SAFETY DATA SHEET
According to EC No 1907/2006 as amended as at the date of this SDS

Shell Coolant Longlife Plus Ready to Use

Version	Revision Date:	SDS Number:	Date of last issue: 16.06.2023
3.0	04.06.2024	800010046474	Print Date 05.06.2024

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

1.1 Product identifier

Trade name	:	Shell Coolant Longlife Plus Ready to Use
Product code	:	001J0925
Unique Formula Identifier (UFI)	:	C2X3-2060-D00K-Q189

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

Use of the Substance/Mixture	:	Antifreeze and coolant.
Uses advised against	:	This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier	:	**Shell UK Oil Products Limited** Shell Centre London SE1 7NA United Kingdom
Telephone	:	(+44) 08007318888
Telefax	:	
Contact for Safety Data Sheet	:	If you have any enquiries about the content of this SDS please email lubricantSDS@shell.com

1.4 Emergency telephone number

: +44 (0) 20 7934 7778 (This telephone number is available 24 hours per day, 7 days per week)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Oral	H302: Harmful if swallowed.
Specific target organ toxicity - repeated exposure, Category 2, Kidney	H373: May cause damage to organs through prolonged or repeated exposure if swallowed.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements :

PHYSICAL HAZARDS:
Not classified as a physical hazard according to CLP criteria.

HEALTH HAZARDS:
H302 Harmful if swallowed.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

ENVIRONMENTAL HAZARDS:
Not classified as environmental hazard according to CLP criteria.

Precautionary statements :

Prevention:
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.

Storage:
No precautionary phrases.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:
Contains Ethylene Glycol

2.3 Other hazards

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

Ecological information: 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.

Toxicological information: 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.

Intentional abuse, misuse or other massive exposure may cause multiple organ damage and or death.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture of ethylene glycol, water and additives.

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Ethanediol	107-21-1 203-473-3 603-027-00-1 01-2119456816-28	Acute Tox. 4; H302 STOT RE 2; H373 (Kidney)	46 - 51
Disodium sebacate	17265-14-4 241-300-3	Eye Irrit. 2; H319	1 - 9.99
Triazole derivative	29385-43-1 249-596-6 01-2119979081-35	Acute Tox. 4; H302 Repr. 2; H361 Aquatic Chronic 2; H411	0.1 - 2.49

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Not expected to be a health hazard when used under normal conditions.

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

If inhaled : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention.

In case of eye contact : Flush eye with copious quantities of water.
Remove contact lenses, if present and easy to do. Continue rinsing.
If persistent irritation occurs, obtain medical attention.

If swallowed : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Kidney toxicity may be recognized by blood in the urine or increased or decreased urine flow. Other signs and symptoms can include nausea, vomiting, abdominal cramps, diarrhoea, lumbar pain shortly after ingestion, and possibly narcosis and death.
Not considered to be an inhalation hazard under normal conditions of use.
Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.
No specific hazards under normal use conditions.
Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.
Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters.
Ingestion may result in nausea, vomiting and/or diarrhoea.
High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!
Call a doctor or poison control center for guidance.
Treat symptomatically.
May cause significant renal, respiratory, and CNS toxicity.
May cause significant acidosis.
The preferred treatment is immediate transportation to a medical facility and use of appropriate treatment including possible administration of activated charcoal, gastric lavage and or gastric aspiration. If none of the above are immediately available and a delay of more than one hour is anticipated before such medical attention can be obtained, induction of vomiting may be appropriate using IPECAC syrup (Contraindicated if there are any signs of CNS depression). This should be considered on a case by case basis following specialist advice.
Specific other treatments may include ethanol therapy, fomepizole, treatment of acidosis and haemodialysis. Seek specialist advice without delay.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon diox-

ide, sand or earth may be used for small fires only.

Unsuitable extinguishing media : Do not use water in a jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Hazardous combustion products may include:
A complex mixture of airborne solid and liquid particulates and gases (smoke).
Carbon monoxide may be evolved if incomplete combustion occurs.
Unidentified organic and inorganic compounds.

5.3 Advice for firefighters

Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : 6.1.1 For non emergency personnel:
Avoid contact with skin and eyes.
6.1.2 For emergency responders:
Avoid contact with skin and eyes.

6.2 Environmental precautions

Environmental precautions : Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely

For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an

appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

6.4 Reference to other sections

For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet., For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.
Local authorities should be advised if significant spillages cannot be contained.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures	:	Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Advice on safe handling	:	Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Hygiene measures	:	Exposure to this product should be reduced as low as reasonably practicable. Reference should be made to the Health and Safety Executive's publication "COSHH Essentials".

7.2 Conditions for safe storage, including any incompatibilities

Further information on storage stability	:	Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closable containers. Store at ambient temperature. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product. The storage of this product may be subject to the Control of Pollution (Oil Storage) (England) Regulations. Further guidance may be obtained from the local environmental agency office.
Packaging material	:	Suitable material: For containers or container linings, use mild steel or high density polyethylene. Unsuitable material: Zinc., Avoid contact with galvanized materials.
Container Advice	:	Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

7.3 Specific end use(s)

Specific use(s)	:	Not applicable

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Ethanediol	107-21-1	TWA (Vapour)	20 ppm 52 mg/m3	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.			
Ethanediol		TWA (particles)	10 mg/m3	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.			
Ethanediol		STEL (Vapour)	40 ppm 104 mg/m3	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.			
Ethanediol		STEL	40 ppm 104 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
Ethanediol		TWA	20 ppm 52 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
Ethanediol		TWA (Vapour)	25 ppm	ACGIH
Ethanediol		STEL (Vapour)	50 ppm	ACGIH
Ethanediol		STEL (Inhalable fraction, Aerosol only)	10 mg/m3	ACGIH

Biological occupational exposure limits

No biological limit allocated.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Ethanediol	Workers	Dermal	Long-term systemic effects	106 mg/kg bw/day
Ethanediol	Workers	Inhalation	Long-term local effects	35 mg/m3
Ethanediol	Consumers	Dermal	Long-term systemic effects	53 mg/kg bw/day
Ethanediol	Consumers	Inhalation	Long-term local effects	7 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Ethanediol		
Remarks:	Exposure assessments have not been presented for the environment therefore PNEC values not required.	

8.2 Exposure controls

Engineering measures

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.
Do not ingest. If swallowed, then seek immediate medical assistance

Personal protective equipment

The provided information is made in consideration of the PPE directive (Council Directive 89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards.

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Eye protection : If material is handled such that it could be splashed into eyes, protective eyewear is recommended.
Approved to EU Standard EN166.

Hand protection

Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Skin and body protection : Skin protection is not ordinarily required beyond standard work clothes.
It is good practice to wear chemical resistant gloves.

Respiratory protection : No respiratory protection is ordinarily required under normal conditions of use.
In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
Select a filter suitable for combined particulate/organic gases and vapours [Type A/Type P boiling point > 65°C (149°F)] meeting EN14387 and EN143.

Thermal hazards : Not applicable

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Liquid at room temperature.

Colour : pink

Odour : characteristic

Odour Threshold : Data not available

Melting point/freezing point : -37 °C

(100.0 hPa)
Method: ASTM D1177

Initial boiling point and boiling range : > 100 °Cestimated value(s)

Flammability

Flammability (solid, gas) : Data not available

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit / upper flammability limit : Typical 15 %(V)

Lower explosion limit / Lower flammability limit : Typical 3 %(V)

Flash point : Method: Unspecified
Not applicable

Auto-ignition temperature : > 200 °C

Decomposition temperature

Decomposition temperature : Data not available

pH : 8.3

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : Method: Unspecified
Not applicable

Solubility(ies)

Water solubility : completely soluble

Solubility in other solvents : Data not available

Partition coefficient: n-octanol/water : Data not available

Vapour pressure : Data not available (50 °C)

Density : 1,070 kg/m3 (20 °C)
Method: ASTM D4052

Relative vapour density : > 1

Particle characteristics

Particle size : Data not available

9.2 Other information

Explosive properties	:	Classification Code: Not classified
Oxidizing properties	:	Data not available
Evaporation rate	:	Data not available
Conductivity	:	This material is not expected to be a static accumulator.
Molecular weight	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

10.2 Chemical stability

Stable.
No hazardous reaction is expected when handled and stored according to provisions

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Reacts with strong oxidising agents.

10.4 Conditions to avoid

Conditions to avoid	:	Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Materials to avoid	:	Strong oxidising agents.

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

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

Information on likely routes of exposure	:	Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (rat): > 500 - 2,000 mg/kg Remarks: Harmful if swallowed.

Acute inhalation toxicity	:	LC 50 (Rat): > 5 mg/l Exposure time: 4 h Remarks: Low toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Remarks: Low toxicity

Components:

Ethanediol:

Acute oral toxicity	:	LD 50 (Rat, male and female): > 2,000 mg/kg Method: Acceptable non-standard method. Remarks: Harmful if swallowed. There is a marked difference in acute oral toxicity between rodents and man, man being more susceptible than rodents. The estimated fatal dose for man is 100 milliliters (1/2 cup). This material has also been shown to be toxic and potentially lethal by ingestion to cats and dogs.
Acute inhalation toxicity	:	LC 50 (Rat, male and female): > 2.5 mg/l Exposure time: 6 h Test atmosphere: Aerosol Method: Literature data Remarks: LC50 > 1.0 - <= 5.0 mg/l LC50 greater than near-saturated vapour concentration. Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	LD 50 (Mouse, male and female): > 2,000 mg/kg Method: Literature data Remarks: Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

Remarks	:	Slightly irritating to skin. Based on available data, the classification criteria are not met.

Components:

Ethanediol:

Species	:	Rabbit
Method	:	Acceptable non-standard method.
Remarks	:	Slightly irritating to skin. Insufficient to classify.

Serious eye damage/eye irritation

Product:

Remarks	:	Slightly irritating to the eye.

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

Components:

Ethanediol:

Species	:	Rabbit
Method	:	Acceptable non-standard method.
Remarks	:	Slightly irritating to the eye. Insufficient to classify.

Respiratory or skin sensitisation

Product:

Remarks	:	For respiratory and skin sensitisation: Not a sensitiser. Based on available data, the classification criteria are not met.

Components:

Ethanediol:

Species	:	Guinea pig
Method	:	Literature data
Remarks	:	Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

Genotoxicity in vivo	:	Remarks: Non mutagenic Based on available data, the classification criteria are not met.
Germ cell mutagenicity- Assessment	:	This product does not meet the criteria for classification in categories 1A/1B.

Components:

Ethanediol:

Genotoxicity in vitro	:	Method: OECD Test Guideline 471 Remarks: Based on data from similar materials Method: Acceptable non-standard method. Remarks: Based on data from similar materials Method: Literature data Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Species: Rat Method: Literature data Remarks: Based on available data, the classification criteria are not met.

Germ cell mutagenicity- Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Carcinogenicity

Product:

Remarks : Not a carcinogen.
Based on available data, the classification criteria are not met.

Carcinogenicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Components:

Ethanediol:

Species : Mouse, male and female
Application Route : Oral
Method : Literature data
Remarks : Based on available data, the classification criteria are not met.

Carcinogenicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Material	GHS/CLP Carcinogenicity Classification
Ethanediol	No carcinogenicity classification.
Disodium sebacate	No carcinogenicity classification.
Triazole derivative	No carcinogenicity classification.

Reproductive toxicity

Product:

Effects on fertility :
Remarks: Does not impair fertility., Not a developmental toxicant., Based on available data, the classification criteria are not met.

Reproductive toxicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Components:

Ethanediol:

Effects on fertility : Species: Rat

Sex: male and female
Application Route: Oral

Method: Literature data
Remarks: Based on available data, the classification criteria are not met.

Reproductive toxicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

STOT - single exposure

Product:

Remarks : Based on available data, the classification criteria are not met.

Components:

Ethanediol:

Remarks : Inhalation of vapours or mists may cause irritation to the respiratory system.
Based on available data, the classification criteria are not met.
Ingestion may cause drowsiness and dizziness.

STOT - repeated exposure

Product:

Remarks : Kidney: can cause kidney damage.

Components:

Ethanediol:

Exposure routes : Oral
Target Organs : Kidney
Remarks : May cause damage to organs or organ systems through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Ethanediol:

Species : Rat, male
Application Route : Oral
Method : Test(s) equivalent or similar to OECD Test Guideline 408
Target Organs : Kidney

Aspiration toxicity

Product:

Not an aspiration hazard., Based on available data, the classification criteria are not met.

Components:

Ethanediol:

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

11.2 Information on other hazards

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.

Further information

Product:

Remarks	:	Slightly irritating to respiratory system.
Remarks	:	Classifications by other authorities under varying regulatory frameworks may exist.
Remarks	:	Inhalation of vapours or mists may cause irritation to the respiratory system.
Remarks	:	Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Components:

Ethanediol:

Remarks	:	Classifications by other authorities under varying regulatory frameworks may exist.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	:	Remarks: LC/EC/IC50 > 100 mg/l Practically non toxic:

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

Toxicity to daphnia and other aquatic invertebrates : Remarks: LC/EC/IC50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to algae/aquatic plants : Remarks: LC/EC/IC50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic toxicity) : Remarks: Based on available data, the classification criteria are not met.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: Based on available data, the classification criteria are not met.

Toxicity to microorganisms :
Remarks: Based on available data, the classification criteria are not met.

Components:

Ethanediol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 72,860 mg/l
Exposure time: 96 h
Method: Other guideline method.
Remarks: Practically non toxic:
LC/EC/IC50 > 100 mg/l

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Practically non toxic:
LC/EC/IC50 > 100 mg/l

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (algae)): 6,500 - 13,000 mg/l
Exposure time: 96 h
Method: Other guideline method.
Remarks: Practically non toxic:
LC/EC/IC50 > 100 mg/l

Toxicity to microorganisms : EC20 (Activated sludge, domestic waste): > 1,995 mg/l
Exposure time: 0.5 h
Method: Other guideline method.
Remarks: Practically non toxic:
LC/EC/IC50 > 100 mg/l

Toxicity to fish (Chronic toxicity) : NOEC: 15,380 mg/l
Exposure time: 7 d
Species: Pimephales promelas (fathead minnow)

Method: Other guideline method.
Remarks: NOEC/NOEL > 100 mg/l

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 8,590 mg/l
Exposure time: 7 d
Species: Chironomus sp. (midge)
Method: Other guideline method.
Remarks: NOEC/NOEL > 100 mg/l

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: Readily biodegradable.

Components:

Ethanediol:

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

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

Components:

Ethanediol:

Bioaccumulation : Remarks: Does not have the potential to bioaccumulate significantly.

12.4 Mobility in soil

Product:

Mobility : Remarks: Liquid under most environmental conditions., If product enters soil, it will be highly mobile and may contaminate groundwater., Dissolves in water., Poses a significant risk of oxygen depletion in aquatic systems.

Components:

Ethanediol:

Mobility : Remarks: Disperses in water., If product enters soil, one or more constituents will be highly mobile and may contaminate groundwater.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB..

Components:

Ethanediol:

Assessment : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB..

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.

12.7 Other adverse effects

Product:

Additional ecological information : Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Components:

Ethanediol:

Additional ecological information : Does not have ozone depletion potential.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Do not dispose into the environment, in drains or in water courses.

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.

Waste, spills or used product is dangerous waste.
Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging : Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Local legislation

Waste catalogue :

EU Waste Disposal Code (EWC):

Waste Code :

16 01 14*

Remarks : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Classification of waste is always the responsibility of the end user.

Hazardous Waste (England and Wales) Regulations 2005.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : Not regulated as a dangerous good

RID : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

IATA : Not regulated as a dangerous good

14.2 UN proper shipping name

ADR : Not regulated as a dangerous good

RID : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADR : Not regulated as a dangerous good

RID : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.4 Packing group

ADR : Not regulated as a dangerous good

RID : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.5 Environmental hazards

ADR : Not regulated as a dangerous good

RID : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

14.7 Maritime transport in bulk according to IMO instruments

MARPOL Annex 1 rules apply for bulk shipments by sea.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Product is not subject to Authorisation under REACH.

Other regulations:

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Environmental Protection Act 1990 (as amended). Health and Safety at Work etc. Act 1974. Consumers Protection Act 1987. Pollution Prevention and Control Act 1999. Environment Act 1995. Factories Act 1961. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011. Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. Control of Substances Hazardous to Health Regulations 2002 (as amended). Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (as amended). Personal Protective Equipment Regulations 2002. Personal Protective Equipment at Work Regulations 1992. Hazardous Waste (England and Wales) Regulations 2005(as amended). Control of Major Accident Hazards Regulations 1999 (as amended). Renewable Transport Fuel Obligations Order 2007 (as amended). Energy Act 2011. Environmental Permitting (England and Wales) Regulations 2010 (as amended). Waste (England and Wales) Regulations 2011 (as amended). Planning (Hazardous Substances) Act 1990 and associated regulations. The Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011.

The components of this product are reported in the following inventories:

REACH	:	All components listed or polymer exempt.
TSCA	:	All components listed.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Full text of H-Statements

H302	:	Harmful if swallowed.
H319	:	Causes serious eye irritation.
H361	:	Suspected of damaging fertility or the unborn child.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Irrit.	:	Eye irritation
Repr.	:	Reproductive toxicity
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
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits

2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / 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 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.

Classification of the mixture:		**Classification procedure:**
Acute Tox. 4	H302	Expert judgement and weight of evidence determination.
STOT RE 2	H373	Expert judgement and weight of evidence determination.

Identified Uses according to the Use Descriptor System

Uses - Worker
Title : Use in functional fluids
- Industrial

Uses - Worker
Title : Use in functional fluids
- Professional

Uses - Worker
Title : Use in de-icing and anti-icing fluids
- Professional

Identified Uses according to the Use Descriptor System
Uses - Consumer
Title : Use in de-icing and anti-icing fluids
- Consumer

Uses - Consumer
Title : Use in functional fluids
- Consumer

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN

Exposure Scenario - Worker

300000010855	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in functional fluids- Industrial
Use Descriptor	**Sector of Use**: SU3 **Process Categories**: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9 **Environmental Release Categories**: ERC7
Scope of process	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
Additional Information	No exposure assessment presented for the environment.
Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature (unless stated differently).	
Contributing Scenarios	**Risk Management Measures**
Bulk transfersDedicated facility	No specific measures identified.
Bulk transfersNon-dedicated facility	Ensure material transfers are under containment or extract ventilation. Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.
Filling of articles/equipment	Fill containers/cans at dedicated filling points supplied with local extract ventilation. Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.
Filling/ preparation of equipment from drums or containers.	Use dedicated equipment. Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.
General exposures.(closed systems)	No specific measures identified.

General exposures.(open systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment maintenance	Drain down system prior to equipment opening or maintenance. Wear suitable gloves tested to EN374.
Remanufacture of reject articles	Drain down system prior to equipment opening or maintenance. Wear suitable gloves tested to EN374.
Storage.	Store substance within a closed system.
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Section 2.2	**Control of Environmental Exposure**
No exposure assessment presented for the environment.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

Section 3.2 -Environment
No exposure assessment presented for the environment.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	

Section 4.2 -Environment
No exposure assessment presented for the environment.

Exposure Scenario - Worker

300000010856	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in functional fluids- Professional
Use Descriptor	**Sector of Use**: SU22 **Process Categories**: PROC1, PROC2, PROC3, PROC8a, PROC9, PROC20 **Environmental Release Categories**: ERC9a, ERC9b
Scope of process	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
Additional Information	No exposure assessment presented for the environment.
Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature (unless stated differently).	
Contributing Scenarios	**Risk Management Measures**
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Storage.	Store substance within a closed system.
Equipment maintenance	Drain down system prior to equipment opening or maintenance. Wear suitable gloves tested to EN374.
Remanufacture of reject articles	Drain down system prior to equipment opening or maintenance. Wear suitable gloves tested to EN374.
General exposures.(closed systems)	No specific measures identified.
Filling/ preparation of equipment from drums or	Use drum pumps or carefully pour from container. Wear chemically resistant gloves (tested to EN374) in combi-

containers.	nation with 'basic' employee training.
Transfer from/pouring from containers	Use drum pumps or carefully pour from container. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Drum/batch transfers	Use drum pumps or carefully pour from container. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Section 2.2	**Control of Environmental Exposure**
No exposure assessment presented for the environment.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

Section 3.2 -Environment
No exposure assessment presented for the environment.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	

Section 4.2 -Environment
No exposure assessment presented for the environment.

Exposure Scenario - Worker

300000010857	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in de-icing and anti-icing fluids- Professional
Use Descriptor	**Sector of Use**: SU22 **Process Categories**: PROC1, PROC2, PROC8a, PROC8b, PROC11 **Environmental Release Categories**: ERC8d
Scope of process	Ice prevention and de-icing of vehicles, aircraft and other equipment by spraying.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
Additional Information	No exposure assessment presented for the environment.
Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Sub-stance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature (unless stated differently).	
Contributing Scenarios	**Risk Management Measures**
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Bulk open unloading.	Use dedicated equipment. , or: Ensure material transfers are under containment or extract ventilation.
Filling/ preparation of equipment from drums or containers.	Use drum pumps or carefully pour from container. Wear chemically resistant gloves (tested to EN374) in combi-nation with ‘basic’ employee training.
General exposures.(closed systems)	No specific measures identified.
Material transferselevated temperature	Use dedicated equipment. , or: Ensure material transfers are under containment or extract ventilation.

Spraying/ fogging by machine applicationelevated temperature	Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of >20.
Spraying/ fogging by manual application	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear suitable coveralls to prevent exposure to the skin. Carry out in a vented booth or extracted enclosure. , or: Wear a respirator conforming to EN140 with Type A/P2 filter or better.
Equipment maintenance	Drain down system prior to equipment opening or maintenance. Wear suitable gloves tested to EN374.
Storage.	Store substance within a closed system.
Section 2.2	**Control of Environmental Exposure**
No exposure assessment presented for the environment.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. For some of the Contributing Scenarios workplace exposures have been estimated from measured data.	

Section 3.2 -Environment
No exposure assessment presented for the environment.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	

Section 4.2 -Environment
No exposure assessment presented for the environment.

Exposure Scenario - Consumer

300000010858	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in de-icing and anti-icing fluids - Consumer
Use Descriptor	**Sector of Use**: SU21 **Product Categories**: PC4 **Environmental Release Categories**: ERC8d
Scope of process	De-icing of vehicles and similar equipment by spraying.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
Additional Information	No exposure assessment presented for the environment.
Section 2.1	**Control of Consumer Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
Concentration of the Substance in Mixture/Article	Covers concentration up to (%): 100 %
Amounts Used	
for each use event, covers amount up to (g):	5,000
Frequency and Duration of Use	
Covers use up to (days/year):	365
Covers exposure up to (hours/event):	4
Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
General measures (eye irritants). Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.	
Anti-Freeze and de-icing products Washing car window.	Covers concentrations up to 100 %
	For each use event, covers amount up to 33 g
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	Covers exposure up to 4 hours/event
	covers skin contact area up to (cm2): 215 cm2
	Covers use in room size of 58 m3
	Covers use under typical household ventilation.
	Covers use at ambient temperatures.
Anti-Freeze and de-icing products Pouring into radiator.	Covers concentrations up to 30 %
	For each use event, covers amount up to 5,000 g
	covers use up to 1 day/year

	Covers use up to 1 times/day of use
	Covers exposure up to 0.25 hours/event
	covers skin contact area up to (cm2): 960 cm2
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use at ambient temperatures.

Section 2.2	**Control of Environmental Exposure**
No exposure assessment presented for the environment.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The Consexpo model has been used to estimate consumer exposures unless otherwise indicated.	

Section 3.2 -Environment
No exposure assessment presented for the environment.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	

Section 4.2 -Environment
No exposure assessment presented for the environment.

Exposure Scenario - Consumer

300000010859	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in functional fluids - Consumer
Use Descriptor	**Sector of Use**: SU21 **Product Categories**: PC16 **Environmental Release Categories**: ERC9a, ERC9b
Scope of process	Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
Additional Information	No exposure assessment presented for the environment.
Section 2.1	**Control of Consumer Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
General measures (eye irritants). Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.	
Heat transfer fluids	Covers concentrations up to 30 %
	For each use event, covers amount up to 1,000 g
	covers use up to 200 day/year
	Covers use up to 1 times/day of use
	Covers exposure up to 0.25 hours/event
	covers skin contact area up to (cm2): 960 cm2
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use at ambient temperatures.

Section 2.2	**Control of Environmental Exposure**
No exposure assessment presented for the environment.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The Consexpo model has been used to estimate consumer exposures unless otherwise indicated.	

Section 3.2 -Environment
No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Section 4.2 -Environment

No exposure assessment presented for the environment.