious eye irritation.

**Inhalation**: Harmful by inhalation. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen. Vapours may cause drowsiness and dizziness. Avoid breathing fumes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitisation by inhalation.

**Skin contact**: May cause skin irritation. May cause sensitisation by skin contact.

**Ingestion**: Harmful if swallowed. Irritating to mouth, throat and stomach.

### Conclusion/Summary

**Sensitisation**: Not available.

**Mutagenicity**: Not available.

**Carcinogenicity**: Not available.

**Reproductive toxicity**: Not available.

**Teratogenicity**: Not available.

<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>propan-2-ol</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>750 micrograms</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**: Not available.
SECTION 11: Toxicological information

Potential chronic health effects
May cause damage to organs through prolonged or repeated exposure.

General:
No known significant effects or critical hazards.

Carcinogenicity:
No known significant effects or critical hazards.

Mutagenicity:
No known significant effects or critical hazards.

Teratogenicity:
Not available.

Developmental effects:
No known significant effects or critical hazards.

Fertility effects:
No known significant effects or critical hazards.

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

Ingestion:
Adverse symptoms may include the following:
- nausea or vomiting

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure
Potential immediate effects:
Not available.

Potential delayed effects:
Not available.

Long term exposure
Potential immediate effects:
Not available.

Potential delayed effects:
Not available.

Potential chronic health effects
Not available.

Conclusion/Summary:
Not available.

General:
May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity:
No known significant effects or critical hazards.

Mutagenicity:
No known significant effects or critical hazards.

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.

Other information:
Not available.

SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol</td>
<td>Acute LC50 1400000 to 1950000 μg/l Marine water</td>
<td>Crustaceans - Crangon crangon</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 4200 mg/l Fresh water</td>
<td>Fish - Rasbora heteromorpha</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 374200 μg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Larvae</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Conclusion/Summary:
Not available.

12.2 Persistence and degradability
Conclusion/Summary:
Not available.

12.3 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>propan-2-ol</td>
<td>0.05</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>succinic acid</td>
<td>-0.59</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 5/15/2017
Date of previous issue: No previous validation
Version: 1

## SECTION 12: Ecological information

### 12.4 Mobility in soil
- **Soil/water partition coefficient (K<sub>oc</sub>)**: Not available.
- **Mobility**: Not available.

### 12.5 Results of PBT and vPvB assessment
- **PBT**: Not applicable.
- **vPvB**: Not applicable.

### 12.6 Other adverse effects
- No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product
- **Methods of disposal**: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

#### Hazardous waste
- **Packaging**: The classification of the product may meet the criteria for a hazardous waste.

#### Methods of disposal
- **Special precautions**: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

<table>
<thead>
<tr>
<th></th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>14.1 UN number</strong></td>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
</tr>
<tr>
<td><strong>14.2 UN proper shipping name</strong></td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
</tr>
<tr>
<td><strong>14.3 Transport hazard class(es)</strong></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>14.4 Packing group</strong></td>
<td>II</td>
<td>II</td>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td><strong>14.5 Environmental hazards</strong></td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>
SECTION 14: Transport information

<table>
<thead>
<tr>
<th>Additional information</th>
<th>Special provisions</th>
<th>-</th>
<th>Limited quantity</th>
<th>Max. Qty 1L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>640 (C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tunnel code (D/E)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14.6 Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

: Not applicable.

Other EU regulations

Europe inventory: All components are listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

P5c: Flammable liquids 2 and 3 not falling under P5a or P5b

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

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Date of previous issue: No previous validation

Version: 1

12/14
SECTION 15: Regulatory information

UNECE Aarhus Protocol on POPs and Heavy Metals
Not listed.

International lists

National inventory

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Japan : Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
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.
Turkey : Not determined.
United States : All components are listed or exempted.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 2, H225</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Eye Irrit. 2, H319</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT SE 3, H336</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT RE 2, H373</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

<table>
<thead>
<tr>
<th>H225</th>
<th>Highly flammable liquid and vapour.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H304</td>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

Full text of classifications [CLP/GHS]
**SECTION 16: Other information**

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asp. Tox. 1, H304</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2, H319</td>
<td>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2</td>
</tr>
<tr>
<td>Flam. Liq. 2, H225</td>
<td>FLAMMABLE LIQUIDS - Category 2</td>
</tr>
<tr>
<td>Flam. Liq. 3, H226</td>
<td>FLAMMABLE LIQUIDS - Category 3</td>
</tr>
<tr>
<td>STOT RE 1, H372</td>
<td>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1</td>
</tr>
<tr>
<td>STOT RE 2, H373</td>
<td>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2</td>
</tr>
<tr>
<td>STOT SE 3, H336</td>
<td>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3</td>
</tr>
</tbody>
</table>

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.