

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

### 1.1 Product identifier

<b>Product name</b>	Castrol Radicool SF Premix GO
<b>UFI:</b>	U003-A08Y-0002-7244
<b>Product code</b>	470827-DE51
<b>SDS #</b>	470827
<b>Product type</b>	Liquid.

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

<b>Use of the substance/ mixture</b>	Coolant and antifreeze. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
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### 1.3 Details of the supplier of the safety data sheet

<b>Supplier</b>	Lubricants UK Limited, Chertsey Road, Sunbury On Thames, Middlesex, TW16 7BP
<b>E-mail address</b>	+44 (0)345 600 8125 MSDSadvice@bp.com

### 1.4 Emergency telephone number

<b>EMERGENCY TELEPHONE NUMBER</b>	Carechem: +44 (0) 1235 239 670 (24/7)
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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

<b>Product definition</b>	Mixture
<b><u>Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]</u></b>	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys)
	See Section 16 for the full text of the H statements declared above.
	See sections 11 and 12 for more detailed information on health effects and symptoms and environmental hazards.

### 2.2 Label elements

<b>UFI:</b>	U003-A08Y-0002-7244
<b>Hazard pictograms</b>	

<b>Signal word</b>	Warning
<b>Hazard statements</b>	H302 - Harmful if swallowed. H373 - May cause damage to organs through prolonged or repeated exposure. (kidneys)

### Precautionary statements

<b>General</b>	P102 - Keep out of reach of children. P101 - If medical advice is needed, have product container or label at hand.
<b>Prevention</b>	P260 - Do not breathe vapour. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
<b>Response</b>	P301 + P312, P330 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

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**SECTION 2: Hazards identification**

<b>Storage</b>	Not applicable.
<b>Disposal</b>	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazardous ingredients</b>	Ethylene glycol
<b>Supplemental label elements</b>	Not applicable.

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

<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	Not applicable.
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**Special packaging requirements**

<b>Containers to be fitted with child-resistant fastenings</b>	Not applicable.
<b>Tactile warning of danger</b>	Yes, applicable.

**2.3 Other hazards**

<b>Results of PBT and vPvB assessment</b>	Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.
<b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b>	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures**

<b>Product definition</b>	Mixture
Ethylene glycol	Corrosion inhibitor.

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Ethylene glycol	REACH #: 01-2119456816-28 EC: 203-473-3 CAS: 107-21-1 Index: 603-027-00-1	≥50 - ≤75	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) (oral)	ATE [Oral] = 500 mg/kg	[1] [2]
disodium sebacate	REACH #: 01-2120762063-61 EC: 241-300-3 CAS: 17265-14-4	≤3	Eye Irrit. 2, H319	-	[1]
Methyl-1h-benzotriazole	REACH #: 01-2119979081-35 EC: 249-596-6 CAS: 29385-43-1	≤0.3	Acute Tox. 4, H302 Repr. 2, H361d Aquatic Chronic 2, H411	ATE [Oral] = 500 mg/kg	[1]
sodium 4(or 5)-methyl-1H-benzotriazolide	REACH #: 01-2119980062-42 EC: 265-004-9 CAS: 64665-57-2	≤0.3	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Repr. 2, H361d Aquatic Chronic 2, H411	ATE [Oral] = 500 mg/kg	[1]

See Section 16 for the full text of the H statements declared above.

Type

- [1] Substance classified with a health or environmental hazard
  - [2] Substance with a workplace exposure limit
- Occupational exposure limits, if available, are listed in Section 8.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<b>Eye contact</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if irritation develops.
<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.
<b>Inhalation</b>	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
<b>Ingestion</b>	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention. If ingested, call a physician or Poison Control Center immediately. Get medical attention urgently informing the doctor that a product containing ethylene glycol has been ingested and specific treatment may be required. Transport casualty together with the product container, its label, or the safety data sheet urgently to hospital. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

See Section 11 for more detailed information on health effects and symptoms.

#### Potential acute health effects

<b>Inhalation</b>	Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.
<b>Ingestion</b>	Harmful if swallowed. Ethylene glycol: Ingestion of ethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	No known significant effects or critical hazards.

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

<b>Inhalation</b>	Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.
<b>Ingestion</b>	Ingestion of large quantities may cause nausea and diarrhoea.
<b>Skin contact</b>	Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
<b>Eye contact</b>	Potential risk of transient stinging or redness if accidental eye contact occurs.

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

#### Notes to physician

**Specific treatments** Ethylene Glycol: Gastric irrigation, ethanol or fomepizole may have value in treatment. Consult physician.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	In case of fire, use water fog, alcohol resistant foam, dry chemical or carbon dioxide extinguisher or spray.
<b>Unsuitable extinguishing media</b>	Do not use water jet. The use of a water jet may cause the fire to spread by splashing the burning product.

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

<b>Hazards from the substance or mixture</b>	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous combustion products</b>	Combustion products may include the following: carbon oxides (CO, CO <sub>2</sub> ) (carbon monoxide, carbon dioxide) metal oxide/oxides

### 5.3 Advice for firefighters

**Special precautions for fire-fighters** No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

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## SECTION 5: Firefighting measures

<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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## SECTION 6: Accidental release measures

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

<b>For non-emergency personnel</b>	Contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Floors may be slippery; use care to avoid falling. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

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

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

<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

### 6.4 Reference to other sections

See Section 1 for emergency contact information.  
 See Section 5 for firefighting measures.  
 See Section 8 for information on appropriate personal protective equipment.  
 See Section 12 for environmental precautions.  
 See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	Put on appropriate personal protective equipment. Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Empty containers retain product residue and can be hazardous.
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep away from heat and direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store and use only in equipment/containers designed for use with this product. Do not store in unlabelled containers.

<b>Not suitable</b>	Prolonged exposure to elevated temperature
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### 7.3 Specific end use(s)

<b>Recommendations</b>	See section 1.2 and Exposure scenarios in annex, if applicable.
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**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

Occupational exposure limits

Whilst specific OELs for certain components may be shown in this section, other components may be present in any mist, vapour or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Recommended monitoring procedures

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived No Effect Level

Product/ingredient name	Type	Exposure	Value	Population	Effects	
Ethylene glycol	DNEL	Long term Inhalation	-	35 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Dermal	-	106 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	-	7 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Dermal	-	53 mg/kg bw/day	General population	Systemic

Predicted No Effect Concentration

No PNECs available

**8.2 Exposure controls**

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

**General Information:**

Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures).

Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions.

Recommended: Butyl gloves.  
Neoprene gloves.

**Breakthrough time:**

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**SECTION 8: Exposure controls/personal protection**

Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account. Always consult with your glove supplier for up-to-date technical information on breakthrough times for the recommended glove type. Our recommendations on the selection of gloves are as follows:

Continuous contact:

Gloves with a minimum breakthrough time of 240 minutes, or >480 minutes if suitable gloves can be obtained.

If suitable gloves are not available to offer that level of protection, gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to.

Short-term / splash protection:

Recommended breakthrough times as above.

It is recognised that for short-term, transient exposures, gloves with shorter breakthrough times may commonly be used. Therefore, appropriate maintenance and replacement regimes must be determined and rigorously followed.

**Glove Thickness:**

For general applications, we recommend gloves with a thickness typically greater than 0.35 mm.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

**Skin and body**

Use of protective clothing is good industrial practice.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

**Refer to standards:**

- Respiratory protection: EN 529
- Gloves: EN 420, EN 374
- Eye protection: EN 166
- Filtering half-mask: EN 149
- Filtering half-mask with valve: EN 405
- Half-mask: EN 140 plus filter
- Full-face mask: EN 136 plus filter
- Particulate filters: EN 143
- Gas/combined filters: EN 14387

**Environmental exposure controls**

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

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## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Liquid.
<b>Colour</b>	☑ Pink / Violet. [Light]
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flammability</b>	Not available.
<b>Lower and upper explosion limit</b>	Not available.
<b>Flash point</b>	Closed cup: Not applicable. [Water content interferes with flash point determination.]

<b>Auto-ignition temperature</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Ingredient name</th> <th style="width: 15%;">°C</th> <th style="width: 15%;">°F</th> <th style="width: 20%;">Method</th> </tr> </thead> <tbody> <tr> <td>Ethylene glycol</td> <td>398</td> <td>748.4</td> <td></td> </tr> </tbody> </table>			Ingredient name	°C	°F	Method	Ethylene glycol	398	748.4	
Ingredient name	°C	°F	Method								
Ethylene glycol	398	748.4									

<b>Decomposition temperature</b>	Not available.
<b>pH</b>	7.8 to 8.8 [Conc. (% w/w): 100%]
<b>Kinematic viscosity</b>	Not available.
<b>Solubility</b>	

Media	Result
water	Miscible in water.

<b>Partition coefficient n-octanol/water (log value)</b>	Not applicable.
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<b>Vapour pressure</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Ingredient name</th> <th colspan="3">Vapour Pressure at 20°C</th> <th colspan="3">Vapour pressure at 50°C</th> </tr> <tr> <th>mm Hg</th> <th>kPa</th> <th>Method</th> <th>mm Hg</th> <th>kPa</th> <th>Method</th> </tr> </thead> <tbody> <tr> <td>Ethylene glycol</td> <td>0.09</td> <td>0.012</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Water</td> <td>23.8</td> <td>3.2</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C			mm Hg	kPa	Method	mm Hg	kPa	Method	Ethylene glycol	0.09	0.012					Water	23.8	3.2				
Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C																													
	mm Hg	kPa	Method	mm Hg	kPa	Method																											
Ethylene glycol	0.09	0.012																															
Water	23.8	3.2																															

<b>Density and/or Relative density</b>	>1000 kg/m <sup>3</sup> (>1 g/cm <sup>3</sup> ) at 20°C
<b>Relative vapour density</b>	Not available.

<b>Particle characteristics</b>	
<b>Median particle size</b>	Not applicable.

<b>9.2 Other information</b>	
<b>Evaporation rate</b>	Not available.
<b>Explosive properties</b>	Not available.
<b>Oxidising properties</b>	Not available.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
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<b>10.2 Chemical stability</b>	The product is stable.
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<b>10.3 Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.
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<b>10.4 Conditions to avoid</b>	Avoid all possible sources of ignition (spark or flame).
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<b>10.5 Incompatible materials</b>	Reactive or incompatible with the following materials: oxidising materials. Hazardous reactions are possible with concentrated mineral acids, strong oxidizing agents, alkali metals and isocyanates. Combustible material.
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**SECTION 10: Stability and reactivity**

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

**SECTION 11: Toxicological information**

**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Castrol Radicool SF Premix GO	970.3	N/A	N/A	N/A	N/A
Ethylene glycol	500	N/A	N/A	N/A	N/A
Methyl-1h-benzotriazole	500	N/A	N/A	N/A	N/A
sodium 4(or 5)-methyl-1H-benzotriazolide	500	N/A	N/A	N/A	N/A

**Information on likely routes of exposure** Routes of entry anticipated: Dermal, Inhalation, Eyes.

Potential acute health effects

**Inhalation** Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.

**Ingestion** Harmful if swallowed. Ethylene glycol: Ingestion of ethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).

**Skin contact** No known significant effects or critical hazards.

**Eye contact** No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation** May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.

**Ingestion** No specific data.

**Skin contact** No specific data.

**Eye contact** No specific data.

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

**Inhalation** Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

**Ingestion** Ingestion of large quantities may cause nausea and diarrhoea.

**Skin contact** Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

**Eye contact** Potential risk of transient stinging or redness if accidental eye contact occurs.

Potential chronic health effects

**General** May cause damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure. (kidney)

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

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

**Developmental effects** Birth defects and decreased fetal weight have been observed in laboratory animals fed ethylene glycol in large amounts repeatedly during pregnancy.

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

**11.2 Information on other hazards**

**11.2.1 Endocrine disrupting properties**

Not available.

**Remarks - Endocrine disruptor - Health** Not available.

**11.2.2 Other information**

Not available.

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**SECTION 12: Ecological information**

**12.1 Toxicity**

**Environmental hazards** Not classified as dangerous

**12.2 Persistence and degradability**

Expected to be biodegradable.

**12.3 Bioaccumulative potential**

This product is not expected to bioaccumulate through food chains in the environment.

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** Not available.

**Mobility** Spillages may penetrate the soil causing ground water contamination.

**12.5 Results of PBT and vPvB assessment**

Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

**12.6 Endocrine disrupting properties** Not available.

**Remarks - Endocrine disruptor - Environment** Not available.

**Other ecological information** Miscible in water.

**12.7 Other adverse effects** No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

**Methods of disposal** Undiluted fluid Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations. Diluted Fluid Diluted fluid should not be discharged into sewage systems unless provided for by local regulations. Dispose under conditions approved by the local authority or via a licensed waste disposal contractor.

**Hazardous waste** Yes.

**European waste catalogue (EWC)**

Waste code	Waste designation
16 01 14*	antifreeze fluids containing hazardous substances

However, deviation from the intended use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user.

**Packaging**

**Methods of disposal** Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

**Special precautions**

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty containers. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**Other information**

Undiluted fluid Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Diluted Fluid Diluted fluid should not be discharged into sewage systems unless provided for by local regulations. Dispose under conditions approved by the local authority or via a licensed waste disposal contractor.

**References**

Commission 2014/955/EU  
Directive 2008/98/EC

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**SECTION 14: Transport information**

	<b>ADR/RID</b>	<b>ADN</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number or ID number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>14.2 UN proper shipping name</b>	-	-	-	-
<b>14.3 Transport hazard class(es)</b>	-	-	-	-
<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	No.	No.	No.	No.
<b>Additional information</b>	-	-	-	-

**14.6 Special precautions for user** Not available.

**14.7 Maritime transport in bulk according to IMO instruments** Not available.

**SECTION 15: Regulatory information**

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

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

**Annex XIV - List of substances subject to authorisation**

**Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

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

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

**Other regulations**

**REACH Status** The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

**United States inventory (TSCA 8b)** All components are active or exempted.

**Australia inventory (AIC)** All components are listed or exempted.

**Canada inventory** All components are listed or exempted.

**China inventory (IECSC)** All components are listed or exempted.

**Japan inventory (CSCL)** All components are listed or exempted.

**Korea inventory (KECI)** All components are listed or exempted.

**Philippines inventory (PICCS)** All components are listed or exempted.

**Taiwan Chemical Substances Inventory (TCSI)** All components are listed or exempted.

**Ozone depleting substances (1005/2009/EU)**

Not listed.

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## SECTION 15: Regulatory information

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

Not listed.

### Persistent Organic Pollutants

Not listed.

### EU - Water framework directive - Priority substances

None of the components are listed.

### Seveso Directive

This product is not controlled under the Seveso Directive.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for one or more of the substances within this mixture. A Chemical Safety Assessment has not been carried out for the mixture itself.

## SECTION 16: Other information

### Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 CSA = Chemical Safety Assessment  
 CSR = Chemical Safety Report  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EINECS = European Inventory of Existing Commercial chemical Substances  
 ES = Exposure Scenario  
 EUH statement = CLP-specific Hazard statement  
 EWC = European Waste Catalogue  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 OECD = Organisation for Economic Co-operation and Development  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 RRN = REACH Registration Number  
 SADT = Self-Accelerating Decomposition Temperature  
 SVHC = Substances of Very High Concern  
 STOT-RE = Specific Target Organ Toxicity - Repeated Exposure  
 STOT-SE = Specific Target Organ Toxicity - Single Exposure  
 TWA = Time weighted average  
 UN = United Nations  
 UVCB = Complex hydrocarbon substance  
 VOC = Volatile Organic Compound  
 vPvB = Very Persistent and Very Bioaccumulative  
 Varies = may contain one or more of the following 64741-88-4 / RRN 01-2119488706-23, 64741-89-5 / RRN 01-2119487067-30, 64741-95-3 / RRN 01-2119487081-40, 64741-96-4 / RRN 01-2119483621-38, 64742-01-4 / RRN 01-2119488707-21, 64742-44-5 / RRN 01-2119985177-24, 64742-45-6, 64742-52-5 / RRN 01-2119467170-45, 64742-53-6 / RRN 01-2119480375-34, 64742-54-7 / RRN 01-2119484627-25, 64742-55-8 / RRN 01-2119487077-29, 64742-56-9 / RRN 01-2119480132-48, 64742-57-0 / RRN 01-2119489287-22, 64742-58-1, 64742-62-7 / RRN 01-2119480472-38, 64742-63-8, 64742-65-0 / RRN 01-2119471299-27, 64742-70-7 / RRN 01-2119487080-42, 72623-85-9 / RRN 01-2119555262-43, 72623-86-0 / RRN 01-2119474878-16, 72623-87-1 / RRN 01-2119474889-13

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

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**SECTION 16: Other information**

Classification	Justification
Acute Tox. 4, H302 STOT RE 2, H373 (kidneys)	Calculation method Calculation method

**Full text of abbreviated H statements**

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

**Full text of classifications [CLP/GHS]**

H411	Toxic to aquatic life with long lasting effects.
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

**History**

<b>Date of issue/ Date of revision</b>	18/01/2024.
<b>Date of previous issue</b>	21/12/2023.
<b>Prepared by</b>	Product Stewardship Group

**Indicates information that has changed from previously issued version.**

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