

SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or designation of the mixture Perkins ELC Advanced (Extended Life Coolant) Premix 50/50 with Embitterment

Registration number

-

Synonyms

None.

Product code

2000755

Issue date

01-October-2025

Version number

02

Revision date

15-December-2025

Supersedes date

01-October-2025

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

Identified uses Antifreeze / Coolant.

Uses advised against Uses other than the recommended use.

1.3. Details of the supplier of the safety data sheet

Supplier

ARTECO NV
Metropoolstraat 25
B-2900 Schoten (Antwerpen)
Belgium

e-mail

orders@arteco-coolants.com

Product information

+32 (0) 9 397 06 00

1.4. Emergency telephone number

Transportation emergency Europe: +1 760 476 3962 (24hr) Access code: 335087

Health Emergency Europe: +1 760 476 3962 (24hr) Access code: 335087

General emergency 112 or 999 SDS/Product information may not be available for the Emergency Service.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Specific target organ toxicity - repeated exposure Category 2 (kidney)

H373 - May cause damage to organs (kidney) through prolonged or repeated exposure.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Ethylene glycol

Hazard pictograms



Signal word

Warning

Hazard statements

H373 May cause damage to organs (kidney) through prolonged or repeated exposure.

Precautionary statements

Prevention

P102 Keep out of reach of children.
P260 Do not breathe mist/vapours.

Response

P101 If medical advice is needed, have product container or label at hand.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE/doctor.

Storage

Not assigned.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental information on the label

None.

2.3. Other hazards

This mixture does not contain any substances that meet the criteria for persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) in accordance with Annex XIII of Regulation (EC) No 1907/2006 at a concentration of equal to or greater than 0.1% w/w.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Ethylene glycol	34 - < 80	107-21-1 203-473-3	01-2119456816-28-XXXX	-	#
Classification: Acute Tox. 4;H302, STOT RE 2;H373					
Sodium benzoate	0.1 - < 3	532-32-1 208-534-8	01-2119460683-35-XXXX	-	
Classification: Eye Irrit. 2;H319					

List of abbreviations and symbols that may be used above

#: This substance has workplace exposure limit(s).

Composition comments

All concentrations are in percent by weight.
The full text for all H-statements is displayed in section 16.
A Downstream User Import Notification (DUIN) has been made by Arteco's appointed Only Representative to cover the continued importation of substances that are not otherwise exempt from the registration requirements of the UK REACH regulation.
This product contains a bittering agent.

SECTION 4: First aid measures

General information

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

4.1. Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact Rinse with water. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Continue rinsing.
Ingestion Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

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

Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Oedema. Prolonged exposure may cause chronic effects.

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

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards

No unusual fire or explosion hazards noted.

5.1. Extinguishing media	
Suitable extinguishing media	Alcohol resistant foam. Powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
5.2. Special hazards arising from the substance or mixture	Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic compounds whose composition have not been characterised.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapours. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
For emergency responders	Ensure adequate ventilation. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
6.3. Methods and material for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Absorb spillage with suitable absorbent material. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
6.4. Reference to other sections	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Do not breathe mist/vapours. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
7.2. Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see section 10 of the SDS).
7.3. Specific end use(s)	Antifreeze / Coolant. Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1

Components	Type	Value	Form
Ethylene glycol (CAS 107-21-1)	STEL	104 mg/m3	Vapour.
		40 ppm	Vapour.
	TWA	52 mg/m3	Vapour.
		10 mg/m3	Particulate.
		20 ppm	Vapour.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General population

Components	Value	Assessment factor	Notes
Ethylene glycol (CAS 107-21-1)			
Long-term, Local, Inhalation	7 mg/m3	10	Skin irritation
Long-term, Systemic, Dermal	53 mg/kg	84	Repeated dose toxicity
Sodium benzoate (CAS 532-32-1)			
Long-term, Local, Inhalation	0.06 mg/m3	450	respiratory tract irritation
Long-term, Systemic, Dermal	31.25 mg/kg bw/day	120	Repeated dose toxicity
Long-term, Systemic, Inhalation	1.5 mg/m3	150	
Long-term, Systemic, Oral	16.6 mg/kg bw/day	60	

Workers

Components	Value	Assessment factor	Notes
Ethylene glycol (CAS 107-21-1)			
Long-term, Local, Inhalation	35 mg/m3	2	Skin irritation
Long-term, Systemic, Dermal	106 mg/kg	42	Repeated dose toxicity
Sodium benzoate (CAS 532-32-1)			
Long-term, Local, Inhalation	0.1 mg/m3	225	respiratory tract irritation
Long-term, Systemic, Dermal	62.5 mg/kg bw/day	60	
Long-term, Systemic, Inhalation	3 mg/m3	75	

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
Sodium benzoate (CAS 532-32-1)			
Freshwater	0.581 mg/l	10	
Marine water	0.058 mg/l	100	
Secondary poisoning	300 mg/kg	30	Oral
Sediment (freshwater)	2.5 mg/kg		
Sediment (marine water)	0.25 mg/kg		
Soil	0.159 mg/kg		
STP	10 mg/l	10	

Exposure guidelines

UK EH40 WEL: Skin designation

Ethylene glycol (CAS 107-21-1) Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information	Avoid contact with clothing. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eye/face protection	Chemical respirator with organic vapour cartridge and full facepiece. Eye protection should meet standard EN 166.
Skin protection	
- Hand protection	Wear suitable gloves tested to EN374. Neoprene, butyl rubber, nitrile or Viton gloves are recommended. Full contact: Use gloves classified protection index 6 with breakthrough time of 480 minutes. Minimum glove thickness 0.38 mm.
- Other	Wash hands thoroughly after handling. Use of an impervious apron is recommended.
Respiratory protection	Chemical respirator with organic vapour cartridge and full facepiece. Follow guidance on selection, use, care and maintenance in accordance with EN 529.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements.

Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.
--	--

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Form	Slightly opaque liquid.
Colour	Red.
Odour	Mild.
Odour threshold	Not determined.
pH	> 7.9 - < 8.6 (20 °C (68 °F))
Melting point/freezing point	Not applicable. / ≤ -37 °C (≤ -34.6 °F)
Initial boiling point and boiling range	109 °C (228.2 °F) (Estimated)
Flash point	Does not flash.
Evaporation rate	Not determined.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not determined.
Explosive limit – upper (%)	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	Not determined.
Solubility(ies)	
Solubility (water)	Miscible.
Partition coefficient (n-octanol/water)	Not applicable, product is a mixture.
Auto-ignition temperature	398 °C (748.4 °F) (Ethylene glycol)
Decomposition temperature	Not determined.
Viscosity	Not determined.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Density	1.0740 kg/l (Typical) (20 °C (68 °F))
Kinematic viscosity	Not determined.
Molecular weight	Not applicable (The product is a mixture).

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong acids. Strong oxidising agents. Nitrates. Peroxides. Chlorates.
10.6. Hazardous decomposition products	At elevated temperatures: Ketones. Aldehydes.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
----------------------------	--

Information on likely routes of exposure

Inhalation	In high concentrations, mists/vapours may irritate throat and respiratory system and cause coughing.
Skin contact	Prolonged or repeated contact may dry skin and cause irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Ingestion of ethylene glycol may result in nausea, vomiting, abdominal cramps, blindness, liver damage, irritation, reproductive effects, nerve damage, convulsions, oedema of the lung, cardiopulmonary effects (metabolic acidosis), pneumonia and kidney failure which could result in death. The single lethal dose for humans is about 100 ml. Inhalation of high levels of vapour or mists for prolonged periods of time may also result in toxic effects.

Symptoms Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Oedema. Prolonged exposure may cause chronic effects.

11.1. Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Perkins ELC Advanced (Extended Life Coolant) Premix 50/50 with Embitterment (CAS -)		
<u>Acute</u>		
Oral		
ATEmix		3292 mg/kg bw
Components	Species	Test Results
Ethylene glycol (CAS 107-21-1)		
<u>Acute</u>		
Dermal		
LD50	Mouse	> 3500 mg/kg
Inhalation		
<i>Aerosol</i>		
LC50	Rat	> 2.5 mg/l, 6 Hours
Oral		
LD50	Cat	1600 mg/kg
Sodium benzoate (CAS 532-32-1)		
<u>Acute</u>		
Oral		
LD50	Rat	3450 mg/kg

Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.
Skin sensitisation	Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Due to partial or complete lack of data the classification is not possible.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	May cause damage to organs (kidney) through prolonged or repeated exposure.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available.
Other information	No data available.

SECTION 12: Ecological information

12.1. Toxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species		Test Results
Ethylene glycol (CAS 107-21-1)			
Aquatic			
Crustacea	EC50	Daphnia magna	> 100 mg/l, 48 Hours
<i>Acute</i>			
Fish	LC50	Fathead minnow (Pimephales promelas)	72860 mg/l, 96 hours
12.2. Persistence and degradability	Ethylene glycol: >90% / 10 days (OECD 301A) Readily biodegradable.		
12.3. Bioaccumulative potential			
Partition coefficient n-octanol/water (log Kow)			
Ethylene glycol (CAS 107-21-1)		-1.36	
Sodium benzoate (CAS 532-32-1)		-2.27	
Bioconcentration factor (BCF)	Not available.		
12.4. Mobility in soil	This product is miscible in water and may not disperse in soil.		
12.5. Results of PBT and vPvB assessment	This mixture does not contain any substances that meet the criteria for persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) in accordance with Annex XIII of Regulation (EC) No 1907/2006 at a concentration of equal to or greater than 0.1% w/w.		
12.6. Other adverse effects	Product does not contain substances which are persistent, mobile, and toxic (PMT) at levels of 0.1 % or higher. Product does not contain substances which are very persistent and very mobile (vPvM) 0.1 % or higher.		

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	EWC: 16 01 14
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. Discourage sewage disposal. Waste should not be disposed of by release to sewers.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

SECTION 15: Regulatory information

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

Retained direct EU regulations

Regulation (EU) No. 2024/590 on substances that deplete the ozone layer, Annex I and II, as amended
Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended -
Conditions of restriction given for the associated entry number should be considered**

Ethylene glycol (CAS 107-21-1)

Other regulations

This product is classified and labelled in accordance with the retained CLP Regulation (EC) No 1272/2008, as amended for Great Britain.

This Safety Data Sheet is compiled in accordance with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758.

All components of this product are compliant with the registration requirements of Regulation (EC) 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals, as amended.

All components comply with the following chemical inventory requirements: AIC (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States).

For countries not listed above, further action by the importer is needed.

Follow the requirements of the Control of Substances Hazardous to Health Regulations 2002 [SI 2002/2677], as amended, when using this material.

Use of this product by young persons under the age of 18 is not allowed in accordance with the Management of Health and Safety at Work Regulations 1999 [SI 1999/3242], as amended.

**15.2. Chemical safety
assessment**

Safe use information for the mixture, annexed to the safety data sheet, is derived via application of the LCID methodology and consolidation of safe use advice from exposure scenarios of identified lead components.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute toxicity estimate.
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
DNEL: Derived No-Effect Level.
EC50: Effective Concentration, 50%.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
LC50: Lethal Concentration, 50%.
LD50: Lethal Dose, 50%.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
PNEC: Predicted No-Effect Concentration.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TWA: Time Weighted Average.
vPvB: Very persistent and very bioaccumulative.

References

ECHA CHEM

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure by ingestion.

Training information

Follow training instructions when handling this material.

Disclaimer

ARTECO NV cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Annex to the extended Safety Data Sheet (eSDS)

Table of contents

1. Safe use information for mixture: (ERC2)	11
2. Safe use information for mixture: (PC4, PC16, ERC7)	12
3. Safe use information for mixture: (PC4, ERC9a)	13
4. Safe use information for mixture: (PC4, ERC9a, ERC9b)	14

Safe Use Information for mixture

General description of the process covered

Formulation & (re)packing of substances and mixtures

List of use descriptors

Sector(s) of Use	Industrial
Name of contributing environmental scenario and corresponding ERC	ERC2: Formulation into mixture
List of names of contributing scenarios and corresponding PROCs	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Chemical production where opportunity for exposure arises PROC5: Mixing or blending in batch processes PROC8a: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities PROC8b: Transfer of substance or mixture (charging/discharging) at dedicated facilities PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Operational conditions

Maximum duration	Covers daily exposures up to 8 hours
Range of application / process conditions	Indoor use
Air exchange rate	PROC8a: Local exhaust ventilation - efficiency of at least 90%. In case of insufficient ventilation, wear suitable respiratory equipment. Wear a respirator providing a minimum efficiency of 90% Other processes: No specific measures identified.

Risk management measures

Conditions and measures related to personal protection equipment (PPE), hygiene and health evaluation and the environment	PROC5: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. For further specification, refer to section 8 of the SDS. No other specific measures identified.
--	---



Environmental measures	As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. For the disposal of product residues and waste please refer to section 13 of the SDS.
-------------------------------	---

Safe Use Information for mixture

General description of the process covered

Use at industrial sites

List of use descriptors

Sector(s) of Use

Industrial

Product categories [PC]:

PC4: Anti-freeze and de-icing products PC16: Heat transfer fluids

Name of contributing environmental scenario and corresponding ERC

ERC7: Use of functional fluid at industrial site

List of names of contributing scenarios and corresponding PROCs

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4: Chemical production where opportunity for exposure arises
PROC8a: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities
PROC8b: Transfer of substance or mixture (charging/discharging) at dedicated facilities
PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Operational conditions

Maximum duration

Covers daily exposures up to 8 hours

Range of application / process conditions

Indoor use

Air exchange rate

PROC8a: Local exhaust ventilation - efficiency of at least 90% In case of insufficient ventilation, wear suitable respiratory equipment. Wear a respirator providing a minimum efficiency of 90%

Other processes: No specific measures identified.

Risk management measures

Conditions and measures related to personal protection equipment (PPE), hygiene and health evaluation and the environment

No specific measures identified.

Environmental measures

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. For the disposal of product residues and waste please refer to section 13 of the SDS.

Safe Use Information for mixture

General description of the process covered

Widespread use by professional workers

List of use descriptors

Sector(s) of Use Professional

Product categories [PC]: PC4: Anti-freeze and de-icing products

Name of contributing environmental scenario and corresponding ERC ERC9a: Widespread use of functional fluid (indoor)

List of names of contributing scenarios and corresponding PROCs

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4: Chemical production where opportunity for exposure arises
PROC8a: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities
PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC20: Use of functional fluids in small devices

Operational conditions

Maximum duration Covers daily exposures up to 8 hours

Range of application / process conditions Indoor use

Air exchange rate PROC8a: Local exhaust ventilation - efficiency of at least 90% In case of insufficient ventilation, wear suitable respiratory equipment. Wear a respirator providing a minimum efficiency of 90%

Other processes: No specific measures identified.

Risk management measures

Conditions and measures related to personal protection equipment (PPE), hygiene and health evaluation and the environment No specific measures identified.

Environmental measures As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. For the disposal of product residues and waste please refer to section 13 of the SDS.

Safe Use Information for mixture

General description of the process covered

Consumer uses

List of use descriptors

Sector(s) of Use

Consumer

Product categories [PC]:

PC4: Anti-freeze and de-icing products

Name of contributing environmental scenario and corresponding ERC

ERC9a: Widespread use of functional fluid (indoor)

ERC9b: Widespread use of functional fluid (outdoor)

List of names of contributing scenarios and corresponding PROCs

Not applicable.

Operational conditions

Maximum duration

0.25 h/day 16 days per month

Range of application / process conditions

Amount per use: 1000 g

Indoor use Outdoor use

Risk management measures

Conditions and measures related to personal protection equipment (PPE), hygiene and health evaluation and the environment

Not applicable.

Environmental measures

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. For the disposal of product residues and waste please refer to section 13 of the SDS.