

Safety Data Sheet Page 1 of 8 according to Regulation (EC) No. 1907/2006

Print Date: 12.10.09

Revision Date: 06.10.09

Trade name: Monoethylene glycol

1. Identification of the substance/preparation and of the company/undertaking:

Product details

Use of the substance/preparation

Industry sector: Functional Fluids
Type of use: Brine for refrigeration

Supplier: Peter HUBER Kältemaschinenbau GmbH
Werner-von-Siemens-Str. 1
D-77656 Offenburg / Germany
Tel.: +49 (0)781/9603-0 Fax: +49 (0)781/57211

Emergency telephone: 00800-5121 5121 (24 h)

2. Composition / information on ingredients

Chemical characterization: Monoethylene glycol (1,2-ethane diol) with corrosion inhibitors

Hazardous ingredients

Ethandiol

Concentration: 90 – 95%
CAS number: 107-21-1
EINECS number: 203-473-3
Hazard symbols: Xn
R-phrases: 22

Disodium tetraborate, anhydrous

Concentration: < 1,2%
CAS number: 1330-43-4
EINECS number: 215-540-4
Hazard symbols: T
R-phrases: 60 61

Sodium nitrite

Concentration: < 0,6%
CAS number: 7632-00-0
EINECS number: 231-555-9
Hazard symbols: O T N
R-phrases: 8 25 50

The text of the R-phrases is shown in section 16.

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Geschäftsführer: Peter Huber, Daniel Huber, Joe Huber

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3. Hazards identification

Harmful if swallowed.

4. First aid measures

General information

Remove soiled or soaked clothing immediately

After inhalation

In the event of symptoms seek medical advice.

After contact with skin

In case of contact with skin wash off immediately with plenty of water

After contact with eyes

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice

After ingestion

Summon a doctor immediately.

5. Fire-fighting measures

Suitable extinguishing media:

Water spray jet
alcohol-resistant foam
carbon dioxide
dry powder

Special hazards from the substance itself,
its combustion products or from its vapours:

In case of fires, hazardous combustion gases are formed:
Carbon monoxide (CO)
Nitrous gases (NOx)

Special protective equipment for firefighting:

Use self-contained breathing apparatus

6. Accidental release measures

Personal precautions:

Ensure adequate ventilation.
Wear suitable personal protective equipment.

Environmental precautions:

Do not allow to enter drains or waterways

Methods for cleaning up(taking up):

Pick up with absorbent material (eg. sand, kieselgur, acid binder,
sawdust)
Dispose of as prescribed

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7. Handling and storage:

Advice on safe handling

Open and handle container with care.

Provide good ventilation of working area (local exhaust ventilation if necessary).

8. Exposure controls / personal protection:

Occupational exposure controls

Exposure limit values

Ethylene glycol

CAS number: 107-21-1

Directive on indicative exposure limits (amended)

EU OEL – Directive on indicative on indicative exposure limits

Revision: 08/06/2000

Notations

Skin

Ethylene glycol

CAS number: 107-21-1

Directive on indicative exposure limits (amended)

EU OEL – Directive on indicative exposure limits

Revision: 08/06/2000

Limit values time-weighted average – 8 hours

Values: 52 mg/m³ 20 ppm

Ethylene glycol

CAS number: 107-21-1

Directive on indicative exposure limits (amended)

EU OEL – Directive on indicative exposure limits

Revision: 08/06/2000

Limit values short-term – 15 min.

Values: 104 mg/m³^ 40 ppm

General protective measures

Do not inhale vapours

Avoid contact with eyes and skin

Hygiene measures

Keep away from foodstuff and beverages.

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Respiratory protection:	Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure Full mask to standard DIN EN 136 Filter A (organic gases and vapours) to standard DIN EN 141 The use of filter apparatus presupposes that the environment atmosphere contains at least 17% oxygen by volume, and does not exceed the maximum gas concentration, usually 0.5% by volume. Relevant guidelines to be considered include EN 136/141/143/371/372 as well as other national regulations.
Hand protection:	For long-term exposure: Butyl rubber gloves Minimum breakthrough time / gloves: 480 min Minimum thickness / gloves 0,7 mm For short-term exposure (splash protection): Nitrile rubber gloves. Minimum breakthrough time / gloves: 30 min Minimum thickness / gloves 0,4 mm These types of protective gloves are offered by various manufactures. Please note the manufacturers' detailed statements, especially about the minimum thickness and the minimum breakthrough time. Consider also the particular working conditions under which the gloves are being used.
Eye protection:	Depending on the risk, wear sufficient eye protection (safety glasses with side protection or goggles, and if necessary, face shield.)

9. Physical and chemical properties:

Form:	Liquid
Colour:	yellow
Odour:	slightly perceptible
Pourpoint:	approx. -70°C Method: ASTM D 1120
Flash point:	No flash point – Measure made up to the boiling point.
Flash point:	approx. 119°C Method: DIN 51758 (closed cup) Information applies to the solvent
Ignition temperature:	approx. 410°C Method: DIN 51794
Oxidizing properties:	Not applicable
Self-ignition temperature:	not self-igniting

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Flammability	
Lower explosion limit:	3% (V) Data relate to solvent
Upper explosion limit:	not tested.
Combustion number:	Not applicable
Evaporation rate:	not tested
Vapour pressure:	< 0,01 kPa (20°C) Method: Calculated by Syracuse.
Density:	approx. 1,13 g/cm ³ (20°C) Method: DIN 51757
Bulk density:	Not applicable
Vapour density in relation to air:	not tested
Solubility in water:	(20°C) Miscible in all proportions
Soluble in ...:	fat Not tested
pH value:	7,7 – 8,3 (20°C, 300 g/l) Method: DIN 19268
Octanol/water partition coefficient (log Pow):	Not applicable
Viscosity (dynamic):	approx. 26 mPa.s (23°C) Method: calculated
Viscosity (kinematic):	approx. 23 mm ² /s (20°C) Method: DIN 51562
Further information:	The product is hygroscopic.

10. Stability and reactivity

Thermal decomposition:	approx. 260°C Method: DSC
Hazardous reactions:	Reactions with alkalies Reactions with oxidising agents

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11. Toxicological information

Acute oral toxicity:	LD50 4.000 mg/kg (rat) Source: IUCLID Information based on the main component
Acute inhalation toxicity:	not tested
Acute dermal toxicity:	not tested
Irritant effect on skin:	non-irritant (rabbit) Source: IUCLID Data relate to main component
Irritant effect on eyes:	slightly irritant (rabbit eye) Source: IUCLID Data relate to main component
Sensitization:	not tested
Mutagenicity:	not tested
Remarks:	Vapours and mists cause irritation/burns to eyes and the respiratory tract There is a possibility of kidney damage Poisoning affects the central nervous system The product was classified on the basis of the calculation procedure of the dangerous Preparations Directive (1999/45/EC).

12. Ecological information

Biodegradability:	> 90% Good degradability Method: Zahn-Wellens test By analogy with a similar product.
Fish toxicity:	LC0 1.000 mg/l (golden orfe) LL50 > 100 mg/l (96 h, Zebra fish (Danio rerio)) Method: OECD 203 By analogy with a similar product.
Remarks:	If handled correctly it causes no disturbance in treatment plants. The product was classified according to the calculation method of the EU dangerous Preparations Directive

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13. Disposal considerations

Product: In according with local authority regulations, take to special waste incineration plant

14. Transport information

ADR: not restricted
ADNR: not restricted
RID: not restricted
IATA: not restricted
IMDG: not restricted

15. Regulatory information

Labelling in accordance with EC-Directives

Hazard warning labelling compulsory

Classification according to the calculation procedure of the Dangerous Preparations Directive (1999/45/EC).

Hazard symbols

Xn Harmful

Hazardous component(s) to be indicated on label

Ethanediol

R-phrases

22 Harmful if swallowed

S-phrases

2 Keep out of the reach of children

24/25 Avoid contact with skin and eyes

Chemical Safety Assessment

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

16. Other information

Text of the R-phrases assigned to the ingredients/components mentioned in section 3:

22 Harmful if swallowed
25 Toxic if swallowed
50 Very toxic to aquatic organisms
60 May impair fertility
61 May cause harm to the unborn child
8 Contact with combustible material may cause fire

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Decimal notation: "Thousands" places are identified with a dot (example: 2.000 mg/kg means "two thousand mg/kg"). Decimal places are identified with a comma (example: 1,35 g/cm³).

The data are based on the current state of our knowledge, and are intended to describe the product with regard to the requirements of safety. The data should not be taken to imply any guarantee of a particular or general specification. It is the responsibility of the user of the product to ensure to his satisfaction that the product is suitable for the intended purpose and method of use. We do not accept responsibility for any harm caused by the use of this information. In all cases, our general conditions of sale apply.

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