SAFETY DATA SHEET

1. Identification

GHS product identifier **Perkins® ELC 50/50 Premix**

Other means of identification

Product code 1040334

Recommended use Antifreeze / Coolant.

Recommended restrictions None known.

Manufacturer information

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: +44 20 35147487 (24hr) Access code: 335087

Health Emergency Europe: +44 20 35147487 (24hr) Access code: 335087

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Reproductive toxicity (the unborn child)	Category 1B
Specific target organ toxicity following repeated exposure	Category 2 (kidney)

Environmental hazards Not classified.

Label elements

Signal word Danger

Hazard statement May damage the unborn child. May cause damage to organs (kidney) through prolonged or repeated exposure.

Precautionary statement

Prevention Keep out of reach of children. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapours. Wear protective gloves/protective clothing/eye protection/face protection.

Response If medical advice is needed, have product container or label at hand. IF SWALLOWED: Immediately call a POISON CENTRE/doctor. IF exposed or concerned: Get medical advice/attention.

Storage Store locked up.

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

Other hazards which do not result in classification None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Ethylene glycol	107-21-1	34 - < 80
Sodium 2-ethylhexanoate	19766-89-3	0.1 - < 3
Methyl-1H-benzotriazole	29385-43-1	0.1 - < 1

Composition comments All concentrations are in percent by weight.

4. 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 Remove contact lenses, if present and easy to do.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Oedema. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information IF exposed or concerned: Get medical advice/attention. 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.

5. Fire-fighting measures

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.

Specific hazards arising from the chemical Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic compounds whose composition have not been characterised.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions 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.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures 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 personal protection, see section 8 of the SDS.

Methods and materials 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: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapours. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store locked up. Store in tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

South Africa. OELs. Restricted Limits for Hazardous Chemical Substances Table 3, Annexure 2 (Regulations for Hazardous Chemical Substances, 1995), as amended

Components	Type	Value	Form
Ethylene glycol (CAS 107-21-1)	STEL	20 mg/m3	Aerosol
		100 ppm	Vapor fraction
	TWA	50 ppm	Vapor fraction

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

South Africa. OELs. Restricted Limits for Hazardous Chemical Substances Table 3, Annexure 2 (Regulations for Hazardous Chemical Substances, 1995), as amended

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

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

Eye/face protection Chemical respirator with organic vapour cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. 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. Wear protective gloves.

Respiratory protection Chemical respirator with organic vapour cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. 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.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Colour Red.

Odour Mild.

Odour threshold Not determined.

pH 8.25 - 8.60 (20°C)

Melting point/freezing point Not applicable. / -36 °C (-32.8 °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.

Other information

Density 1.070 kg/l (20 °C) (Typical)

Kinematic viscosity Not determined.

Particle size Not applicable, material is a liquid.

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidising agents. Nitrates. Peroxides. Chlorates.
Hazardous decomposition products	At elevated temperatures: Ketones. Aldehydes.

11. Toxicological information

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 related to the physical, chemical and toxicological characteristics	Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Oedema. Prolonged exposure may cause chronic effects.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Perkins ELC 50/50 Premix (CAS -)		
Acute		
Oral		
ATEmix		3278 mg/kg bw

Components	Species	Test Results
Ethylene glycol (CAS 107-21-1)		
Acute		
Dermal		
LD50	Mouse	> 3500 mg/kg
Inhalation		
Aerosol		
LC50	Rat	> 2.5 mg/l, 6 Hours
Oral		
LD50	Cat	1600 mg/kg
Methyl-1H-benzotriazole (CAS 29385-43-1)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	720 mg/kg
Sodium 2-ethylhexanoate (CAS 19766-89-3)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	2043 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitisation

Respiratory sensitisation	Not a respiratory sensitiser.
Skin sensitisation	This product is not expected to cause skin sensitisation.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

Reproductive toxicity May damage the unborn child.

Reproductivity

Methyl-1H-benzotriazole (CAS 29385-43-1)	30 mg/kg bw/day OECD 414 Result: LOAEL Species: Rat

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs (kidney) through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.

Further information No data available.

12. Ecological information

Ecotoxicity 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
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	72860 mg/l, 96 hours
Methyl-1H-benzotriazole (CAS 29385-43-1)			
Aquatic			
Acute			
Algae	ECr50	Pseudokirchneriella subcapitata	75 mg/l, 72 hours
Crustacea	EC50	Daphnia galeata	8.58 mg/l, 48 hours
	LC50	Arcartia tonsa	55 mg/l, 48 hours
Fish	LC50	Danio rerio	180 mg/l, 72 hours
Chronic			
Crustacea	EC10	Daphnia galeata	0.4 mg/l, 21 days

Persistence and degradability Ethylene glycol: >90% / 10 days (OECD 301A) Readily biodegradable.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Ethylene glycol (CAS 107-21-1)	-1.36

Mobility in soil No data available.

Other adverse effects No data available.

13. Disposal considerations

Disposal instructions 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.

Local disposal regulations Dispose in accordance with all applicable regulations.

Waste from residues / unused products 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 (see: Disposal instructions).

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.

14. Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Hazardous Substances Act, 1973 (Act No. 15 of 1973)

Not listed.

International regulations	All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States), TCSI (Taiwan), NZIoC (New Zealand). For countries not listed above, further action by the importer is needed.

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto Protocol

Not applicable.

Basel Convention

Not applicable.

16. Other information

Issue date	30-November-2022
Revision date	25-September-2023
Version No.	02
List of abbreviations	ADR: Agreement concerning the International Carriage of Dangerous Goods by Road. ATE: Acute toxicity estimate. 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. STEL: Short term exposure limit. TWA: Time Weighted Average.
References	ECHA CHEM
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.
This SDS contains revisions in the following section(s):	2, 3, 11, 15.