

# Safety Data Sheet



## SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifier

#### Antifreeze/Coolant Concentrate

Product Number(s): 804146

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

#### Identified Uses:

Formulation & (re)packing of substances and mixtures

Use as antifreeze/coolant

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

Chevron Products UK Limited

1 Westferry Circus

Canary Wharf

London E14 4HA

United Kingdom

email : eumsds@chevron.com

### 1.4 Emergency telephone number

#### Transportation Emergency Response

Europe: 0044/(0)18 65 407333 and CHEMTREC: +1 703 527 3887

#### Health Emergency

Chevron Emergency Information Center: Located in the USA, international calls accepted 24 hours: +1 510 231 0623

Europe: 0044/(0)18 65 407333

#### Product Information

Product Information: FAX number: 0044/20 77 19 5171

## SECTION 2 HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### CLP CLASSIFICATION:

- Acute oral toxicant: Category 4, H302; Harmful if swallowed.
- Target organ toxicant (repeated exposure): Category 2, H373; May cause damage to organs through prolonged or repeated exposure.

### 2.2 Label elements

Under the criteria of GB CLP:



**Signal Word:** Warning

#### HAZARD STATEMENTS:

##### Health Hazards:

- Harmful if swallowed (H302).
- May cause damage to organs through prolonged or repeated exposure (H373).

- contains: Ethylene glycol

#### PRECAUTIONARY STATEMENTS:

##### General:

- If medical advice is needed, have product container or label at hand (P101).

##### Prevention:

- Do not breathe fume, gas, mist, vapours, or spray (P260).
- Wash thoroughly after handling (P264).
- Do not eat, drink or smoke when using this product (P270).

##### Response:

- IF SWALLOWED: Immediately call a POISON CENTER, doctor, or physician (P301+P310).

##### Disposal:

- Dispose of contents and container in accordance with applicable local, regional, national, and international regulations (P501).

#### 2.3 Other hazards

This material does not contain a substance considered to have endocrine disrupting properties at levels of 0.1% weight or higher. This material does not contain a substance considered to be PBT or vPvB at levels of 0.1% weight or higher.

### SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

#### 3.2 Mixtures

This material is a mixture.

COMPONENTS	CAS NUMBER	EC NUMBER	REGISTRATION NUMBER	GB CLP CLASSIFICATION	AMOUNT
Ethylene glycol	107-21-1	203-473-3	**	Acute Tox. 4/H302; STOT RE 2/H373	80 - 98 %weight

The full text of all CLP H-statements is shown in Section 16.

\*\*Not available or substance is not currently required for registration under UK REACH.

### SECTION 4 FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing

and shoes or thoroughly clean before reuse.

**Ingestion:** If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

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

##### **IMMEDIATE SYMPTOMS AND HEALTH EFFECTS**

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to be harmful.

**Ingestion:** May be harmful if swallowed.

**Inhalation:** Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

**DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS:** Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit: Kidney

See Section 11 for additional information. Risk depends on duration and level of exposure.

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

Not applicable.

### **SECTION 5 FIRE FIGHTING MEASURES**

#### **5.1 Extinguishing media**

Dry Chemical, CO<sub>2</sub>, water spray (fog) or alcohol resistant foam.

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

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Sodium .

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

This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

### **SECTION 6 ACCIDENTAL RELEASE MEASURES**

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

Observe all relevant local and international regulations. Eliminate all sources of ignition in vicinity of spilled material. Keep out unnecessary and unprotected personnel. Persons entering the contaminated area to correct the problem or to determine whether it is safe to resume normal activities must comply with all instructions in the Exposure Controls/Personal Protection section. Refer to Sections 5 and 8 for more information.

#### **6.2 Environmental precautions**

Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater.

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

Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil and dispose of in a manner consistent with applicable requirements. Place other contaminated materials in disposable containers and dispose of in a manner consistent with applicable requirements. Report spills to local authorities as appropriate or required.

### 6.4 Reference to other sections

See sections 8 and 13.

## SECTION 7 HANDLING AND STORAGE

### 7.1 Precautions for safe handling

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Precautionary Measures:** Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, 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. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

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

Not Applicable

### 7.3 Specific end use(s):

Formulation & (re)packing of substances and mixtures

Use as antifreeze/coolant

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, refer to PPE information below.

Factors that affect PPE include, but are not limited to: properties of the chemical, other chemicals which may contact the same PPE, physical requirements (fit & sizing, cut/puncture protection, dexterity, thermal protection, etc.), and potential allergic reactions to the PPE material. It is the responsibility of the user to read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

### 8.1 Control parameters

#### Occupational Exposure Limits:

Component	Country/ Agency	Form	TWA	STEL	Ceiling	Notation
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Ethylene glycol	EU-Indicative	--	52 mg/m3	104 mg/m3	--	Skin
Ethylene glycol	United Kingdom	--	10 mg/m3	104 mg/m3	--	Skin
Ethylene glycol	United Kingdom	Particulate	10 mg/m3	--	--	Skin
Ethylene glycol	United Kingdom	Vapor	52 mg/m3	104 mg/m3	--	Skin

Consult local authorities for appropriate values.

## 8.2 Exposure controls

### ENGINEERING CONTROLS:

Use general ventilation, local exhaust ventilation, or a combination of both.

### PERSONAL PROTECTIVE EQUIPMENT

**Eye/Face Protection:** Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.

**Skin Protection:** Wear chemical personal protective equipment (PPE) to prevent skin contact. Selection of chemical protective clothing should be performed by an Occupational Hygienist or Safety Professional and be based upon applicable standards (ASTM F739 or EN 374). Using chemical PPE depends upon operations conducted and may include chemical gloves, boots, chemical apron, chemical suit, and complete facial protection. **Refer to PPE manufacturers to obtain breakthrough time information to determine how long PPE can be used before it needs to be replaced.** Unless specific glove manufacturer data indicates otherwise, the below table is based upon available industry data to assist in the glove selection process and is intended to be used as reference only.

Chemical Glove Material	Thickness (mm)	Typical Breakthrough Time (minutes)
Butyl	0.7	240
Neoprene	0.9	240
Nitrile	0.55	240
Polyvinyl Chloride (PVC)	1.5	120
Viton Butyl	0.3	120

**Respiratory Protection:** Not required for identified conditions of use. A site-specific risk assessment should be conducted by an Occupational Hygienist or a Safety Professional to determine the type and use of respiratory protective equipment. When a site-specific risk assessment determines that respiratory protection is required, use an approved respirator such as:

#### Air purifying respirator -

If airborne concentration limits exceed the applicable occupational exposure limit, but are below the maximum use concentration.

Vapors only: organic vapor cartridge (filter type A3 per EN 529:2005).

Vapors and particulates (including generated mists): both an organic vapor cartridge & particulate filter (AP3 filter per EN 529:2005).

Refer to respirator manufacturers to obtain service life of cartridge / filter.

#### Positive pressure air-supplying respirator -

If airborne concentration limits exceed the maximum use concentration offered from an air purifying respirator.

Refer to EN 529:2005, USA OSHA 1910.134, and/or other applicable local/regional/national/international standards for regulatory requirements.

### ENVIRONMENTAL EXPOSURE CONTROLS:

See relevant Community environmental protection legislation or the Annex, as applicable.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Attention:** the data below are typical values and do not constitute a specification.

### 9.1 Information on basic physical and chemical properties

#### Appearance

**Color:** Light blue

**Physical State:** Liquid

**Odor:** Faint or Mild

**Odor Threshold:** No data available

**pH:** 8.0 - 9.0; 33%volume @ 20°C (solution in water)

**Melting Point:** Not Applicable

**Freezing Point:** -33°C (-27.4°F) (Typical)

**Initial Boiling Point:** 180°C (356°F) (Estimated)

**Flashpoint:** (Pensky-Martens Closed Cup) 122 °C (252 °F) (Approximate)

**Evaporation Rate:** No data available

**Flammability (solid, gas):** Not Applicable

**Flammability (Explosive) Limits (% by volume in air):**

Lower: Not Applicable Upper: Not Applicable

**Vapor Pressure:** No data available

**Relative Vapor Density:** No data available

**Density:** 1.103 kg/l - 1.114 kg/l @ 20°C (68°F)

**Solubility:** Miscible

**Partition coefficient n-octanol/water (logarithmic value):** No data available

**Auto-ignition temperature:** No data available

**Decomposition temperature:** No data available

**Kinematic Viscosity:** No data available

**Explosive Properties:** No Data Available

**Oxidising properties:** No Data Available

### 9.2 Other Information: No Data Available

## SECTION 10 STABILITY AND REACTIVITY

**10.1 Reactivity:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**10.2 Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions:** Hazardous polymerization will not occur.

**10.4 Conditions to Avoid:** Not applicable

**10.5 Incompatible materials to avoid:** Not applicable

**10.6 Hazardous decomposition products:** Aldehydes (Elevated temperatures), Ketones (Elevated temperatures)

## SECTION 11 TOXICOLOGICAL INFORMATION

### 11.1 Information on hazard classes

#### Product Information:

**Serious Eye Damage/Irritation:** The material is not considered an eye irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Skin Corrosion/Irritation:** The material is not considered a skin irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** The material is not considered a skin sensitizer. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Acute Dermal Toxicity:** The material is not considered a dermal toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Acute Toxicity Estimate (dermal):** Not Applicable

**Acute Oral Toxicity:** This material is harmful if swallowed. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Acute Toxicity Estimate (oral):** 1632.65 mg/kg

**Acute Inhalation Toxicity:** The material is not considered an inhalation toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Acute Toxicity Estimate (inhalation):** Not Applicable

**Germ Cell Mutagenicity:** The material is not considered a mutagen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Carcinogenicity:** The material is not considered a carcinogen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Reproductive Toxicity:** The material is not considered a reproductive toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Specific Target Organ Toxicity - Single Exposure:** The material is not considered a target organ toxicant (single exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Specific Target Organ Toxicity - Repeated Exposure:** This material may cause damage to organs through prolonged or repeated exposure. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Aspiration Hazard:** The material is not considered an aspiration hazard.

**Component Information:**

<b>Serious Eye Damage/Irritation:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met
<b>Skin Corrosion/Irritation:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met
<b>Skin Sensitization:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met
<b>Acute Dermal Toxicity:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met
<b>Acute Oral Toxicity:</b>	
Ethylene glycol	Test Qualifier: LD50 Test Result: 1600 mg/kg Species: cat

<b>Acute Inhalation Toxicity:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met
<b>Germ Cell Mutagenicity:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met
<b>Carcinogenicity:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met
<b>Reproductive Toxicity:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met
<b>Specific Target Organ Toxicity - Single Exposure:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met
<b>Specific Target Organ Toxicity - Repeated Exposure:</b>	
Ethylene glycol	Test Result: May cause damage to organs through prolonged and repeated exposure if ingested based on human data
Ethylene glycol	Test Result: May cause damage to organs through prolonged and repeated exposure if inhalation based on human data

#### ADDITIONAL TOXICOLOGY INFORMATION:

This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

#### 11.2 Information on other hazards

No other hazards identified.

### SECTION 12 ECOLOGICAL INFORMATION

#### Product Information:

##### 12.1 Toxicity

This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

##### 12.2 Persistence and degradability

This material is expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

##### 12.3 Bioaccumulative potential

Bioconcentration Factor: No Data Available

Partition coefficient n-octanol/water (logarithmic value): No data available

##### 12.4 Mobility in soil

No data available.



## 12.5 Results of PBT and vPvB assessment

This material does not meet the criteria for PBT or vPvB.

## 12.6 Endocrine Disrupting Properties

This mixture does not contain any substances that are assessed as having endocrine disrupting properties.

## 12.7 Other adverse effects

No other adverse effects identified.

### Component Information:

<b>Acute Toxicity:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met

<b>Long-term Toxicity:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met

<b>Biodegradation:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met

<b>Bioaccumulative Potential:</b>	
Ethylene glycol	Based on available data, the classification criteria are not met

## SECTION 13 DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations. In accordance with European Waste Catalogue (E.W.C.) the codification is the following:16 01 14

## SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

### ADR/RID

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

**14.1 UN Number or ID Number:** Not applicable

**14.2 UN proper shipping name:** Not applicable

**14.3 Transport hazard class(es):** Not applicable

**14.4 Packing group:** Not applicable

**14.5 Environmental hazards:** Not applicable

**14.6 Special precautions for user:** Not applicable

### ADN

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

**14.1 UN Number or ID Number:** Not applicable

**14.2 UN proper shipping name:** Not applicable

**14.3 Transport hazard class(es):** Not applicable

**14.4 Packing group:** Not applicable

**14.5 Environmental hazards:** Not applicable

**14.6 Special precautions for user:** Not applicable

#### **ICAO / IATA**

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

**14.1 UN Number or ID Number:** Not applicable

**14.2 UN proper shipping name:** Not applicable

**14.3 Transport hazard class(es):** Not applicable

**14.4 Packing group:** Not applicable

**14.5 Environmental hazards:** Not applicable

**14.6 Special precautions for user:** Not applicable

#### **IMO / IMDG**

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

**14.1 UN Number or ID Number:** Not applicable

**14.2 UN proper shipping name:** Not applicable

**14.3 Transport hazard class(es):** Not applicable

**14.4 Packing group:** Not applicable

**14.5 Environmental hazards:** Not applicable

**14.6 Special precautions for user:** Not applicable

**14.7 Maritime Transport in Bulk according to IMO Instruments:** Not applicable

### **SECTION 15 REGULATORY INFORMATION**

#### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture REGULATORY LISTS SEARCHED:**

01=EU Directive 92/85/EEC: Pregnant or breastfeeding workers.

02=EU Directive 2012/18/EU: Seveso III.

03=EU Directive 98/24/EC: Chemical agents at work.

04=EU Directive 2004/37/EC: On the protection of workers.

05=EU Regulation EC No. 689/2008: Annex 1, Part 1.

06=EU Regulation EC No. 850/2004: Prohibiting and restricting persistent organic pollutants (POPs).

07=EU REACH, Annex XVII: Restrictions on manufacture, placing on the market and use of certain dangerous substances, mixture & article.

08=EU REACH, Annex XIV: Authorization List or Candidate List of Substances of Very High Concern for Authorization (SVHC).

No components of this material were found on the regulatory lists above.

#### **CHEMICAL INVENTORIES:**

All components comply with the following chemical inventory requirements: ENCS (Japan), IECSC (China), KECI (Korea), NZIoC (New Zealand), TCSI (Taiwan).

One or more components is listed on ELINCS (European Union).

One or more components does not comply with the following chemical inventory requirements: AIIIC (Australia), DSL (Canada), PICCS (Philippines), TSCA (United States).

#### **15.2 Chemical safety assessment**

Yes

### **SECTION 16 OTHER INFORMATION**

**REVISION STATEMENT:** SECTION 02 - Hazard Statements information was modified.

SECTION 02 - Precautionary Statements information was modified.

SECTION 02 - Supplemental Hazard information was modified.

SECTION 05 - Extinguishing Media information was modified.  
 SECTION 06 - Personal Precautions, Protective Equipment and Emergency Procedures information was modified.  
 SECTION 08 - Personal Protective Equipment List information was deleted.  
 SECTION 08 - Respiratory Protection information was added.  
 SECTION 08 - Respiratory Protection information was modified.  
 SECTION 11 - Toxicological Information information was modified.  
 SECTION 12 - Ecological Information information was modified.  
 SECTION 14 - ADN Classification information was added.  
 SECTION 15 - Regulatory Information information was deleted.  
 SECTION 15 - Regulatory Information information was modified.

**Revision Date:** August 01, 2025

**Full text of CLP H-statements:**

Acute Tox. 4/H302; Harmful if swallowed

STOT RE 2/H373; May cause damage to organs through prolonged or repeated exposure

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
CVX - Chevron	CAS - Chemical Abstract Service Number
NQ - Not Quantifiable	

Prepared according to the UK REACH by Chevron.

The information in this SDS is based on the knowledge, information, and belief of Chevron and its affiliates as of the publication date. It is not a quality specification, and no warranty, express or implied, is given. We assume no responsibility or liability for the results of using this material. The information presented here pertains only to the listed product. Since conditions of use are beyond our control, it is the user's responsibility to determine the conditions for safe use of this product and assess its suitability for their application. Users should seek additional guidance if necessary.

**Annex**

Use as antifreeze/coolant - Industrial

Section 1	
Title	
Use as antifreeze/coolant	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 8a, 8b, 9
Environmental Release Categories	7
Specific Environmental Release Category	Not Applicable
Processes, tasks, activities covered	
Covers general use of coolant in vehicles in closed systems. Includes the filling and draining of containers and operation of enclosed machinery and associated maintenance and storage activities.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	

<b>Product characteristics</b>	
Physical form of product	Liquid, vapor pressure 0.004 kPa at 20°C
Vapour Pressure	See above
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently). [G13 ]
Amount used	Not Applicable
Frequency and duration of use/exposure	Covers up to ... (days/week): 5
Human factors not influenced by risk management	None identified
Other Operational Conditions affecting exposure	Not Applicable
<b>Contributing Scenarios Specific Risk Management Measures and Operating Conditions</b>	
<p><b>[PROC 1] Use in closed process, no likelihood of exposure.</b>  Covers more than 4 hours (unless stated differently).  Handle substance within a closed system. [E47]  Use suitable eye protection. [PPE26]</p> <p><b>[PROC 2] Use in closed process with occasional controlled exposure.</b>  Covers more than 4 hours (unless stated differently).  Handle substance within a closed system. [E47]  Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]  Use suitable eye protection. [PPE26]</p> <p><b>[PROC 3] Use in closed batch process (synthesis or formulation).</b>  Covers more than 4 hours (unless stated differently).  Ensure good ventilation at the workstation.  Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]  Use suitable eye protection. [PPE26]</p> <p><b>[PROC 4] Use in batch or other process (synthesis) where opportunity for exposure arises.</b>  Covers more than 4 hours (unless stated differently).  Provide enhanced general ventilation by mechanical means. [E48]  Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]  Use suitable eye protection. [PPE26]</p> <p><b>[PROC 8a] Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.</b>  Avoid carrying out activities involving exposure for more than 4 hours. [OC28]  Provide extract ventilation to points where emissions occur. [E54]  Effectiveness (of a measure): 90%  Use suitable eye protection. [PPE26]  If above technical/organisational control measures are not feasible, then adopt following PPE:. [PPE30]  Wear suitable respiratory protection.  Effectiveness (of a measure): 95%</p> <p><b>[PROC 8b] Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.</b>  Covers more than 4 hours (unless stated differently).  Provide extract ventilation to points where emissions occur. [E54]  Effectiveness (of a measure): 90%</p>	

Use suitable eye protection. [PPE26] If above technical/organisational control measures are not feasible, then adopt following PPE.: [PPE30] Wear suitable respiratory protection. Effectiveness (of a measure): 95%
<b>[PROC 9] Transfer of substance or preparation into small containers (dedicated filling line, including weighing).</b> Covers more than 4 hours (unless stated differently). Provide enhanced general ventilation by mechanical means. [E48] Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17] Use suitable eye protection. [PPE26]
<b>Section 2.2 Control of environmental exposure</b>
<b>Product characteristics</b>
Not Applicable
<b>Amounts used</b>
Maximum daily site tonnage (kg/day) [A4]: 2000
<b>Frequency and duration of use</b>
Emission Days (days/year) [FD4]: 300
<b>Environmental factors not influenced by risk management</b>
Local freshwater dilution factor [EF1]: 10 Local marine water dilution factor [EF2]: 100
<b>Other given operational conditions affecting environmental exposure</b>
Not Applicable
<b>Technical conditions and measures at process level (source) to prevent release</b>
Common practices vary across sites thus conservative process release estimates used. [TCS1]
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>
Prevent discharge of undissolved substance to or recover from onsite wastewater. [TCR14] User site assumed to be separate chemical and foul/rain water and be equipped with a WWTP. [ENVT15]
<b>Organisation measures to prevent/limit release from site</b>
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]
<b>Conditions and measures related to municipal sewage treatment plant</b>
Assumed domestic sewage treatment plant flow (m3/d) [STP5]: 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>
External treatment and disposal of waste should comply with applicable local and/or national regulations. [ETW3]
<b>Conditions and measures related to external recovery of waste</b>
External recovery and recycling of waste should comply with applicable local and/or national regulations. [ERW1]
<b>Section 3 Exposure Estimation</b>
<b>3.1. Health</b>
The Risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
<b>3.2. Environment</b>
Used ECETOC TRA model. [EE1]
<b>Section 4 Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. [G23]
<b>4.2. Environment</b>
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus,

scaling may be necessary to define appropriate site-specific risk management measures. [DSU1]

**Use as antifreeze/coolant - Professional**

<b>Section 1</b>	
<b>Title</b>	
Use as antifreeze/coolant	
<b>Use Descriptor</b>	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 8a, 9
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	Not Applicable
<b>Processes, tasks, activities covered</b>	
Covers handling and dilution of functional fluids	
<b>Assessment Method</b>	
See Section 3.	
<b>Section 2 Operational conditions and risk management measures</b>	
<b>Section 2.1 Control of worker exposure</b>	
<b>Product characteristics</b>	
Physical form of product	Liquid, vapor pressure 0.004 kPa at 20°C
Vapour Pressure	See above
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently). [G13 ]
Amount used	Not Applicable
Frequency and duration of use/exposure	Covers up to ... (days/week): 5
Human factors not influenced by risk management	None identified
Other Operational Conditions affecting exposure	Not Applicable
<b>Contributing Scenarios Specific Risk Management Measures and Operating Conditions</b>	
<p><b>[PROC 1] Use in closed process, no likelihood of exposure.</b> Covers more than 4 hours (unless stated differently). Handle substance within a closed system. [E47] Use suitable eye protection. [PPE26]</p> <p><b>[PROC 2] Use in closed process with occasional controlled exposure.</b> Covers more than 4 hours (unless stated differently). Provide enhanced general ventilation by mechanical means. [E48] Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17] Use suitable eye protection. [PPE26]</p> <p><b>[PROC 3] Use in closed batch process (synthesis or formulation).</b> Covers more than 4 hours (unless stated differently). Ensure good ventilation at the workstation. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17] Use suitable eye protection. [PPE26]</p>	

**[PROC 4] Use in batch or other process (synthesis) where opportunity for exposure arises.**

Covers daily exposure up to 8 hours.

Use suitable eye protection. [PPE26]

**[PROC 8a] Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.**

Avoid carrying out activities involving exposure for more than 1 hour. [OC27]

Provide extract ventilation to points where emissions occur. [E54]

Effectiveness (of a measure): 80%

Use suitable eye protection. [PPE26]

If above technical/organisational control measures are not feasible, then adopt following PPE:. [PPE30]

Wear suitable respiratory protection.

Effectiveness (of a measure): 80%

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]

**[PROC 9] Transfer of substance or preparation into small containers (dedicated filling line, including weighing).**

Avoid carrying out activities involving exposure for more than 4 hours. [OC28]

Provide enhanced general ventilation by mechanical means. [E48]

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]

Use suitable eye protection. [PPE26]

**Section 2.2 Control of environmental exposure****Product characteristics**

Not Applicable

**Amounts used**

Maximum daily site tonnage (kg/day) [A4]: 1000

**Frequency and duration of use**

Emission Days (days/year) [FD4]: 300

**Environmental factors not influenced by risk management**

Local freshwater dilution factor [EF1]: 10

Local marine water dilution factor [EF2]: 100

**Other given operational conditions affecting environmental exposure**

Not Applicable

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

Common practices vary across sites thus conservative process release estimates used. [TCS1]

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Prevent discharge of undissolved substance to or recover from onsite wastewater. [TCR14]

User site assumed to be separate chemical and foul/rain water and be equipped with a WWTP.

[ENVT15]

**Organisation measures to prevent/limit release from site**

Do not apply industrial sludge to natural soils. [OMS2]

Sludge should be incinerated, contained or reclaimed. [OMS3]

**Conditions and measures related to municipal sewage treatment plant**

Assumed domestic sewage treatment plant flow (m3/d) [STP5]: 2000

**Conditions and measures related to external treatment of waste for disposal**

External treatment and disposal of waste should comply with applicable local and/or national regulations.

[ETW3]

**Conditions and measures related to external recovery of waste**

External recovery and recycling of waste should comply with applicable local and/or national regulations.

[ERW1]

**Section 3 Exposure Estimation****3.1. Health**

The Risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are

the outcome of a quantitative and qualitative assessment that covers this product.
<b>3.2. Environment</b>
Used ECETOC TRA model. [EE1]
<b>Section 4 Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. [G23]
<b>4.2. Environment</b>
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. [DSU1]

#### Formulation & (re)packing of substances and mixtures - Industrial

<b>Section 1</b>	
<b>Title</b>	
Formulation & (re)packing of substances and mixtures	
<b>Use Descriptor</b>	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 5, 8a, 8b, 9
Environmental Release Categories	2
Specific Environmental Release Category	Not Applicable
<b>Processes, tasks, activities covered</b>	
Covers general use of coolant in vehicles in closed systems. Includes the filling and draining of containers and operation of enclosed machinery and associated maintenance and storage activities.	
<b>Assessment Method</b>	
See Section 3.	
<b>Section 2 Operational conditions and risk management measures</b>	
<b>Section 2.1 Control of worker exposure</b>	
<b>Product characteristics</b>	
Physical form of product	Liquid, vapor pressure 0.004 kPa at 20°C
Vapour Pressure	See above
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently). [G13 ]
Amount used	Not Applicable
Frequency and duration of use/exposure	Covers up to ... (days/week): 5
Human factors not influenced by risk management	None identified
Other Operational Conditions affecting exposure	Not Applicable
<b>Contributing Scenarios Specific Risk Management Measures and Operating Conditions</b>	
<p><b>[PROC 1] Use in closed process, no likelihood of exposure.</b>  Covers more than 4 hours (unless stated differently).  Handle substance within a closed system. [E47]  Use suitable eye protection. [PPE26]</p> <p><b>[PROC 2] Use in closed process with occasional controlled exposure.</b>  Covers more than 4 hours (unless stated differently).</p>	



Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]

**[PROC 3] Use in closed batch process (synthesis or formulation).**

Covers more than 4 hours (unless stated differently).

Handle substance within a closed system. [E47]

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]

Use suitable eye protection. [PPE26]

**[PROC 4] Use in batch or other process (synthesis) where opportunity for exposure arises.**

Covers more than 4 hours (unless stated differently).

Provide enhanced general ventilation by mechanical means. [E48]

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]

Use suitable eye protection. [PPE26]

**[PROC 5] Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact).**

Avoid carrying out activities involving exposure for more than 4 hours. [OC28]

Provide enhanced general ventilation by mechanical means. [E48]

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]

**[PROC 8a] Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.**

Avoid carrying out activities involving exposure for more than 1 hour. [OC27]

Provide extract ventilation to points where emissions occur. [E54]

Effectiveness (of a measure): 90%

Use suitable eye protection. [PPE26]

If above technical/organisational control measures are not feasible, then adopt following PPE: [PPE30]

Wear suitable respiratory protection.

Effectiveness (of a measure): 95%

**[PROC 8b] Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.**

Avoid carrying out activities involving exposure for more than 4 hours. [OC28]

Provide extract ventilation to points where emissions occur. [E54]

Effectiveness (of a measure): 90%

Use suitable eye protection. [PPE26]

If above technical/organisational control measures are not feasible, then adopt following PPE: [PPE30]

Wear suitable respiratory protection.

Effectiveness (of a measure): 95%

**[PROC 9] Transfer of substance or preparation into small containers (dedicated filling line, including weighing).**

Covers more than 4 hours (unless stated differently).

Provide enhanced general ventilation by mechanical means. [E48]

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. [PPE17]

Use suitable eye protection. [PPE26]

**Section 2.2 Control of environmental exposure**

**Product characteristics**

Not Applicable

**Amounts used**

Maximum daily site tonnage (kg/day) [A4]: 4545

**Frequency and duration of use**

Emission Days (days/year) [FD4]: 300

**Environmental factors not influenced by risk management**

Local freshwater dilution factor [EF1]: 10

Local marine water dilution factor [EF2]: 100
<b>Other given operational conditions affecting environmental exposure</b>
Not Applicable
<b>Technical conditions and measures at process level (source) to prevent release</b>
Common practices vary across sites thus conservative process release estimates used. [TCS1]
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>
Prevent discharge of undissolved substance to or recover from onsite wastewater. [TCR14] User site assumed to be separate chemical and foul/rain water and be equipped with a WWTP. [ENVT15]
<b>Organisation measures to prevent/limit release from site</b>
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]
<b>Conditions and measures related to municipal sewage treatment plant</b>
Assumed domestic sewage treatment plant flow (m3/d) [STP5]: 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>
External treatment and disposal of waste should comply with applicable local and/or national regulations. [ETW3]
<b>Conditions and measures related to external recovery of waste</b>
External recovery and recycling of waste should comply with applicable local and/or national regulations. [ERW1]
<b>Section 3 Exposure Estimation</b>
<b>3.1. Health</b>
The Risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
<b>3.2. Environment</b>
Used ECETOC TRA model. [EE1]
<b>Section 4 Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. [G23]
<b>4.2. Environment</b>
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. [DSU1]