



## SAFETY DATA SHEET TRITON GR 5M SURFACTANT

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

#### 1.1. Product identifier

Product name                      TRITON GR 5M SURFACTANT

Product number                  12009

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

Identified uses                      Surfactant

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

Supplier                              Univar Solutions UK Ltd  
                                          Aquarius House  
                                          6 Mid Point Business Park  
                                          Bradford  
                                          BD3 7AY  
                                          +44 1274 267300  
                                          +44 1274 267306  
                                          SDS.EMEA@univarsolutions.com

#### 1.4. Emergency telephone number

Emergency telephone              SGS - +32 (0)3 575 55 55 (24h)

Sds No.                                12009

### SECTION 2: Hazards identification

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

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

Physical hazards                      Flam. Liq. 2 - H225

Health hazards                        Skin Irrit. 2 - H315 Eye Dam. 1 - H318 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.  
                                          H315 Causes skin irritation.  
                                          H318 Causes serious eye damage.  
                                          H336 May cause drowsiness or dizziness.  
                                          H412 Harmful to aquatic life with long lasting effects.

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### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 Keep container tightly closed.  
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER/ doctor.  
 P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

### Contains

DOCUSATE SODIUM, PROPAN-2-OL

### 2.3. Other hazards

In case of spills, beware of slippery floors and surfaces. This product does not contain any substances classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

|                                                                                                                                                         |                      |                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------|
| <b>DOCUSATE SODIUM</b> <span style="float: right;"><b>&gt;= 56.0 - &lt;= 60.0%</b></span>                                                               |                      |                                                  |
| CAS number: 577-11-7                                                                                                                                    | EC number: 209-406-4 | REACH registration number: 01-2119491296-29-XXXX |
| <b>Classification</b><br>Skin Irrit. 2 - H315<br>Eye Dam. 1 - H318                                                                                      |                      |                                                  |
| <b>PROPAN-2-OL</b> <span style="float: right;"><b>&gt;=18.0 - &lt;=24.0%</b></span>                                                                     |                      |                                                  |
| CAS number: 67-63-0                                                                                                                                     | EC number: 200-661-7 | REACH registration number: 01-2119457558-25-XXXX |
| Acute Toxicity Estimate (oral):5840 mg/kg<br>Acute Toxicity Estimate (dermal):13900 mg/kg<br>Acute Toxicity Estimate (inhalation):> 10000 ppmGas6 hours |                      |                                                  |
| <b>Classification</b><br>Flam. Liq. 2 - H225<br>Eye Irrit. 2 - H319<br>STOT SE 3 - H336                                                                 |                      |                                                  |
| <b>WATER</b> <span style="float: right;"><b>&gt;=14.0 - &lt;=24.0%</b></span>                                                                           |                      |                                                  |
| CAS number: 7732-18-5                                                                                                                                   | EC number: 231-791-2 |                                                  |
| <b>Classification</b><br>Not Classified                                                                                                                 |                      |                                                  |

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|                                                                       |                      |                                             |
|-----------------------------------------------------------------------|----------------------|---------------------------------------------|
| <b>DI-2-ETHYLHEXYLMALEATE</b>                                         |                      | <b>&gt;=0.6 - &lt;1.0%</b>                  |
| CAS number: 142-16-5                                                  | EC number: 205-524-5 | REACH registration number: 01-2119524002-60 |
| M factor (Chronic) = 1                                                |                      |                                             |
| <b>Classification</b><br>STOT RE 2 - H373<br>Aquatic Chronic 1 - H410 |                      |                                             |

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

**Composition comments**      The data shown are in accordance with the latest EC Directives.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General information</b> | First aid personnel should wear appropriate protective equipment during any rescue. Wear protective clothing as described in Section 8 of this safety data sheet.                                                                                                                                                                                                                                                                               |
| <b>Inhalation</b>          | Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Get medical attention if any discomfort continues. |
| <b>Ingestion</b>           | Rinse mouth thoroughly with water. Do not induce vomiting unless under the direction of medical personnel. Get medical attention if any discomfort continues.                                                                                                                                                                                                                                                                                   |
| <b>Skin contact</b>        | After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Get medical attention if symptoms are severe or persist after washing. Provide shower facilities near the workplace.                                                                                                                                                                                                        |
| <b>Eye contact</b>         | Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for 30 minutes. Get medical attention immediately. Provide eyewash station. Chemical burns must be treated by a physician.                                                                                                                                                                                                     |

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

|                     |                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>   | May cause drowsiness or dizziness. May cause an asthma-like shortness of breath. Overexposure may cause the following adverse effects: Upper respiratory irritation. Severe lung irritation. Central nervous system depression. Headache. Drowsiness, dizziness, disorientation, vertigo. Hypotension (low blood pressure). Respiratory failure. |
| <b>Skin contact</b> | Causes skin irritation. Prolonged or repeated exposure may cause severe irritation.                                                                                                                                                                                                                                                              |
| <b>Eye contact</b>  | May cause serious eye damage. May cause permanent damage if eye is not immediately irrigated. May cause chemical eye burns.                                                                                                                                                                                                                      |

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

|                             |                                                                     |
|-----------------------------|---------------------------------------------------------------------|
| <b>Notes for the doctor</b> | Treat symptomatically. If in doubt, get medical attention promptly. |
|-----------------------------|---------------------------------------------------------------------|

### 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. |
| <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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**Specific hazards** Highly flammable liquid and vapour. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapours may accumulate on the floor and in low-lying areas. When heated and in case of fire, toxic vapours/gases may be formed.

**Hazardous combustion products** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon. Sulphur.

### **5.3. Advice for firefighters**

**Protective actions during firefighting** Eliminate all sources of ignition. No action shall be taken without appropriate training or involving any personal risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Do not use water jet as an extinguisher, as this will spread the fire. Contain and collect extinguishing water. Control run-off water by containing and keeping it out of sewers and watercourses. Evacuate area.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

## **SECTION 6: Accidental release measures**

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

**Personal precautions** Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Evacuate area. Take care as floors and other surfaces may become slippery. Do not touch or walk into spilled material. Keep unnecessary and unprotected personnel away from the spillage. Keep upwind. No smoking, sparks, flames or other sources of ignition near spillage. Ground/bond container and receiving equipment. Eliminate all sources of ignition. Vapours may form explosive mixtures with air. In case of insufficient ventilation, wear suitable respiratory equipment.

### **6.2. Environmental precautions**

**Environmental precautions** Harmful to aquatic life with long lasting effects. Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

### **6.3. Methods and material for containment and cleaning up**

**Methods for cleaning up** Highly flammable liquid and vapour. Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Avoid the spillage or runoff entering drains, sewers or watercourses. Do not flush away residues with water. Use explosion-proof electrical, ventilating and lighting equipment. Ground/bond container and receiving equipment.

### **6.4. Reference to other sections**

**Reference to other sections** Wear protective clothing as described in Section 8 of this safety data sheet. Collect and dispose of spillage as indicated in Section 13.

## **SECTION 7: Handling and storage**

### **7.1. Precautions for safe handling**

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### Usage precautions

Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Container must be kept tightly closed when not in use. Wash skin thoroughly after handling. No smoking, sparks, flames or other sources of ignition near spillage. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Ground/bond container and receiving equipment. Empty Container Warning (where applicable): Empty containers may retain residue and can be dangerous. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Use only non-sparking tools. Use explosion-proof electrical, ventilating and lighting equipment. Keep away from heat, sparks and open flame. Take precautionary measures against static discharges. Static electricity and formation of sparks must be prevented.

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

#### Storage precautions

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Avoid heat, flames and other sources of ignition. Earth container and transfer equipment to eliminate sparks from static electricity. Store away from the following materials: Strong oxidising agents. Strong acids. Strong alkalis. Strong reducing agents.

#### 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.

#### Ingredient comments

Observe any occupational exposure limits for the product or ingredients.

### DOCUSATE SODIUM (CAS: 577-11-7)

#### DNEL

Workers - Dermal; Long term systemic effects: 18.8 mg/kg/day

Workers - Inhalation; Long term systemic effects: 13 mg/m<sup>3</sup>

#### PNEC

Fresh water; 0.0066 mg/l

marine water; 0.0066 mg/l

Intermittent release; 0.066 mg/l

STP; 122 mg/l

Sediment (Freshwater); 0.653 mg/kg

Sediment (Marinewater); 0.0653 mg/kg

Soil; 0.138 mg/kg

### PROPAN-2-OL (CAS: 67-63-0)

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### DNEL

Industry - Dermal; Long term systemic effects: 888 mg/kg/day  
 Industry - Inhalation; Long term systemic effects: 500 mg/m<sup>3</sup>  
 Consumer - Dermal; Long term systemic effects: 319 mg/kg/day  
 Consumer - Inhalation; Long term systemic effects: 89 mg/m<sup>3</sup>  
 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  
 - STP; 2251 mg/l  
 - Sediment (Freshwater); 552 mg/kg  
 - Sediment (Marinewater); 552 mg/kg  
 - Soil; 28 mg/kg

### DI-2-ETHYLHEXYLMALEATE (CAS: 142-16-5)

### DNEL

Workers - Inhalation; Long term systemic effects: 1.95 mg/m<sup>3</sup>  
 Workers - Inhalation; Long term local effects: 1.95 mg/m<sup>3</sup>  
 Workers - Dermal; Long term systemic effects: 0.42 mg/kg/day  
 Workers - Dermal; Long term local effects: 3.91 mg/cm<sup>2</sup>

### PNEC

- Fresh water; 0.00104 mg/l  
 - marine water; 0.000104 mg/l  
 - Intermittent release; 0.00619 mg/l  
 - STP; 100 mg/l  
 - Sediment (Freshwater); 15.95 mg/kg  
 - Sediment (Marinewater); 1.595 mg/kg  
 - Soil; 3.19 mg/kg/day

## 8.2. Exposure controls

### Protective equipment



### Appropriate engineering controls

Provide adequate ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

### Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Wear chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

### Hand protection

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. The selected gloves should have a breakthrough time of at least 2 hours. Chlorinated polyethylene (CPE) Rubber (natural, latex). Neoprene. Nitrile rubber. Polyethylene. Polyvinyl chloride (PVC). Thickness: > 0.35 mm Do not use the following: Polyvinyl alcohol (PVA). To protect hands from chemicals, gloves should comply with European Standard EN374.

### Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact. For the greatest protection, clothing should include anti-static overalls, boots and gloves. Wear fire/flame resistant/retardant clothing.

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|                               |                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hygiene measures</b>       | When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Eye wash facilities and emergency shower must be available when handling this product.                                                                                              |
| <b>Respiratory protection</b> | 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. If ventilation is inadequate, suitable respiratory protection must be worn. Organic vapour filter. Gas filter, type A EN 136/140/141/145/143/149 |

### SECTION 9: Physical and chemical properties

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

|                                                     |                                                                                                                        |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Appearance</b>                                   | Liquid.                                                                                                                |
| <b>Colour</b>                                       | Yellow.                                                                                                                |
| <b>Odour</b>                                        | Pungent.                                                                                                               |
| <b>Odour threshold</b>                              | No information available.                                                                                              |
| <b>pH</b>                                           | pH (concentrated solution): 5.8 Calculation method.                                                                    |
| <b>Melting point</b>                                | Not applicable.                                                                                                        |
| <b>Pour Point</b>                                   | - 48°C Calculation method.                                                                                             |
| <b>Freezing Point</b>                               | No information available.                                                                                              |
| <b>Initial boiling point and range</b>              | 87°C @ 760 mm Hg Calculation method.                                                                                   |
| <b>Flash point</b>                                  | 22°C Closed cup.                                                                                                       |
| <b>Evaporation rate</b>                             | No information available.                                                                                              |
| <b>Evaporation factor</b>                           | No information available.                                                                                              |
| <b>Flammability (solid, gas)</b>                    | Not applicable.                                                                                                        |
| <b>Upper/lower flammability or explosive limits</b> | Lower flammable/explosive limit: 2.0 % Calculation method. Upper flammable/explosive limit: 12.7 % Calculation method. |
| <b>Other flammability</b>                           | No information available.                                                                                              |
| <b>Vapour pressure</b>                              | 30.4 mm Hg @ 20°C Calculation method.                                                                                  |
| <b>Vapour density</b>                               | 2.19 Calculation method.                                                                                               |
| <b>Relative density</b>                             | 1.019 @ 25°C Calculation method.                                                                                       |
| <b>Bulk density</b>                                 | No information available.                                                                                              |
| <b>Solubility(ies)</b>                              | Completely soluble in water.                                                                                           |
| <b>Partition coefficient</b>                        | No information available.                                                                                              |
| <b>Auto-ignition temperature</b>                    | No information available.                                                                                              |
| <b>Decomposition Temperature</b>                    | No information available.                                                                                              |
| <b>Viscosity</b>                                    | 49 cSt @ 25°C Calculation method.                                                                                      |
| <b>Explosive properties</b>                         | Not considered to be explosive.                                                                                        |
| <b>Explosive under the influence of a flame</b>     | No information available.                                                                                              |

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**Oxidising properties** Does not meet the criteria for classification as oxidising.

### 9.2. Other information

|                                  |                           |
|----------------------------------|---------------------------|
| <b>Other information</b>         | No information available. |
| <b>Refractive index</b>          | No information available. |
| <b>Particle size</b>             | No information available. |
| <b>Molecular weight</b>          | No information available. |
| <b>Volatility</b>                | No information available. |
| <b>Saturation concentration</b>  | No information available. |
| <b>Critical temperature</b>      | No information available. |
| <b>Volatile organic compound</b> | No information available. |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity** There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

**Stability** Stable at normal ambient temperatures and when used as recommended.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** Will not polymerise.

### 10.4. Conditions to avoid

**Conditions to avoid** Avoid excessive heat for prolonged periods of time.

### 10.5. Incompatible materials

**Materials to avoid** Strong acids. Strong alkalis. Strong oxidising agents. Strong reducing agents.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon. Sulphur.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 3,570.0

**Species** Rat

**Notes (oral LD<sub>50</sub>)** This product has low toxicity. LD<sub>50</sub> 3570 mg/kg, Oral, Rat

#### Acute toxicity - dermal

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 2,525.0

**Species** Rabbit

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 2525 mg/kg, Dermal,

#### Acute toxicity - inhalation

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|                                                                  |                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Notes (inhalation LC<sub>50</sub>)</b>                        | Not determined.                                                                                                                                                                                                                                                                                                                                  |
| <b><u>Skin corrosion/irritation</u></b>                          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Skin corrosion/irritation</b>                                 | Causes skin irritation. Prolonged and frequent contact may cause redness and irritation.                                                                                                                                                                                                                                                         |
| <b><u>Serious eye damage/irritation</u></b>                      |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Serious eye damage/irritation</b>                             | Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated. May cause chemical eye burns.                                                                                                                                                                                                                         |
| <b><u>Respiratory sensitisation</u></b>                          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Respiratory sensitisation</b>                                 | No information available.                                                                                                                                                                                                                                                                                                                        |
| <b><u>Skin sensitisation</u></b>                                 |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Skin sensitisation</b>                                        | No information available.                                                                                                                                                                                                                                                                                                                        |
| <b><u>Germ cell mutagenicity</u></b>                             |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Genotoxicity - in vitro</b>                                   | Information given is applicable to the major ingredient. Negative.                                                                                                                                                                                                                                                                               |
| <b><u>Carcinogenicity</u></b>                                    |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Carcinogenicity</b>                                           | No evidence of carcinogenicity in animal studies.                                                                                                                                                                                                                                                                                                |
| <b><u>Reproductive toxicity</u></b>                              |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Reproductive toxicity - fertility</b>                         | No evidence of reproductive toxicity in animal studies.                                                                                                                                                                                                                                                                                          |
| <b><u>Specific target organ toxicity - single exposure</u></b>   |                                                                                                                                                                                                                                                                                                                                                  |
| <b>STOT - single exposure</b>                                    | May cause drowsiness or dizziness.                                                                                                                                                                                                                                                                                                               |
| <b>Target organs</b>                                             | Central nervous system                                                                                                                                                                                                                                                                                                                           |
| <b><u>Specific target organ toxicity - repeated exposure</u></b> |                                                                                                                                                                                                                                                                                                                                                  |
| <b>STOT - repeated exposure</b>                                  | Based on available data the classification criteria are not met.                                                                                                                                                                                                                                                                                 |
| <b><u>Aspiration hazard</u></b>                                  |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Aspiration hazard</b>                                         | Based on available data the classification criteria are not met.                                                                                                                                                                                                                                                                                 |
| <b>Inhalation</b>                                                | May cause drowsiness or dizziness. May cause an asthma-like shortness of breath. Overexposure may cause the following adverse effects: Upper respiratory irritation. Severe lung irritation. Central nervous system depression. Headache. Drowsiness, dizziness, disorientation, vertigo. Hypotension (low blood pressure). Respiratory failure. |
| <b>Ingestion</b>                                                 | This product has low toxicity. No harmful effects expected from quantities likely to be ingested by accident. Only large quantities are likely to have adverse effects on human health.                                                                                                                                                          |
| <b>Skin contact</b>                                              | Causes skin irritation. Prolonged or repeated exposure may cause severe irritation.                                                                                                                                                                                                                                                              |
| <b>Eye contact</b>                                               | Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated. May cause chemical eye burns.                                                                                                                                                                                                                         |

### Toxicological information on ingredients.

#### DOCUSATE SODIUM

##### Acute toxicity - oral

|                                                    |                                        |
|----------------------------------------------------|----------------------------------------|
| <b>Acute toxicity oral (LD<sub>50</sub> mg/kg)</b> | 2,100.0                                |
| <b>Species</b>                                     | Rat                                    |
| <b>Notes (oral LD<sub>50</sub>)</b>                | LD <sub>50</sub> 2100 mg/kg, Oral, Rat |

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ATE oral (mg/kg) 2,100.0

### Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 2,525.0 mg/kg)

Species Rabbit

Notes (dermal LD<sub>50</sub>) LD<sub>50</sub> 2525 mg/kg, Dermal, Rabbit

### Acute toxicity - inhalation

Notes (inhalation LC<sub>50</sub>) Not determined.

### Skin corrosion/irritation

Skin corrosion/irritation Causes skin irritation.

### Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

### Respiratory sensitisation

Respiratory sensitisation No information available.

### Skin sensitisation

Skin sensitisation No information available.

### Germ cell mutagenicity

Genotoxicity - in vitro No information available.

### Carcinogenicity

Carcinogenicity No information available.

### Reproductive toxicity

Reproductive toxicity - fertility No information available.

Reproductive toxicity - development No information available.

### Specific target organ toxicity - single exposure

STOT - single exposure No information available.

### Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 750 mg/kg, Oral, Rat

### Aspiration hazard

Aspiration hazard No information available.

Inhalation Dust in high concentrations may irritate the respiratory system.

Ingestion May cause discomfort if swallowed.

Skin contact Causes skin irritation.

Eye contact Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated.

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### PROPAN-2-OL

#### Acute toxicity - oral

|                                              |          |
|----------------------------------------------|----------|
| Acute toxicity oral (LD <sub>50</sub> mg/kg) | 5,840.0  |
| Species                                      | Rat      |
| Notes (oral LD <sub>50</sub> )               | OECD 401 |
| ATE oral (mg/kg)                             | 5,840.0  |

#### Acute toxicity - dermal

|                                                |          |
|------------------------------------------------|----------|
| Acute toxicity dermal (LD <sub>50</sub> mg/kg) | 13,900.0 |
| Species                                        | Rabbit   |
| Notes (dermal LD <sub>50</sub> )               | OECD 402 |
| ATE dermal (mg/kg)                             | 13,900.0 |

#### Acute toxicity - inhalation

|                                                         |                                                            |
|---------------------------------------------------------|------------------------------------------------------------|
| Acute toxicity inhalation (LC <sub>50</sub> gases ppmV) | 10,000.0                                                   |
| Species                                                 | Rat                                                        |
| Notes (inhalation LC <sub>50</sub> )                    | LC <sub>50</sub> (6h) >10000 ppm, Inhalation, Rat OECD 403 |

#### Skin corrosion/irritation

|             |                 |
|-------------|-----------------|
| Animal data | Not irritating. |
|-------------|-----------------|

#### Serious eye damage/irritation

|                               |                                |
|-------------------------------|--------------------------------|
| Serious eye damage/irritation | Causes serious eye irritation. |
|-------------------------------|--------------------------------|

#### Respiratory sensitisation

|                           |                  |
|---------------------------|------------------|
| Respiratory sensitisation | Not sensitising. |
|---------------------------|------------------|

#### Skin sensitisation

|                    |                  |
|--------------------|------------------|
| Skin sensitisation | Not sensitising. |
|--------------------|------------------|

#### Germ cell mutagenicity

|                        |                           |
|------------------------|---------------------------|
| Genotoxicity - in vivo | No information available. |
|------------------------|---------------------------|

#### Carcinogenicity

|                 |                                                         |
|-----------------|---------------------------------------------------------|
| Carcinogenicity | There is no evidence that the product can cause cancer. |
|-----------------|---------------------------------------------------------|

#### Reproductive toxicity

|                                   |                           |
|-----------------------------------|---------------------------|
| Reproductive toxicity - fertility | No information available. |
|-----------------------------------|---------------------------|

#### Specific target organ toxicity - single exposure

|                        |                                    |
|------------------------|------------------------------------|
| STOT - single exposure | May cause drowsiness or dizziness. |
|------------------------|------------------------------------|

#### Specific target organ toxicity - repeated exposure

|                          |                           |
|--------------------------|---------------------------|
| STOT - repeated exposure | No information available. |
|--------------------------|---------------------------|

## TRITON GR 5M SURFACTANT

### Aspiration hazard

**Aspiration hazard** No information available.

**Inhalation** May cause respiratory system irritation. Vapours may cause drowsiness and dizziness.

**Ingestion** Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

**Skin contact** Prolonged contact may cause dryness of the skin.

**Eye contact** Causes serious eye irritation.

**Target organs** Kidneys Liver

### DI-2-ETHYLHEXYLMALEATE

### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> > 2000 mg/kg, Oral, Rat

### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 14000 mg/kg, Dermal, Rabbit

### Skin corrosion/irritation

**Animal data** Slightly irritating. Rabbit OECD 404

### Serious eye damage/irritation

**Serious eye damage/irritation** Not irritating. Rabbit

### Skin sensitisation

**Skin sensitisation** Not sensitising. Guinea pig OECD 406

### Germ cell mutagenicity

**Genotoxicity - in vitro** Ames test: Negative. OECD 471

### 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.

### Specific target organ toxicity - single exposure

**STOT - single exposure** No information available.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

### Aspiration hazard

**Aspiration hazard** No information available.

## SECTION 12: Ecological information

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

## TRITON GR 5M SURFACTANT

### Ecological information on ingredients.

#### *DOCUSATE SODIUM*

##### **Ecotoxicity**

The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.

#### *PROPAN-2-OL*

##### **Ecotoxicity**

The product is not expected to be toxic to aquatic organisms.

#### *DI-2-ETHYLHEXYLMALEATE*

##### **Ecotoxicity**

The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

### 12.1. Toxicity

#### **Toxicity**

Harmful to aquatic life with long lasting effects.

### Ecological information on ingredients.

#### *DOCUSATE SODIUM*

##### **Toxicity**

Not considered toxic to fish.

##### *Acute aquatic toxicity*

##### **Acute toxicity - fish**

LC<sub>50</sub>, 96 hours: 49 mg/l, Brachydanio rerio (Zebra Fish)

##### **Acute toxicity - aquatic invertebrates**

EC<sub>50</sub>, 48 hours: 15.2 mg/l, Daphnia magna

##### **Acute toxicity - aquatic plants**

EC<sub>50</sub>, 72 hours: 82.5 mg/l, Algae

#### *PROPAN-2-OL*

##### **Toxicity**

Not considered toxic to fish.

##### *Acute aquatic toxicity*

##### **Acute toxicity - fish**

LC<sub>50</sub>, 48 hours: 9640 mg/l, Pimephales promelas (Fat-head Minnow)

##### **Acute toxicity - aquatic invertebrates**

EC<sub>50</sub>, 48 hours: 10000 mg/l, Daphnia magna

##### **Acute toxicity - aquatic plants**

EC<sub>50</sub>, 7 days: 1800 mg/l, Algae

#### *DI-2-ETHYLHEXYLMALEATE*

##### **Toxicity**

Very toxic to aquatic life with long lasting effects.

##### *Acute aquatic toxicity*

##### **Acute toxicity - fish**

LC<sub>50</sub>, 96 hours: > 100 mg/l, Brachydanio rerio (Zebra Fish)  
OECD 203

##### **Acute toxicity - aquatic invertebrates**

EC<sub>50</sub>, 48 hours: 59.5 mg/l, Daphnia magna  
OECD 202

## TRITON GR 5M SURFACTANT

Acute toxicity - aquatic plants      EC<sub>50</sub>, 72 hours: > 0.619 mg/l,  
OECD 201

### Chronic aquatic toxicity

M factor (Chronic)      1

### 12.2. Persistence and degradability

**Persistence and degradability**      The product is readily biodegradable.

### Ecological information on ingredients.

#### DOCUSATE SODIUM

**Persistence and degradability**      The product is readily biodegradable. This surfactant complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents.

**Biodegradation**      - Degradation 91%: 28 day  
(OECD 310)

#### PROPAN-2-OL

**Persistence and degradability**      The substance is readily biodegradable.

**Biological oxygen demand**      53 %

#### DI-2-ETHYLHEXYLMALEATE

**Persistence and degradability**      The product is biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential**      The product is not bioaccumulating.

**Partition coefficient**      No information available.

### Ecological information on ingredients.

#### DOCUSATE SODIUM

**Bioaccumulative potential**      Bioaccumulation is unlikely.

**Partition coefficient**      log Pow: 2

#### PROPAN-2-OL

**Bioaccumulative potential**      The product is not bioaccumulating.

**Partition coefficient**      log Pow: 0.05 OECD 107

#### DI-2-ETHYLHEXYLMALEATE

**Bioaccumulative potential**      No data available on bioaccumulation.

**Partition coefficient**      : ~7.24

### 12.4. Mobility in soil

**Mobility**      The product is soluble in water.

## TRITON GR 5M SURFACTANT

### Ecological information on ingredients.

#### DOCUSATE SODIUM

**Mobility** No information available.

#### PROPAN-2-OL

**Mobility** The product is soluble in water.

**Surface tension** 22.7 mN/m @ 20°C

#### DI-2-ETHYLHEXYLMALEATE

**Mobility** The product is insoluble in water.

### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

### Ecological information on ingredients.

#### DOCUSATE SODIUM

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

#### PROPAN-2-OL

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

#### DI-2-ETHYLHEXYLMALEATE

**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.

### Ecological information on ingredients.

#### DOCUSATE SODIUM

**Other adverse effects** No information available.

#### PROPAN-2-OL

**Other adverse effects** No data available.

#### DI-2-ETHYLHEXYLMALEATE

**Other adverse effects** Not determined.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

## TRITON GR 5M SURFACTANT

|                            |                                                                                                                                                                                                      |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General information</b> | Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.<br>Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. |
| <b>Disposal methods</b>    | Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.                                                                          |

### SECTION 14: Transport information

**General** Wear protective clothing as described in Section 8 of this safety data sheet.

#### 14.1. UN number

|                  |      |
|------------------|------|
| UN No. (ADR/RID) | 1993 |
| UN No. (IMDG)    | 1993 |
| UN No. (ICAO)    | 1993 |
| UN No. (ADN)     | 1993 |

#### 14.2. UN proper shipping name

**Proper shipping name (ADR/RID)** FLAMMABLE LIQUID, N.O.S. (CONTAINS PROPAN-2-OL)

**Proper shipping name (IMDG)** FLAMMABLE LIQUID, N.O.S. (CONTAINS PROPAN-2-OL)

**Proper shipping name (ICAO)** FLAMMABLE LIQUID, N.O.S. (CONTAINS PROPAN-2-OL)

**Proper shipping name (ADN)** FLAMMABLE LIQUID, N.O.S. (CONTAINS PROPAN-2-OL)

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

|                             |    |
|-----------------------------|----|
| ADR/RID class               | 3  |
| ADR/RID classification code | F1 |
| 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

## TRITON GR 5M SURFACTANT

|                                        |          |
|----------------------------------------|----------|
| EmS                                    | F-E, S-E |
| ADR transport category                 | 2        |
| Emergency Action Code                  | •3YE     |
| 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

**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).

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).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

This product may impact SEVESO storage regulations.

Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents (as amended).

**Seveso Directive - Control of major accident hazards** P5c

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

## TRITON GR 5M SURFACTANT

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

ATE: Acute Toxicity Estimate.  
 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.  
 CAS: Chemical Abstracts Service.  
 DNEL: Derived No Effect Level.  
 IATA: International Air Transport Association.  
 IMDG: International Maritime Dangerous Goods.  
 Kow: Octanol-water partition coefficient.  
 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).  
 PBT: Persistent, Bioaccumulative and Toxic substance.  
 PNEC: Predicted No Effect Concentration.  
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.  
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.  
 vPvB: Very Persistent and Very Bioaccumulative.  
 IARC: International Agency for Research on Cancer.  
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.  
 cATpE: Converted Acute Toxicity Point Estimate.  
 BCF: Bioconcentration Factor.  
 BOD: Biochemical Oxygen Demand.  
 EC<sub>50</sub>: 50% of maximal Effective Concentration.  
 LOAEC: Lowest Observed Adverse Effect Concentration.  
 LOAEL: Lowest Observed Adverse Effect Level.  
 NOAEC: No Observed Adverse Effect Concentration.  
 NOAEL: No Observed Adverse Effect Level.  
 NOEC: No Observed Effect Concentration.  
 LOEC: Lowest Observed Effect Concentration.  
 DMEL: Derived Minimal Effect Level.  
 EL50: Exposure Limit 50  
 hPa: Hectopascal  
 LL50: Lethal Loading fifty  
 OECD: Organisation for Economic Co-operation and Development  
 POW: Octanol-water partition coefficient  
 SCBA: self-contained breathing apparatus  
 STP: Sewage Treatment Plant  
 VOC: Volatile Organic Compounds

### Classification abbreviations and acronyms

Acute Tox. = Acute toxicity  
 Aquatic Acute = Hazardous to the aquatic environment (acute)  
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

### Key literature references and sources for data

Supplier's information.

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

Flam. Liq. 2 - H225: On basis of test data. Skin Irrit. 2 - H315: Calculation method. Eye Dam. 1 - H318: Calculation method. STOT SE 3 - H336: On basis of test data. Aquatic Chronic 3 - H412: Calculation method.

### Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

### Revision date

11/08/2022

**TRITON GR 5M SURFACTANT**

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Version number</b>            | 5.000                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Supersedes date</b>           | 22/04/2022                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>SDS number</b>                | 12009                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>SDS status</b>                | Approved.                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Hazard statements in full</b> | H225 Highly flammable liquid and vapour.<br>H315 Causes skin irritation.<br>H318 Causes serious eye damage.<br>H319 Causes serious eye irritation.<br>H336 May cause drowsiness or dizziness.<br>H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.<br>H410 Very toxic to aquatic life with long lasting effects.<br>H412 Harmful to aquatic life with long lasting effects. |
| <b>Signature</b>                 | Lisa Bland                                                                                                                                                                                                                                                                                                                                                                                                               |

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.



## Exposure scenario

### Use as a fuel - Industrial

#### Identification

|                           |                                                                                                                                                                     |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name              | Isopropanol                                                                                                                                                         |
| REACH registration number | 01-2119457558-25-XXXX                                                                                                                                               |
| CAS number                | 67-63-0                                                                                                                                                             |
| EC number                 | 200-661-7                                                                                                                                                           |
| EU index number           | 603-117-00-0                                                                                                                                                        |
| Supplier                  | Univar Solutions UK Ltd<br>Aquarius House<br>6 Mid Point Business Park<br>Bradford<br>BD3 7AY<br>+44 1274 267300<br>+44 1274 267306<br>SDS.EMEA@univarsolutions.com |

#### 1. Title of exposure scenario

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main title                     | Use as a fuel - Industrial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Process scope                  | Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Main sector                    | SU3 Industrial uses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <u>Environment</u>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Environmental release category | ERC7 Use of functional fluid at industrial site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <u>Worker</u>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Process category               | PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions<br>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions<br>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition<br>PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities<br>PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities<br>PROC16 Use of fuels |

#### 2. Conditions of use affecting exposure (Industrial - Environment 1)

##### Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

## Use as a fuel - Industrial

### 2. Conditions of use affecting exposure (Workers - Health 1)

#### Product characteristics

**Physical state** Liquid, vapour pressure 0.5 - 10 kPa at STP

**Concentration details** Covers concentrations up to 100 %.

#### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

#### Other given operational conditions affecting workers exposure

**Temperature** Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Assumes a good basic standard of occupational hygiene is implemented.

#### Technical conditions and measures at process level (source) to prevent release

**Technical protective measures** Avoid direct eye contact with product, also via contamination on hands. Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle. Store substance within a closed system.

#### Organisational measures to prevent/limit releases, dispersion and exposure

**Organisational measures** Bulk transfers Transfer via enclosed lines. Drum/batch transfers Use drum pumps or carefully pour from container.

#### Risk management measures

Use suitable eye protection.

### 3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

### 3. Exposure estimation (Health 1)

**Assessment method** Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



## Exposure scenario

### Use as a fuel - Professional

#### Identification

|                           |                                                                                                                                                                     |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name              | Isopropanol                                                                                                                                                         |
| REACH registration number | 01-2119457558-25-XXXX                                                                                                                                               |
| CAS number                | 67-63-0                                                                                                                                                             |
| EC number                 | 200-661-7                                                                                                                                                           |
| EU index number           | 603-117-00-0                                                                                                                                                        |
| Supplier                  | Univar Solutions UK Ltd<br>Aquarius House<br>6 Mid Point Business Park<br>Bradford<br>BD3 7AY<br>+44 1274 267300<br>+44 1274 267306<br>SDS.EMEA@univarsolutions.com |

#### 1. Title of exposure scenario

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main title                     | Use as a fuel - Professional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Process scope                  | Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Main sector                    | SU22 Professional uses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <u>Environment</u>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Environmental release category | ERC9a Widespread use of functional fluid (indoor)<br>ERC9b Widespread use of functional fluid (outdoor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <u>Worker</u>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Process category               | PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions<br>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions<br>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition<br>PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities<br>PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities<br>PROC16 Use of fuels |

#### 2. Conditions of use affecting exposure (Workers - Health 1)

##### Product characteristics

|                |                                             |
|----------------|---------------------------------------------|
| Physical state | Liquid, vapour pressure 0.5 - 10 kPa at STP |
|----------------|---------------------------------------------|

## Use as a fuel - Professional

**Concentration details** Covers concentrations up to 100 %.

### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

### Other given operational conditions affecting workers exposure

**Temperature** Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Assumes a good basic standard of occupational hygiene is implemented.

### Technical conditions and measures at process level (source) to prevent release

**Technical protective measures** Avoid direct eye contact with product, also via contamination on hands. Store substance within a closed system. Bulk transfers Transfer via enclosed lines. Drum/batch transfers Use drum pumps or carefully pour from container.

### Organisational measures to prevent/limit releases, dispersion and exposure

**Organisational measures** Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle. Bulk transfers Clear transfer lines prior to de-coupling. Drum/batch transfers Avoid spillage when withdrawing pump.

### Risk management measures

Use suitable eye protection.

## 2. Conditions of use affecting exposure (Non-industrial - Environment 1)

### Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

## 3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

## 3. Exposure estimation (Health 1)

**Assessment method** Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

## 4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



## Exposure scenario

### Use as a fuel - Consumer

#### Identification

|                           |                                                                                                                                                                     |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name              | Isopropanol                                                                                                                                                         |
| REACH registration number | 01-2119457558-25-XXXX                                                                                                                                               |
| CAS number                | 67-63-0                                                                                                                                                             |
| EC number                 | 200-661-7                                                                                                                                                           |
| EU index number           | 603-117-00-0                                                                                                                                                        |
| Supplier                  | Univar Solutions UK Ltd<br>Aquarius House<br>6 Mid Point Business Park<br>Bradford<br>BD3 7AY<br>+44 1274 267300<br>+44 1274 267306<br>SDS.EMEA@univarsolutions.com |

#### 1. Title of exposure scenario

|                  |                                       |
|------------------|---------------------------------------|
| Main title       | Use as a fuel - Consumer              |
| Process scope    | Covers consumer uses in liquid fuels. |
| Product category | PC13 Fuels.                           |
| Main sector      | SU21 Consumer uses                    |

##### Environment

|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| Environmental release category | ERC9a Widespread use of functional fluid (indoor)<br>ERC9b Widespread use of functional fluid (outdoor) |
|--------------------------------|---------------------------------------------------------------------------------------------------------|

#### 2. Conditions of use affecting exposure (Non-industrial - Environment 1)

##### Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

#### 2. Conditions of use affecting exposure (Non-industrial - Health 1)

##### Product characteristics

|                       |                                                             |
|-----------------------|-------------------------------------------------------------|
| Physical state        | Liquid, vapour pressure > 10 Pa (STP)                       |
| Concentration details | Covers concentrations up to 100 %. Unless otherwise stated. |

##### Amounts used

For each use event, covers use amounts up to 37,500 g.

## Use as a fuel - Consumer

PC13\_2 Liquid: scooter refuelling For each use event, covers use amounts up to 3,750 g.  
 PC13\_3 Liquid: garden equipment - use PC13\_4 Liquid: Garden equipment - Refuelling  
 PC13\_6 Liquid: home space heater fuel For each use event, covers use amounts up to 750 g.  
 PC13\_5 Liquid: lamp oil For each use event, covers use amounts up to 100 g.

### Frequency and duration of use

Covers use up to 1 time per week.  
 Covers use up to 1 time per day.  
 Application duration: 2 hours  
 Unless otherwise stated.

PC13\_3 Liquid: garden equipment - use PC13\_4 Liquid: Garden equipment - Refuelling  
 PC13\_6 Liquid: home space heater fuel Covers use up to 26 days/year. PC13\_1 Liquid: automotive refuelling Covers exposure up to 0.05 hours per event. PC13\_2 Liquid: scooter refuelling PC13\_4 Liquid: Garden equipment - Refuelling Covers exposure up to 0.03 hours per event. PC13\_3 Liquid: garden equipment - use Covers exposure up to 2 hours per event. PC13\_5 Liquid: lamp oil Covers exposure up to 0.01 hours per event. PC13\_6 Liquid: home space heater fuel Covers exposure up to 8 hours per event.

### Human factors not influenced by risk management

**Potentially exposed body parts** Covers skin contact area up to 420 cm<sup>2</sup>. Unless otherwise stated.

PC13\_1 Liquid: automotive refuelling PC13\_2 Liquid: scooter refuelling PC13\_5 Liquid: lamp oil Covers skin contact area up to 210 cm<sup>2</sup>.

### Other given operational conditions affecting Non-industrial exposure

**Temperature** Assumes activities are at ambient temperature (unless stated differently).

**Room size** Covers use in room size of 20 m<sup>3</sup>. Unless otherwise stated. PC13\_1 Liquid: automotive refuelling PC13\_2 Liquid: scooter refuelling PC13\_3 Liquid: garden equipment - use Covers use in room size of 100 m<sup>3</sup>.

**Ventilation rate** Covers use under typical household ventilation. Unless otherwise stated. PC13\_1 Liquid: automotive refuelling PC13\_2 Liquid: scooter refuelling PC13\_3 Liquid: garden equipment - use Covers outdoor use. PC13\_4 Liquid: Garden equipment - Refuelling Covers use in a one car garage (34 m<sup>3</sup>) under typical ventilation.

### 3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

### 3. Exposure estimation (Health 1)

**Assessment method** Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



## Exposure scenario

### Use in oil field drilling and production operations - Industrial

#### Identification

|                           |                                                                                                                                                                     |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name              | Isopropanol                                                                                                                                                         |
| REACH registration number | 01-2119457558-25-XXXX                                                                                                                                               |
| CAS number                | 67-63-0                                                                                                                                                             |
| EC number                 | 200-661-7                                                                                                                                                           |
| EU index number           | 603-117-00-0                                                                                                                                                        |
| Supplier                  | Univar Solutions UK Ltd<br>Aquarius House<br>6 Mid Point Business Park<br>Bradford<br>BD3 7AY<br>+44 1274 267300<br>+44 1274 267306<br>SDS.EMEA@univarsolutions.com |

#### 1. Title of exposure scenario

|               |                                                                                                                                                                                                                        |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main title    | Use in oil field drilling and production operations - Industrial                                                                                                                                                       |
| Process scope | Oil field well drilling and production operations (including drilling muds and well cleaning), including material transfers, onsite formulation, well head operations, shaker room activities and related maintenance. |
| Main sector   | SU3 Industrial uses                                                                                                                                                                                                    |

#### Environment

|                                |                                                                                                |
|--------------------------------|------------------------------------------------------------------------------------------------|
| Environmental release category | ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) |
|--------------------------------|------------------------------------------------------------------------------------------------|

#### Worker

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category | PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions<br>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions<br>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition<br>PROC4 Chemical production where opportunity for exposure arises<br>PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities<br>PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### 2. Conditions of use affecting exposure (Industrial - Environment 1)

#### Product characteristics

## Use in oil field drilling and production operations - Industrial

Not regarded as dangerous for the environment. No exposure scenario required.

### 2. Conditions of use affecting exposure (Workers - Health 1)

#### Product characteristics

**Physical state** Liquid, vapour pressure 0.5 - 10 kPa at STP

**Concentration details** Covers concentrations up to 100 %.

#### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

#### Other given operational conditions affecting workers exposure

**Temperature** Assumes use at not more than 20°C above ambient temperature, unless stated differently.

**Ventilation rate** Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Assumes a good basic standard of occupational hygiene is implemented.

#### Technical conditions and measures at process level (source) to prevent release

**Technical protective measures** Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

#### Risk management measures

Use suitable eye protection and gloves.

### 3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

### 3. Exposure estimation (Health 1)

**Assessment method** Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



## Exposure scenario

### Use in oil field and production operations - Professional

#### Identification

|                           |                                                                                                                                                                     |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name              | Isopropanol                                                                                                                                                         |
| REACH registration number | 01-2119457558-25-XXXX                                                                                                                                               |
| CAS number                | 67-63-0                                                                                                                                                             |
| EC number                 | 200-661-7                                                                                                                                                           |
| EU index number           | 603-117-00-0                                                                                                                                                        |
| Supplier                  | Univar Solutions UK Ltd<br>Aquarius House<br>6 Mid Point Business Park<br>Bradford<br>BD3 7AY<br>+44 1274 267300<br>+44 1274 267306<br>SDS.EMEA@univarsolutions.com |

#### 1. Title of exposure scenario

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main title                     | Use in oil field and production operations - Professional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Process scope                  | Oil field well drilling and production operations (including drilling muds and well cleaning), including material transfers, onsite formulation, well head operations, shaker room activities and related maintenance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Main sector                    | SU22 Professional uses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <u>Environment</u>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Environmental release category | ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <u>Worker</u>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Process category               | PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions<br>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions<br>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition<br>PROC4 Chemical production where opportunity for exposure arises<br>PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities<br>PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities |

#### 2. Conditions of use affecting exposure (Industrial - Environment 1)

##### Product characteristics

## Use in oil field and production operations - Professional

Not regarded as dangerous for the environment. No exposure scenario required.

### 2. Conditions of use affecting exposure (Workers - Health 1)

#### Product characteristics

**Physical state** Liquid, vapour pressure 0.5 - 10 kPa at STP

**Concentration details** Covers concentrations up to 100 %.

#### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

#### Other given operational conditions affecting workers exposure

**Temperature** Assumes use at not more than 20°C above ambient temperature, unless stated differently.

**Ventilation rate** Provide enhanced general ventilation by mechanical means.

Assumes a good basic standard of occupational hygiene is implemented.

#### Technical conditions and measures at process level (source) to prevent release

**Technical protective measures** Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

#### Risk management measures

Use suitable eye protection and gloves.

Gloves should comply with the requirements of EN 374.

### 3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

### 3. Exposure estimation (Health 1)

**Assessment method** Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.