



## SAFETY DATA SHEET

### Free Cav - FDF

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

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

##### 1.1. Product identifier

Product name Free Cav - FDF

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

Identified uses Embalming Chemical

Uses advised against No specific uses advised against are identified.

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

Supplier The MazWell Group Ltd.  
Units 11/14-15 Ardglan Industrial Estate,  
Whitchurch, Hampshire,  
RG28 7BB, United Kingdom  
+44 (0)1256-893883  
+44 (0)1256-893868  
enquiries@themazwellgroup.com

##### 1.4. Emergency telephone number

Emergency telephone +44 (0)1256 893883 (Mon- Fri 9:00 am - 4:30 pm)

#### SECTION 2: Hazards identification

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

###### Classification (EC 1272/2008)

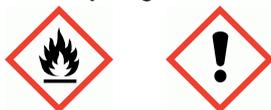
Physical hazards Flam. Liq. 2 - H225

Health hazards Eye Irrit. 2 - H319 STOT SE 3 - H336

Environmental hazards Aquatic Chronic 3 - H412

##### 2.2. Label elements

###### Hazard pictograms



Signal word Danger

Hazard statements  
H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H412 Harmful to aquatic life with long lasting effects.

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<b>Precautionary statements</b>	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P261 Avoid breathing vapour/ spray.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P312 Call a POISON CENTRE/doctor if you feel unwell.</p> <p>P403+P235 Store in a well-ventilated place. Keep cool.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
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**Contains** Propan-2-ol

<b>Supplementary precautionary statements</b>	<p>P240 Ground and bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical equipment.</p> <p>P242 Use non-sparking tools.</p> <p>P243 Take action to prevent static discharges.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P273 Avoid release to the environment.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p>
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### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<p><b>Propan-2-ol</b> <span style="float: right;"><b>25 - &lt;50%</b></span></p> <p>CAS number: 67-63-0                      EC number: 200-661-7                      REACH registration number: 01-2119457558-25-0000</p>
<p><b>Classification</b></p> <p>Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336</p>
<p><b>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides</b> <span style="float: right;"><b>0.5 - &lt;1%</b></span></p> <p>CAS number: 68424-85-1                      EC number: 270-325-2 M factor (Acute) = 10                      M factor (Chronic) = 1</p>
<p><b>Classification</b></p> <p>Acute Tox. 4 - H302 Skin Corr. 1C - H314 Eye Dam. 1 - H318 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410</p>

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The full text for all hazard statements is displayed in Section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>General information</b>	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place.
<b>Skin contact</b>	Rinse with water.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

#### 4.2. Most important symptoms and effects, both acute and delayed

<b>General information</b>	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	A single exposure may cause the following adverse effects: Headache. Nausea, vomiting. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Narcotic effect.
<b>Ingestion</b>	Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
<b>Skin contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	Irritating to eyes.

#### 4.3. Indication of any immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	Treat symptomatically.
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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

#### 5.2. Special hazards arising from the substance or mixture

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<b>Specific hazards</b>	Containers can burst violently or explode when heated, due to excessive pressure build-up. Flammable liquid and vapour. Vapours may be ignited by a spark, a hot surface or an ember. Vapours may form explosive mixtures with air. Fire-water run-off in sewers may create fire or explosion hazard.
<b>Hazardous combustion products</b>	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.
<b>5.3. Advice for firefighters</b>	
<b>Protective actions during firefighting</b>	Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

### SECTION 6: Accidental release measures

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

<b>Personal precautions</b>	Do not touch or walk into spilled material. Keep unnecessary and unprotected personnel away from the spillage. Evacuate area. No smoking, sparks, flames or other sources of ignition near spillage. Avoid inhalation of vapours and spray/mists. Provide adequate ventilation. Use suitable respiratory protection if ventilation is inadequate. Wear protective clothing as described in Section 8 of this safety data sheet. Promptly remove any clothing that becomes contaminated. Follow precautions for safe handling described in this safety data sheet. Ensure procedures and training for emergency decontamination and disposal are in place. Wash thoroughly after dealing with a spillage.
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#### 6.2. Environmental precautions

<b>Environmental precautions</b>	Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.
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#### 6.3. Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Do not allow material to enter confined spaces, due to the risk of explosion. Do not empty into drains. Absorb small quantities with paper towels and evaporate in a safe place. Once evaporation is complete, place paper in a suitable waste disposal container and seal securely. Large Spillages: Absorb spillage with non-combustible, absorbent material. The contaminated absorbent may pose the same hazard as the spilled material. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. For waste disposal, see Section 13. Wash thoroughly after dealing with a spillage.
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#### 6.4. Reference to other sections

<b>Reference to other sections</b>	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.
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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Usage precautions** Read and follow manufacturer's recommendations. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from food, drink and animal feeding stuffs. Wear protective clothing as described in Section 8 of this safety data sheet. Do not handle until all safety precautions have been read and understood. Handle all packages and containers carefully to minimise spills. Use only non-sparking tools. Use explosion-proof electrical, ventilating and lighting equipment. In use may form flammable/explosive vapour-air mixture. Keep container tightly sealed when not in use. Do not reuse empty containers.

**Advice on general occupational hygiene** Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

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

**Storage precautions** Store away from incompatible materials (see Section 10). Eliminate all sources of ignition. Take precautionary measures against static discharges. Keep away from oxidising materials, heat and flames. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

**Storage class** Flammable liquid storage.

#### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

### SECTION 8: Exposure controls/Personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

##### Propan-2-ol

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit.

##### Propan-2-ol (CAS: 67-63-0)

**DNEL** Industry - Inhalation; Long term systemic effects: 500 mg/m<sup>3</sup>  
 Industry - Dermal; Long term systemic effects: 888 mg/kg/day  
 Consumer - Inhalation; Long term systemic effects: 89 mg/m<sup>3</sup>  
 Consumer - Dermal; Long term systemic effects: 319 mg/kg/day  
 Consumer - Oral; Long term systemic effects: 26 mg/kg/day

**PNEC** - Fresh water; 140.9 mg/l  
 - marine water; 140.9 mg/l  
 - Intermittent release; 140.9 mg/l  
 - Sediment (Freshwater); 552 mg/kg  
 - Sediment (Marinewater); 552 mg/kg  
 - STP; 2251 mg/l  
 - Soil; 28 mg/kg

#### 8.2. Exposure controls

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### Protective equipment



### Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment 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. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilating equipment.

### Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

### Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

### Hygiene measures

Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Warn cleaning personnel of any hazardous properties of the product.

### Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

### Environmental exposure controls

Keep container tightly sealed when not in use. 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	Liquid.
Colour	Not known.
Odour	Alcoholic.

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<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	63-66°C @ 760 mm Hg
<b>Flash point</b>	12°C Tag closed cup.
<b>Evaporation rate</b>	> 1 (butyl acetate = 1)
<b>Flammability (solid, gas)</b>	Flammable liquid and vapour.
<b>Upper/lower flammability or explosive limits</b>	Lower flammable/explosive limit: 6% Upper flammable/explosive limit: 36.5
<b>Vapour pressure</b>	Not available.
<b>Vapour density</b>	> 1
<b>Relative density</b>	0.965-0.975 @ 20°C
<b>Solubility(ies)</b>	Slightly soluble in water.
<b>Partition coefficient</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition Temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidising properties</b>	Does not meet the criteria for classification as oxidising.
<b><u>9.2. Other information</u></b>	
<b>Other information</b>	No information required.
<b>Volatility</b>	90%

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

**Reactivity** See the other subsections of this section for further details.

#### 10.2. Chemical stability

**Stability** Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

#### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** The following materials may react strongly with the product: Oxidising agents.

#### 10.4. Conditions to avoid

**Conditions to avoid** Avoid heat, flames and other sources of ignition. Containers can burst violently or explode when heated, due to excessive pressure build-up. Static electricity and formation of sparks must be prevented. Do not pressurise, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition.

#### 10.5. Incompatible materials

**Materials to avoid** Oxidising materials. Acids - oxidising.

## Free Cav - FDF

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity - oral

**Summary** Based on available data the classification criteria are not met.

##### Acute toxicity - dermal

**Summary** Based on available data the classification criteria are not met.

##### Acute toxicity - inhalation

**Summary** Based on available data the classification criteria are not met.

##### Skin corrosion/irritation

**Summary** Based on available data the classification criteria are not met.

##### Serious eye damage/irritation

**Summary** Causes serious eye irritation.

##### Respiratory sensitisation

**Summary** Based on available data the classification criteria are not met.

##### Skin sensitisation

**Summary** Based on available data the classification criteria are not met.

##### Germ cell mutagenicity

**Summary** Based on available data the classification criteria are not met.

##### Carcinogenicity

**Summary** Based on available data the classification criteria are not met.

##### IARC carcinogenicity

Contains a substance which may be potentially carcinogenic. IARC Group 3 Not classifiable as to its carcinogenicity to humans.

##### Reproductive toxicity

**Summary** Based on available data the classification criteria are not met.

##### Specific target organ toxicity - single exposure

**Summary** May cause drowsiness or dizziness.

##### Target organs

Central nervous system

##### Specific target organ toxicity - repeated exposure

**Summary** Based on available data the classification criteria are not met.

##### Aspiration hazard

**Summary** Based on available data the classification criteria are not met.

##### General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

##### Inhalation

A single exposure may cause the following adverse effects: Headache. Nausea, vomiting. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Narcotic effect.

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<b>Ingestion</b>	Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
<b>Skin contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	Irritating to eyes.
<b>Route of exposure</b>	Ingestion Inhalation Skin and/or eye contact
<b>Target organs</b>	Central nervous system

### Toxicological information on ingredients.

#### Propan-2-ol

##### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 5,840.0

**Species** Rat

**ATE oral (mg/kg)** 5,840.0

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 16.4 ml/kg, Dermal, Rabbit

##### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> >10000 ppm, Inhalation, Rat

##### Skin corrosion/irritation

**Animal data** Dose: 0.5 mL, 4 hours, Rabbit Erythema/eschar score: No erythema (0). Oedema score: No oedema (0).

##### Serious eye damage/irritation

**Serious eye damage/irritation** Dose: 0.1 mL, 1 day, Rabbit Causes serious eye irritation.

##### Skin sensitisation

**Skin sensitisation** Buehler test - Guinea pig: Not sensitising.

##### Germ cell mutagenicity

**Genotoxicity - in vitro** Gene mutation: Negative.

**Genotoxicity - in vivo** Chromosome aberration: Negative.

##### Carcinogenicity

**Carcinogenicity** NOEL 5000 ppm, Inhalation, Mouse

**IARC carcinogenicity** IARC Group 3 Not classifiable as to its carcinogenicity to humans.

##### Reproductive toxicity

**Reproductive toxicity - fertility** One-generation study - NOAEL 1000 mg/kg/day, Oral, Rat F1

**Reproductive toxicity - development** Developmental toxicity: - NOAEL: 480 mg/kg/day, Oral, Rabbit

##### Specific target organ toxicity - single exposure

**STOT - single exposure** STOT SE 3 - H336 May cause drowsiness or dizziness.

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### Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEC 5000 ppm, Inhalation, Rat

#### Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

##### Acute toxicity - oral

Acute toxicity oral (LD<sub>50</sub> mg/kg) 344.0

Species Rat

Notes (oral LD<sub>50</sub>) Supplier's information. Harmful if swallowed.

ATE oral (mg/kg) 344.0

##### Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> mg/kg) 3,340.0

Species Rabbit

Notes (dermal LD<sub>50</sub>) Based on available data the classification criteria are not met. Supplier's information.

ATE dermal (mg/kg) 3,340.0

##### Acute toxicity - inhalation

Notes (inhalation LC<sub>50</sub>) Based on available data the classification criteria are not met.

##### Skin corrosion/irritation

Animal data Dose: 24, hours, Rabbit Corrosive. Based on available data the classification criteria are not met. Supplier's information.

##### Serious eye damage/irritation

Serious eye damage/irritation Corrosive to skin. Corrosivity to eyes is assumed. Supplier's information.

##### Skin sensitisation

Skin sensitisation Buehler test - Guinea pig: Not sensitising. Supplier's information.

##### Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Negative. Based on available data the classification criteria are not met. Supplier's information.

Genotoxicity - in vivo Ames test: Negative. Based on available data the classification criteria are not met. Supplier's information.

##### Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

##### Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

### Specific target organ toxicity - single exposure

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**STOT - single exposure** Based on available data the classification criteria are not met.

**Specific target organ toxicity - repeated exposure**

**STOT - repeated exposure** Based on available data the classification criteria are not met.

**Aspiration hazard**

**Aspiration hazard** Based on available data the classification criteria are not met.

### SECTION 12: Ecological information

#### 12.1. Toxicity

##### Acute aquatic toxicity

**Summary** Based on available data the classification criteria are not met.

##### Chronic aquatic toxicity

**Summary** Harmful to aquatic life with long lasting effects.

##### Ecological information on ingredients.

#### Propan-2-ol

**Toxicity** Aquatic toxicity is unlikely to occur.

##### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 9640 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** LC<sub>50</sub>, 24 hours: >10000 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** Toxicity threshold, 7 days: 1800 mg/l, Scenedesmus quadricauda

#### Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

**Toxicity** Aquatic Acute 1 - H400 Very toxic to aquatic life.

##### Acute aquatic toxicity

**LE(C)<sub>50</sub>** 0.01 < L(E)C<sub>50</sub> ≤ 0.1

**M factor (Acute)** 10

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 0.93 mg/l, Oncorhynchus mykiss (Rainbow trout)  
LC<sub>50</sub>, 96 hours: 0.28 mg/l, Pimephales promelas (Fat-head Minnow)  
LC<sub>50</sub>, 96 hours: 0.515 mg/l, Lepomis macrochirus (Bluegill)  
Supplier's information.

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 0.016 mg/l, Daphnia magna  
Supplier's information.

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: 0.049 mg/l, Pseudokirchneriella subcapitata  
Supplier's information.

**Acute toxicity - terrestrial** LC<sub>50</sub>, 14 days: 7070 mg/kg, Eisenia Fetida (Earthworm)  
Supplier's information.

**Acute toxicity - microorganisms** EC<sub>50</sub>, 3 hours: 7.75 mg/l, Activated sludge  
EC<sub>100</sub>, 96 hours: ~16 mg/l, Pseudomonas putida  
Supplier's information.

##### Chronic aquatic toxicity

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<b>M factor (Chronic)</b>	1
<b>Chronic toxicity - fish early life stage</b>	NOEC, 34 days: 0.032 mg/l, Pimephales promelas (Fat-head Minnow) Supplier's information.
<b>Chronic toxicity - aquatic invertebrates</b>	NOEC, 21 days: 0.0042 mg/l, Daphnia magna NOEC, 28 days: 520 mg/l, Chironomus sp.

### 12.2. Persistence and degradability

**Persistence and degradability** The degradability of the product is not known.

### Ecological information on ingredients.

#### Propan-2-ol

<b>Persistence and degradability</b>	The product is readily biodegradable.
<b>Biodegradation</b>	Water - Degradation 53%: 5 days

#### Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

<b>Persistence and degradability</b>	The product is readily biodegradable.
<b>Biodegradation</b>	- Degradation (>99%): 7 days Supplier's information.

### 12.3. Bioaccumulative potential

<b>Bioaccumulative potential</b>	No data available on bioaccumulation.
<b>Partition coefficient</b>	Not available.

### Ecological information on ingredients.

#### Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

<b>Bioaccumulative potential</b>	No data available on bioaccumulation.
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### 12.4. Mobility in soil

<b>Mobility</b>	No data available.
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### Ecological information on ingredients.

#### Propan-2-ol

<b>Mobility</b>	Mobile.
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#### Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

<b>Mobility</b>	The product is partly soluble in water and may spread in the aquatic environment.
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### 12.5. Results of PBT and vPvB assessment

<b>Results of PBT and vPvB assessment</b>	This product does not contain any substances classified as PBT or vPvB.
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### Ecological information on ingredients.

#### Propan-2-ol

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**Results of PBT and vPvB assessment** This substance is not classified as PBT or vPvB according to current EU criteria.

### Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

**Results of PBT and vPvB assessment** This substance is not classified as PBT or vPvB according to current EU criteria.

#### 12.6. Other adverse effects

**Other adverse effects** None known.

### **SECTION 13: Disposal considerations**

#### 13.1. Waste treatment methods

**General information** Reuse or recycle products wherever possible. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

**Disposal methods** Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible. Vapour from residual product may create a highly flammable or explosive atmosphere inside the container. Containers should be thoroughly emptied before disposal because of the risk of an explosion. Do not cut or weld used containers unless they have been thoroughly cleaned internally.

### **SECTION 14: Transport information**

**General** For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

#### 14.1. UN number

**UN No. (ADR/RID)** 1219

**UN No. (IMDG)** 1219

**UN No. (ICAO)** 1219

**UN No. (ADN)** 1219

#### 14.2. UN proper shipping name

**Proper shipping name (ADR/RID)** ISOPROPANOL (ISOPROPYL ALCOHOL)

**Proper shipping name (IMDG)** ISOPROPANOL (ISOPROPYL ALCOHOL)

**Proper shipping name (ICAO)** ISOPROPANOL (ISOPROPYL ALCOHOL)

**Proper shipping name (ADN)** ISOPROPANOL (ISOPROPYL ALCOHOL)

#### 14.3. Transport hazard class(es)

**ADR/RID class** 3

**ADR/RID classification code** F1

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ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

### Transport labels



### 14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

### 14.5. Environmental hazards

#### Environmentally hazardous substance/marine pollutant

No.

### 14.6. Special precautions for user

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.

EmS	F-E, S-D
ADR transport category	2
Emergency Action Code	•2YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

## SECTION 15: Regulatory information

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

<b>National regulations</b>	Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
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**EU legislation**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).  
 Commission Regulation (EU) No 2015/830 of 28 May 2015.  
 Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

### SECTION 16: Other information

**Abbreviations and acronyms used in the safety data sheet**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.  
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.  
 IATA: International Air Transport Association.  
 ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.  
 IMDG: International Maritime Dangerous Goods.  
 CAS: Chemical Abstracts Service.  
 ATE: Acute Toxicity Estimate.  
 LC<sub>50</sub>: Lethal Concentration to 50 % of a test population.  
 LD<sub>50</sub>: Lethal Dose to 50% of a test population (Median Lethal Dose).  
 EC<sub>50</sub>: 50% of maximal Effective Concentration.  
 PBT: Persistent, Bioaccumulative and Toxic substance.  
 vPvB: Very Persistent and Very Bioaccumulative.

**Classification abbreviations and acronyms**

Flam. Liq. = Flammable liquid  
 Eye Irrit. = Eye irritation  
 STOT SE = Specific target organ toxicity-single exposure  
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

**Classification procedures according to Regulation (EC) 1272/2008**

STOT SE 3 - H336: Eye Irrit. 2 - H319: : Calculation method. Aquatic Chronic 3 - H412: : Calculation method. Flam. Liq. 2 - H225: : Expert judgement.

**Training advice**

Read and follow manufacturer's recommendations. Only trained personnel should use this material.

**Revision comments**

This is the first issue.

**Revision date**

15/07/2019

**SDS number**

8741

**Hazard statements in full**

H225 Highly flammable liquid and vapour.  
 H302 Harmful if swallowed.  
 H314 Causes severe skin burns and eye damage.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye irritation.  
 H336 May cause drowsiness or dizziness.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.  
 H412 Harmful to aquatic life with long lasting effects.

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This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.