

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## De-Icer Super 500ml

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 08.03.2023  |
| 5.1     | 26.07.2023     | 9694448-00007 | Date of first issue: 01.08.2016 |

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

#### 1.1 Product identifier

|                                 |   |                     |
|---------------------------------|---|---------------------|
| Trade name                      | : | De-Icer Super 500ml |
| Product code                    | : | 0892 331 201        |
| Unique Formula Identifier (UFI) | : | YPYC-70RM-400C-EA2J |

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

|                                 |   |  |
|---------------------------------|---|--|
| Use of the Sub-stance/Mixture   | : | Anti-freezing agents<br>Professional use product |
| Recommended restrictions on use | : | Not applicable                                   |

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

|  |   |  |
|--|---|--|
| Company  | : | Würth UK Ltd<br>1 Centurion Way<br>Erith, Kent |
| Telephone  | : | +44 (0)3300 555 444                            |
| Telefax  | : | +44 (0)3300 555 666                            |
| E-mail address of person responsible for the SDS | : | prodsafe@wuerth.com                            |

#### 1.4 Emergency telephone number

+44 (0)870 190 6777

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

|                               |   |
|-------------------------------|---|
| Flammable liquids, Category 2 | H225: Highly flammable liquid and vapour. |
| Eye irritation, Category 2    | H319: Causes serious eye irritation.      |

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### 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

Hazard pictograms :



Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.

### Additional Labelling

EUH208 Contains Dipentene.  
May produce an allergic reaction.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
Vapours may form explosive mixture with air.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

| Chemical name | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | Classification                           | Concentration<br>(% w/w) |
|---------------|---|--|--------------------------|
| Ethanol       | 64-17-5<br>200-578-6                                  | Flam. Liq. 2; H225<br>Eye Irrit. 2; H319 | >= 70 - < 90             |

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|                 |   |  |                 |
|-----------------|---|--|-----------------|
|                 | 603-002-00-5<br>01-2119457610-43                          | specific concentra-<br>tion limit<br>Eye Irrit. 2; H319<br>>= 50 %   |                 |
| Ethylene glycol | 107-21-1<br>203-473-3<br>603-027-00-1<br>01-2119456816-28 | Acute Tox. 4; H302<br>STOT RE 2; H373<br>(Kidney)  | >= 1 - < 10     |
| Dipentene       | 138-86-3<br>205-341-0<br>601-029-00-7                     | Flam. Liq. 3; H226<br>Skin Irrit. 2; H315<br>Skin Sens. 1B;<br>H317<br>Asp. Tox. 1; H304<br>Aquatic Acute 1;<br>H400<br>Aquatic Chronic 1;<br>H410<br><br>M-Factor (Acute<br>aquatic toxicity): 1<br>M-Factor (Chronic<br>aquatic toxicity): 1 | >= 0.1 - < 0.25 |

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- If inhaled : If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.
- In case of skin contact : Remove contaminated clothing and shoes.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention if symptoms occur.

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Rinse mouth thoroughly with water.

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

Risks : Causes serious eye irritation.

May produce an allergic reaction.

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

Treatment : Treat symptomatically and supportively.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

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

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.  
Flash back possible over considerable distance.  
Vapours may form explosive mixtures with air.  
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

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## SECTION 6: Accidental release measures

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

Personal precautions : Remove all sources of ignition.  
Ventilate the area.

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Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

### 6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g. by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

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

Methods for cleaning up : Non-sparking tools should be used.  
Soak up with inert absorbent material.  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.  
Use explosion-proof electrical, ventilating and lighting equipment.

Advice on safe handling : Do not breathe mist or vapours.  
Do not swallow.  
Do not get in eyes.  
Avoid prolonged or repeated contact with skin.  
Wash skin thoroughly after handling.  
Handle in accordance with good industrial hygiene and safety

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practice, based on the results of the workplace exposure assessment  
Non-sparking tools should be used.  
Keep container tightly closed.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take precautionary measures against static discharges.  
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

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

Requirements for storage areas and containers : Keep in properly labelled containers. Keep tightly closed.  
Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:  
Strong oxidizing agents  
Self-reactive substances and mixtures  
Organic peroxides  
Flammable solids  
Pyrophoric liquids  
Pyrophoric solids  
Self-heating substances and mixtures  
Substances and mixtures, which in contact with water, emit flammable gases  
Explosives  
Gases  
Very acutely toxic substances and mixtures

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

| Components  | CAS-No.  | Value type (Form of exposure) | Control parameters                   | Basis   |
|---|----------|-------------------------------|--------------------------------------|---------|
| Ethanol   | 64-17-5  | TWA                           | 1,000 ppm<br>1,920 mg/m <sup>3</sup> | GB EH40 |
| Ethylene glycol   | 107-21-1 | TWA (particles)               | 10 mg/m <sup>3</sup>                 | GB EH40 |
| Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will |          |                               |                                      |         |

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|  |  |               |                                 |            |
|--|--|---------------|---------------------------------|------------|
|  | lead to systemic toxicity.   |               |                                 |            |
|  |  | TWA (Vapour)  | 20 ppm<br>52 mg/m <sup>3</sup>  | GB EH40    |
|  | Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. |               |                                 |            |
|  |  | STEL (Vapour) | 40 ppm<br>104 mg/m <sup>3</sup> | GB EH40    |
|  | Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. |               |                                 |            |
|  |  | TWA           | 20 ppm<br>52 mg/m <sup>3</sup>  | 2000/39/EC |
|  | Further information: Identifies the possibility of significant uptake through the skin, Indicative   |               |                                 |            |
|  |  | STEL          | 40 ppm<br>104 mg/m <sup>3</sup> | 2000/39/EC |
|  | Further information: Identifies the possibility of significant uptake through the skin, Indicative   |               |                                 |            |

### Derived No Effect Level (DNEL):

| Substance name  | End Use   | Exposure routes | Potential health effects   | Value                 |
|-----------------|-----------|-----------------|----------------------------|-----------------------|
| Ethylene glycol | Workers   | Inhalation      | Long-term local effects    | 35 mg/m <sup>3</sup>  |
|                 | Workers   | Skin contact    | Long-term systemic effects | 106 mg/kg bw/day      |
|                 | Consumers | Inhalation      | Long-term local effects    | 7 mg/m <sup>3</sup>   |
|                 | Consumers | Skin contact    | Long-term systemic effects | 53 mg/kg bw/day       |
| Ethanol         | Workers   | Inhalation      | Long-term systemic effects | 950 mg/m <sup>3</sup> |
|                 | Workers   | Skin contact    | Long-term systemic effects | 343 mg/kg bw/day      |
|                 | Consumers | Inhalation      | Long-term systemic effects | 114 mg/m <sup>3</sup> |
|                 | Consumers | Skin contact    | Long-term systemic effects | 206 mg/kg bw/day      |
|                 | Consumers | Ingestion       | Long-term systemic effects | 87 mg/kg bw/day       |

### Predicted No Effect Concentration (PNEC):

| Substance name  | Environmental Compartment | Value      |
|-----------------|---------------------------|------------|
| Ethylene glycol | Fresh water               | 10 mg/l    |
|                 | Marine water              | 1 mg/l     |
|                 | Intermittent use/release  | 10 mg/l    |
|                 | Sewage treatment plant    | 199.5 mg/l |
|                 | Fresh water sediment      | 37 mg/kg   |
|                 | Marine sediment           | 3.7 mg/kg  |
|                 | Soil                      | 1.53 mg/kg |

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|         |                            |                              |
|---------|----------------------------|------------------------------|
| Ethanol | Fresh water                | 0.96 mg/l                    |
|         | Freshwater - intermittent  | 2.75 mg/l                    |
|         | Marine water               | 0.79 mg/l                    |
|         | Sewage treatment plant     | 580 mg/l                     |
|         | Fresh water sediment       | 3.6 mg/kg dry weight (d.w.)  |
|         | Marine sediment            | 2.9 mg/kg dry weight (d.w.)  |
|         | Soil                       | 0.63 mg/kg dry weight (d.w.) |
|         | Oral (Secondary Poisoning) | 380 mg/kg food               |

### 8.2 Exposure controls

#### Engineering measures

Minimize workplace exposure concentrations.  
If sufficient ventilation is unavailable, use with local exhaust ventilation.  
Use explosion-proof electrical, ventilating and lighting equipment.

#### Personal protective equipment

Eye/face protection : Wear the following personal protective equipment:  
Safety goggles  
Equipment should conform to BS EN 166

Hand protection  
Material : Nitrile rubber  
Break through time : 480 min  
Glove thickness : 0.45 mm

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Wear the following personal protective equipment:  
If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.  
Equipment should conform to BS EN 14387

Filter type : Organic vapour type (A)



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### SECTION 9: Physical and chemical properties

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

|  |                                  |
|--|----------------------------------|
| Appearance                                       | : liquid                         |
| Colour   | : blue                           |
| Odour  | : citrus                         |
| Odour Threshold                                  | : No data available              |
| pH   | : 7.0<br>Concentration: 100 %    |
| Melting point/freezing point                     | : No data available              |
| Initial boiling point and boiling range          | : No data available              |
| Flash point                                      | : 17 °C                          |
| Evaporation rate                                 | : No data available              |
| Flammability (solid, gas)                        | : Not applicable                 |
| Upper explosion limit / Upper flammability limit | : No data available              |
| Lower explosion limit / Lower flammability limit | : No data available              |
| Vapour pressure                                  | : No data available              |
| Relative vapour density                          | : No data available              |
| Density  | : 0.85 g/cm <sup>3</sup> (20 °C) |
| Solubility(ies)                                  |                                  |
| Water solubility                                 | : No data available              |
| Partition coefficient: n-octanol/water           | : Not applicable                 |
| Auto-ignition temperature                        | : No data available              |
| Decomposition temperature                        | : No data available              |
| Viscosity  |                                  |
| Viscosity, kinematic                             | : No data available              |

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Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

### 9.2 Other information

Flammability (liquids) : No data available

Particle size : Not applicable

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Not classified as a reactivity hazard.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Highly flammable liquid and vapour.  
Vapours may form explosive mixture with air.  
Can react with strong oxidizing agents.

### 10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents

### 10.6 Hazardous decomposition products

No hazardous decomposition products are known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Not classified based on available information.

#### Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg  
Method: Calculation method

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### Components:

#### **Ethanol:**

|                           |   |   |
|---------------------------|---|---|
| Acute oral toxicity       | : | LD50 (Rat): > 5,000 mg/kg<br>Method: OECD Test Guideline 401            |
| Acute inhalation toxicity | : | LC50 (Rat): 124.7 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour |

#### **Ethylene glycol:**

|                           |   |  |
|---------------------------|---|--|
| Acute oral toxicity       | : | Acute toxicity estimate: 1,330 mg/kg<br>Method: Expert judgement           |
| Acute inhalation toxicity | : | LC50 (Rat): > 2.5 mg/l<br>Exposure time: 6 h<br>Test atmosphere: dust/mist |
| Acute dermal toxicity     | : | LD50 (Mouse): > 3,500 mg/kg  |

#### **Dipentene:**

|                           |   |  |
|---------------------------|---|--|
| Acute oral toxicity       | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 423<br>Assessment: The substance or mixture has no acute oral toxicity  |
| Acute inhalation toxicity | : | LC50 (Mouse): > 1.11 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Assessment: The substance or mixture has no acute inhalation toxicity<br>Remarks: Based on data from similar materials |
| Acute dermal toxicity     | : | LD50 (Rabbit): > 5,000 mg/kg<br>Remarks: Based on data from similar materials  |

### **Skin corrosion/irritation**

Not classified based on available information.

### Components:

#### **Ethanol:**

|         |   |                         |
|---------|---|-------------------------|
| Species | : | Rabbit                  |
| Method  | : | OECD Test Guideline 404 |
| Result  | : | No skin irritation      |

#### **Ethylene glycol:**

|         |   |                    |
|---------|---|--------------------|
| Species | : | Rabbit             |
| Result  | : | No skin irritation |

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### Dipentene:

|         |   |   |
|---------|---|---|
| Result  | : | Skin irritation                           |
| Remarks | : | Based on national or regional regulation. |

### Serious eye damage/eye irritation

Causes serious eye irritation.

### Components:

#### Ethanol:

|         |   |  |
|---------|---|--|
| Species | : | Rabbit                                       |
| Method  | : | OECD Test Guideline 405                      |
| Result  | : | Irritation to eyes, reversing within 21 days |

#### Ethylene glycol:

|         |   |                   |
|---------|---|-------------------|
| Species | : | Rabbit            |
| Result  | : | No eye irritation |

### Dipentene:

|         |   |                                      |
|---------|---|--------------------------------------|
| Species | : | Rabbit                               |
| Result  | : | No eye irritation                    |
| Remarks | : | Based on data from similar materials |

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

### Components:

#### Ethanol:

|                 |   |                               |
|-----------------|---|-------------------------------|
| Test Type       | : | Local lymph node assay (LLNA) |
| Exposure routes | : | Skin contact                  |
| Species         | : | Mouse                         |
| Result          | : | negative                      |

#### Ethylene glycol:

|                 |   |                   |
|-----------------|---|-------------------|
| Test Type       | : | Maximisation Test |
| Exposure routes | : | Skin contact      |
| Species         | : | Guinea pig        |
| Result          | : | negative          |

### Dipentene:

|                 |   |                               |
|-----------------|---|-------------------------------|
| Test Type       | : | Local lymph node assay (LLNA) |
| Exposure routes | : | Skin contact                  |
| Species         | : | Mouse                         |
| Result          | : | positive                      |

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Remarks : Based on data from similar materials

Assessment : Probability or evidence of low to moderate skin sensitisation rate in humans

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### Ethanol:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse  
Application Route: Ingestion  
Result: equivocal

##### Ethylene glycol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

##### Dipentene:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Test Type: In vivo mammalian alkaline comet assay  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

### Carcinogenicity

Not classified based on available information.

#### Components:

##### Ethylene glycol:

Species : Mouse  
Application Route : Ingestion  
Exposure time : 2 Years  
Result : negative

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### Dipentene:

|                   |   |                                      |
|-------------------|---|--------------------------------------|
| Species           | : | Mouse                                |
| Application Route | : | Ingestion                            |
| Exposure time     | : | 103 weeks                            |
| Result            | : | negative                             |
| Remarks           | : | Based on data from similar materials |

### Reproductive toxicity

Not classified based on available information.

### Components:

#### Ethanol:

|                      |   |   |
|----------------------|---|---|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study |
|                      |   | Species: Mouse  |
|                      |   | Application Route: Ingestion                          |
|                      |   | Result: negative                                      |

### STOT - single exposure

Not classified based on available information.

### STOT - repeated exposure

Not classified based on available information.

### Components:

#### Ethylene glycol:

|                 |   |  |
|-----------------|---|--|
| Exposure routes | : | Ingestion  |
| Target Organs   | : | Kidney   |
| Assessment      | : | Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw. |

### Repeated dose toxicity

### Components:

#### Ethanol:

|                   |   |             |
|-------------------|---|-------------|
| Species           | : | Rat         |
| NOAEL             | : | 1,280 mg/kg |
| LOAEL             | : | 3,156 mg/kg |
| Application Route | : | Ingestion   |
| Exposure time     | : | 90 Days     |

#### Ethylene glycol:

|                   |   |                     |
|-------------------|---|---------------------|
| Species           | : | Rat                 |
| NOAEL             | : | 150 mg/kg           |
| Application Route | : | Ingestion           |
| Exposure time     | : | 2 yr                |
| Species           | : | Dog                 |
| NOAEL             | : | 2,200 - 4,400 mg/kg |

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Application Route : Skin contact  
Exposure time : 4 Weeks  
Method : OECD Test Guideline 410

### Dipentene:

Species : Rat  
NOAEL : 150 mg/kg  
Application Route : Ingestion  
Exposure time : 13 Weeks  
Remarks : Based on data from similar materials

### Aspiration toxicity

Not classified based on available information.

### Components:

#### Dipentene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

##### Ethanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Ceriodaphnia (water flea)): > 1,000 mg/l  
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l  
plants Exposure time: 72 h

EC10 (Chlorella vulgaris (Fresh water algae)): 11.5 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Pseudomonas putida): 6,500 mg/l  
Exposure time: 16 h

Toxicity to daphnia and other : NOEC: 9.6 mg/l  
aquatic invertebrates (Chronic toxicity) Exposure time: 9 d  
Species: Daphnia magna (Water flea)

##### Ethylene glycol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 72,860 mg/l  
Exposure time: 96 h

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|  |   |   |
|--|---|---|
| Toxicity to daphnia and other aquatic invertebrates                    | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants                                       | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 6,500 - 13,000 mg/l<br>Exposure time: 96 h        |
| Toxicity to fish (Chronic toxicity)                                    | : | NOEC: 15,380 mg/l<br>Exposure time: 7 d<br>Species: Pimephales promelas (fathead minnow)                |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 8,590 mg/l<br>Exposure time: 7 d<br>Species: Ceriodaphnia dubia (water flea)                      |

### Dipentene:

|  |   |  |
|--|---|--|
| Toxicity to fish   | : | LC50 (Pimephales promelas (fathead minnow)): > 0.1 - 1 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials                                    |
| Toxicity to daphnia and other aquatic invertebrates                    | : | EC50 (Daphnia magna (Water flea)): > 0.1 - 1 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202<br>Remarks: Based on data from similar materials           |
| M-Factor (Acute aquatic toxicity)                                      | : | 1  |
| Toxicity to microorganisms   | : | EC50 : 209 mg/l<br>Exposure time: 3 h  |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: > 0.1 - 1 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)<br>Method: OECD Test Guideline 211<br>Remarks: Based on data from similar materials |
| M-Factor (Chronic aquatic toxicity)                                    | : | 1  |

## 12.2 Persistence and degradability

### Components:

#### Ethanol:

|                  |   |   |
|------------------|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 84 %<br>Exposure time: 20 d |
|------------------|---|---|

#### Ethylene glycol:



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Biodegradability : Result: Readily biodegradable.  
Biodegradation: 90 - 100 %  
Exposure time: 10 d  
Method: OECD Test Guideline 301A

### Dipentene:

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 80 %  
Exposure time: 28 d

## 12.3 Bioaccumulative potential

### Components:

#### Ethanol:

Partition coefficient: n-octanol/water : log Pow: -0.35

#### Ethylene glycol:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)  
Bioconcentration factor (BCF): 10

Partition coefficient: n-octanol/water : log Pow: -1.93

#### Dipentene:

Partition coefficient: n-octanol/water : log Pow: 4.59

## 12.4 Mobility in soil

No data available

## 12.5 Results of PBT and vPvB assessment

### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 12.6 Endocrine disrupting properties

### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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### 12.7 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

- |                        |  |
|------------------------|--|
| Product                | : Dispose of in accordance with local regulations.<br>According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.<br>Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.<br>Do not dispose of waste into sewer.   |
| Contaminated packaging | : Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>Empty containers retain residue and can be dangerous.<br>Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.<br>If not otherwise specified: Dispose of as unused product. |
| Waste Code             | : The following Waste Codes are only suggestions:<br><br>used product<br>16 01 14, antifreeze fluids containing hazardous substances<br><br>unused product<br>16 01 14, antifreeze fluids containing hazardous substances<br><br>uncleaned packagings<br>15 01 10, packaging containing residues of or contaminated by hazardous substances  |

## SECTION 14: Transport information

### 14.1 UN number

- |      |           |
|------|-----------|
| ADN  | : UN 1170 |
| ADR  | : UN 1170 |
| RID  | : UN 1170 |
| IMDG | : UN 1170 |
| IATA | : UN 1170 |

### 14.2 UN proper shipping name

- |     |                    |
|-----|--------------------|
| ADN | : ETHANOL SOLUTION |
| ADR | : ETHANOL SOLUTION |

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**RID** : ETHANOL SOLUTION  
**IMDG** : ETHANOL SOLUTION  
**IATA** : Ethanol solution

### 14.3 Transport hazard class(es)

**ADN** : 3  
**ADR** : 3  
**RID** : 3  
**IMDG** : 3  
**IATA** : 3

### 14.4 Packing group

**ADN**  
Packing group : II  
Classification Code : F1  
Hazard Identification Number : 33  
Labels : 3

**ADR**  
Packing group : II  
Classification Code : F1  
Hazard Identification Number : 33  
Labels : 3  
Tunnel restriction code : (D/E)

**RID**  
Packing group : II  
Classification Code : F1  
Hazard Identification Number : 33  
Labels : 3

**IMDG**  
Packing group : II  
Labels : 3  
EmS Code : F-E, S-D

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 364  
Packing instruction (LQ) : Y341  
Packing group : II  
Labels : Flammable Liquids

**IATA (Passenger)**  
Packing instruction (passenger aircraft) : 353  
Packing instruction (LQ) : Y341  
Packing group : II  
Labels : Flammable Liquids

### 14.5 Environmental hazards

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### ADN

Environmentally hazardous : no

### ADR

Environmentally hazardous : no

### RID

Environmentally hazardous : no

### IMDG

Marine pollutant : no

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Remarks : Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

|   |                   |  |
|---|-------------------|--|
| UK REACH List of restrictions (Annex 17)  | :                 | Conditions of restriction for the following entries should be considered:<br>Number on list 3  |
| UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation                             | :                 | Not applicable   |
| The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain) | :                 | Not applicable   |
| Regulation (EC) No 1005/2009 on substances that deplete the ozone layer   | :                 | Not applicable   |
| UK REACH List of substances subject to authorisation (Annex XIV)  | :                 | Not applicable   |
| GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation                           | :                 | Not applicable   |
| Control of Major Accident Hazards Regulations 2015 (COMAH)  |                   |  |
| P5c   | FLAMMABLE LIQUIDS | Quantity 1<br>5,000 t  |
|   |                   | Quantity 2<br>50,000 t   |
| Volatile organic compounds  | :                 | Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)<br>Volatile organic compounds (VOC) content: 88.2 % |

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### Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

### Full text of H-Statements

|      |   |
|------|---|
| H225 | : Highly flammable liquid and vapour.   |
| H226 | : Flammable liquid and vapour.  |
| H302 | : Harmful if swallowed.   |
| H304 | : May be fatal if swallowed and enters airways.                                   |
| H315 | : Causes skin irritation.   |
| H317 | : May cause an allergic skin reaction.  |
| H319 | : Causes serious eye irritation.  |
| H373 | : May cause damage to organs through prolonged or repeated exposure if swallowed. |
| H400 | : Very toxic to aquatic life.   |
| H410 | : Very toxic to aquatic life with long lasting effects.                           |

### Full text of other abbreviations

|                   |  |
|-------------------|--|
| Acute Tox.        | : Acute toxicity   |
| Aquatic Acute     | : Short-term (acute) aquatic hazard  |
| Aquatic Chronic   | : Long-term (chronic) aquatic hazard   |
| Asp. Tox.         | : Aspiration hazard  |
| Eye Irrit.        | : Eye irritation   |
| Flam. Liq.        | : Flammable liquids  |
| Skin Irrit.       | : Skin irritation  |
| Skin Sens.        | : Skin sensitisation   |
| STOT RE           | : Specific target organ toxicity - repeated exposure   |
| 2000/39/EC        | : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values |
| GB EH40           | : UK. EH40 WEL - Workplace Exposure Limits   |
| 2000/39/EC / TWA  | : Limit Value - eight hours  |
| 2000/39/EC / STEL | : Short term exposure limit  |
| GB EH40 / TWA     | : Long-term exposure limit (8-hour TWA reference period)   |
| GB EH40 / STEL    | : Short-term exposure limit (15-minute reference period)   |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by

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Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

### Classification of the mixture:

|              |      |
|--------------|------|
| Flam. Liq. 2 | H225 |
| Eye Irrit. 2 | H319 |

### Classification procedure:

Based on product data or assessment  
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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