

SAFETY DATA SHEET

MEG 50/50 Antifreeze Coolant (Heating & Refrigeration Grade)

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

1.1 Product identifier

Trade name: MEG 50/50 Antifreeze Coolant (Heating & Refrigeration Grade)

Product type: Monoethylene glycol/water heat transfer fluid (50/50 premix)

Product code: MEG50/50-HVAC

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

Identified uses:

Heat transfer fluid for closed-loop heating, cooling, refrigeration, and HVAC systems; antifreeze for chillers, solar heating, and refrigeration plants where uninhibited glycols are acceptable.

Uses advised against:

Use in open systems where vapours may be released; potable water or direct food contact; automotive engine coolant; systems requiring corrosion inhibited heat transfer fluids.

1.3 Details of the supplier of the safety data sheet

Fluid Science Limited
Unit 3b Arbour Court
Arbour Lane
Knowsley Industrial Park
Kirkby
L33 7XE
+44 (0)1244 506 860 (General Enquiries)+
sales@fluidscienceltd.com

1.4 Emergency telephone number:

In the UK: NHS 111 (for medical advice)

Chemical emergencies: +44 (0)870 190 6777 (National Chemical Emergency Centre, 24/7, English)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture (Regulation (EC) No 1272/2008):

Classified as hazardous due to the presence of Monoethylene glycol.

Hazard Class	Category	Hazard Statement
Acute Toxicity (Oral)	Category 4	H302 – Acute Tox. 4 (Oral) Harmful if swallowed
STOT – Repeated Exposure (Oral) or repeated exposure	Category 2	H373 – (STOT RE 2) May cause damage to organs (kidneys) through repeated exposure

2.2 Labelling according to Regulation (EC) No. 1272/2008



GHS07 GHS08

Signal word: Warning

Hazard statements:

H302 Harmful if swallowed.

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

Precautionary statements:

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

P314 Get medical advice/attention if you feel unwell.

P330 Rinse mouth.

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

2.3 Other hazards:

Does not contain any PBT or vPvB substances. Not listed as an endocrine-disrupting substance under EU/UK REACH criteria.

SECTION 3: Composition/information on ingredients

Substance	CAS No	EC No	% w/w	Classification (Reg. 1272/2008)
Monoethylene Glycol	107-21-1	203-473-3	50	Acute Tox. 4 (H302), STOT RE 2 (H373)
Deionised Water	7732-18-5	231-791-2	50	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Seek medical advice if symptoms persist..
Inhalation	Unlikely under normal use. Move to fresh air; seek medical attention if symptoms occur.
Ingestion	Rinse mouth. DO NOT induce vomiting. Give water. Seek medical attention immediately, ethylene glycol ingestion may cause serious systemic effects.
Skin contact	Wash with soap and water. Remove contaminated clothing. Seek medical attention if irritation develops.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if easy. Obtain medical attention if irritation persists.

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

Ingestion may lead to systemic toxicity affecting kidneys and central nervous system.
Symptoms may be delayed for several hours.
Mild irritation to skin/eyes with prolonged exposure.

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

Treat symptomatically. Ethanol or fomepizole may be used by medical professionals as antidotes.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Water spray, alcohol-resistant foam, dry chemical, or CO².

Unsuitable media: Direct water jet (may spread fire).

5.2. Specific hazards arising from the substance or mixture

Specific Hazards Combustible at elevated temperatures. Combustion may produce carbon monoxide, carbon dioxide, and organic vapours.

Protective equipment Firefighters should wear self-contained breathing apparatus (SCBA) and full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin and eyes. Provide adequate ventilation. Spills may create slip hazard.

6.2. Environmental precautions

Environmental Precautions Do not discharge to drains, watercourses, or soil. Contain spill to prevent environmental contamination.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb with inert material. Place in labelled container for disposal. Wash area with water.

SECTION 7: Handling and storage

7.1 Handling

Use only in closed or well-ventilated systems to avoid the formation of vapours or mists. Avoid contact with skin and eyes. Prevent spills and leakage; spilled product may create a slip hazard. Do not eat, drink, or smoke while handling the product. Ensure systems do not contain galvanised components unless compatibility with uninhibited glycol has been confirmed (risk of zinc dissolution). Handle in accordance with good industrial hygiene and safety practices.

7.2. Conditions for safe storage

Storage precautions

Store in the original container, tightly closed when not in use. Keep in a cool, dry, well-ventilated area, ideally between 0–40 °C. Protect from frost, direct sunlight, and sources of heat or ignition.

7.3. Incompatible Materials

Do not store near strong oxidising agents, strong acids/bases, or galvanised metals. Keep containers upright to prevent leakage.

7.4. Specific End Use

This product is intended for use as a heat-transfer fluid for closed-loop heating, cooling, refrigeration, and HVAC systems. It is not recommended for: open systems where vapours may be released, potable water systems, automotive engine cooling, applications requiring corrosion-inhibited fluids unless a suitable inhibitor package is added.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters Occupational exposure limits

Workplace Exposure Limit (WEL): Monoethylene Glycol (Particulates & Vapour): 150 ppm (474 mg/m³) TWA (UK HSE EH40)

8.2. Exposure controls

Respiratory Protection

Not required under normal conditions; use A2/P2 respirator if vapour formation likely.

Hand Protection

Nitrile or butyl rubber gloves (EN 374).

Eye Protection

Safety goggles (EN 166).

Body Protection

Overalls or chemical-resistant clothing.

Hygiene

Wash hands after use. No eating, drinking, or smoking during handling.



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless, Red, Blue
Odour	Mild, characteristic.
pH @20°C	6.0 - 8.0.
Melting point	approx. -34 °C
Initial boiling point and range	104°C
Flash point	>111°C (Closed Cup)
Relative density @ 20°C	1.07-1.10.
Solubility	Completely miscible with water
Auto-ignition temperature	398°C
Viscosity @ 25°C	5-7 mPa·s

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal use conditions.

10.2. Chemical stability

Stable under recommended handling and storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal use. No hazardous polymerisation.

10.4. Conditions to avoid

Conditions to avoid Excessive heat, ignition sources, strong oxidisers.

10.5. Incompatible materials

Materials to avoid Oxidising agents, strong acids/bases, galvanised steel.

10.6. Hazardous decomposition products

Hazardous decomposition Carbon monoxide, carbon dioxide, organic vapours when heated to decomposition.

SECTION 11: Toxicological information

Mixture toxicity calculated based on component data in accordance with CLP Annex I

11.1. Information on toxicological effects Acute toxicity - oral

Acute toxicity (oral): Harmful if swallowed

LD₅₀ (oral rat, MEG) 4,700 mg/kg

Skin corrosion/irritation Not classified. Prolonged or repeated contact may cause mild irritation.

Serious eye damage/irritation Not classified. May cause temporary eye irritation.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure repeated exposure: Category 2 (kidneys)

Genotoxicity / carcinogenicity

No evidence of mutagenic or carcinogenic effects.

Aspiration Hazard

Not Classified.

SECTION 12: Ecological information

12.1. Toxicity Acute aquatic toxicity Low acute toxicity to aquatic life.

12.2. Persistence and degradability

Persistence and degradability: Readily biodegradable (based on data for MEG).

12.3. Bioaccumulative potential Low (log K_{ow} ≈ -1.3).

12.4. Mobility in soil High

12.5. Results of PBT and vPvB assessment Not applicable

12.6 Endocrine disrupting properties Contains no substances identified as endocrine disruptors.

SECTION 13: Disposal considerations**13.1. Waste Treatment Methods**

Disposal methods Dispose of waste in accordance with local/regional regulations. Do not discharge to drains or watercourses. Empty containers may contain residues, rinse before recycling or disposal.

Waste class Waste code (EWC): To be assigned by the user in accordance with local authority guidance.

SECTION 14: Transport information

General Not classified as dangerous (ADR/RID/IMDG/IATA)

14.1. UN number Not Applicable

14.2. UN proper shipping name Not Applicable

14.3. Transport hazard class(es) None

14.4. Packing group Not Applicable

14.5. Environmental hazards Not classified as Marine Pollutant

14.6. Transport in bulk Not Applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

UK Reach	Components Compliant
CLP	Regulation (EC) No 1272/2008: See Section 2

15.2. Chemical safety assessment Not required for this mixture.

No substances present above 0.1% listed on the UK REACH Candidate List (SVHC) No specific restrictions under Reach Annex XVII

SECTION 16: Other information

General information	Follow label warnings; empty containers may retain residues. Labels should not be removed from containers until they have been cleaned and no product
Revision comments	Approved
Issued by	Compliance department
Revision date	03/12/2025
Revision	2
Supercedes date	
SDS Status	Approved
Key hazard statements	H302 Harmful if swallowed. H373 May cause damage to organs (kidneys) through prolonged or repeated exposure.

Abbreviations

CLP: Classification, Labelling and Packaging Regulation
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
WEL: Workplace Exposure Limit
PBT/vPvB Persistent, Bioaccumulative and Toxic / very Persistent, very Bioaccumulative

Disclaimer:

This information relates only to the specific material designated and may not be valid for use with other materials or in other processes. The information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. No warranty, guarantee or representation is made as to its accuracy or completeness. It is the user's responsibility to determine suitability for their intended use.