

Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Mixture of cooling medium / water

Version 05

Creation Date: 16.10.2008

Revision Date: 16.05.2017

1) Identification of the substance/mixture and of the company/undertaking

<u>1.1 Product identifier:</u>	Mixture of cooling medium / water Item no. 901063,302133,302134,300.72.007
<u>1.2 Relevant identified uses of the substance or mixture and uses advised against</u>	
Relevant identified uses:	Antifreeze
Uses advised against:	None known
<u>1.3 Company name:</u>	Dirk Höfer Chemie GmbH Langenbergstr. 10 67657 Kaiserslautern
Phone:	+49(0)631-35021-24
Fax:	+49(0)631-35021-29
E-Mail:	quako@dhc-kl.de
Contact:	Frau Eva Schmidt
<u>1.4 Emergency contact:</u>	Poison Control Center Mainz – 24 hour Emergency service – Tel: +49(0)6131/19240

2) Hazards identification

2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox.4; H302 – Acute toxicity oral Category 4

STOT RE2; H373 – Specific target organ toxicity – repeated exposure Category 2

2.2 Label elements

Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictogram/s and signal word of the product: GHS07/GHS08



Signal word: Warning

Hazardous components for the labels indicate:

Ethylenglycol (1,2-Ethandiol = MEG) >40 Gew.%

Hazard statements (H-phrases):

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

Precautionary statements (P-phrases):

- P102 Keep out of reach of children.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 Wash hands thoroughly after handling.
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor(physician if you feel unwell).
 P330 Rinse mouth.
 P314 Get medical advice/attention if you feel unwell.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards:

Attention for vomiting.: Danger of aspiration.

PBT: Not applicable.

vPvB: Not applicable.

3) Composition/information on ingredients

3.1 Substances/mixtures

Mixture of the substances listed below.

3.2 Mixtures

Mixtures composition/information on ingredients

CAS no. EINECS INDEX no. REACH no.	Substance name	Classification according Regulation (EC) No. 1272/2008	Concentration
107-21-1 203-473-3 603-027-00-1 01-2119456816-28-XXXX	Ethandiol	Acute Tox.4; H302 STOT RE2; H373	40-50%

(Full text of H- an EUH-phrases: see SECTION 16)

4) First aid measures

4.1 Description of first aid measures

General information: Self-protection of first aid. Take off contaminated clothing and shoes and clean.

After inhalation: If are irritating or the occurrence of headache, nausea, or drowsiness occurs, remove to fresh air. If the breathing difficulty or stop the symptoms, get medical care.

- After skin contact:** Wash with warm water and soap. If a skin irritation on or adhered to these, seek medical advice.
- After eye contact:** Rinse immediately with plenty of water for 15 minutes. Take victim to a doctor if irritation persists.
- After ingestion:** Do not induce vomiting, immediately consult a doctor. Contamination of the mouth, rinse thoroughly with water. If the patient is conscious and can swallow, immediately bring two glasses of water (500ml) to drink, but no vomiting. The decision whether the patient's condition allows induction of vomiting is up to the physician.

4.2 Most important symptoms and effects, both acute and delayed

No further information available.

4.3 Indication of any immediate medical attention and special treatment needed

An ethylene glycol poisoning may initially lead to behavioral problems, drowsiness, vomiting, diarrhea, thirst, and convulsions. Kidney damage or kidney failure with metabolic acidosis are late signs of poisoning. Immediate treatment, if necessary, by a blood dialysis, may reduce the toxic effects. Intravenous sodium bicarbonate in ethanol solution is an accepted antidote. For more information, please contact a POISON CENTER.

5) Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Product is not inflammable; in the case of fire adapt the extinguishing measures to the surroundings.
CO₂, dry chemical, foam, water fog.

Unsuitable extinguishing media Do not use a heavy water stream.

5.2 Special hazards arising from the substance or mixture

The product itself is not flammable. Special hazards caused by the material, its products of combustion or flue gases: Carbon monoxide, toxic smoke and smoldering incomplete combustion.

5.3 Advice for fire-fighters

Full protective suit. Self-contained breathing apparatus.

Other information

Fire residues and contaminated fire fighting water in accordance with official regulations. Collect contaminated firefighting water separately, must not enter drains.

6) Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Particular danger of slipping on leaked / spilled product. Ensure adequate ventilation. Using the effects of fumes / dust / aerosol, respiratory protection. Wear protective equipment. Unprotected persons away.

6.2 Environmental precautions

Keep out of sewers, water or soil. If material reaches soil, water or sewage, the competent authorities must be informed

6.3 Methods and material for containment and cleaning up

Take up with absorbent material (sand, diatomite, acid binders universal binders, sawdust). Contaminated material as waste according to item 13.

6.4 Reference to other sections

See section 13 for disposal information.

See section 8 for information on personal protective equipment.

See section 7 for information on safe handling.

7) Handling and storage

7.1 Precautions for safe handling

Information on safe handling

Ensure adequate ventilation/exhaustion at the storage and work area. Do not eat, drink, smoke or snuff at the workplace. Always close the container tightly after product removal. Wash hands before breaks and after work. Do not inhale vapor/aerosol. Ensure adequate ventilation. Preventive skin protection by skin ointment.

Information on fire and explosion protection No special fire protection measures are required.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles

Store in original container in a cool, dry place. Penetrate into the ground safely. During storage, the regulations for the storage of water polluting substances be observed according to the Water hazard (eg, WHG, VAwS, fire water retention directive, etc.).

Storage class

10

Information on combined storage

Do not store with foodstuffs.
Do not store with oxidizing agents.

Classification according to the work equipment directive (BetrSichV): -

7.3 Specific end uses

Antifreeze

8) Exposure controls and personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS no.	Name	ml/m ³	mg/m ³	F/m ³	Peak limit	Type
107-21-1	Ethandiol	10	26		2(l)	DFG, H, Y

8.2 Exposure controls and monitoring/personal protective equipment

Additional information on the design of technical systems

Based on information valid at the time of compilation. Case of open handling devices should be used with local exhaust ventilation. Do not breathe vapor / spray.

Personal protective equipment

General protective and hygienic measures

Change contaminated clothes. Wash hands before breaks and after work. Do not eat and drink during work.

Respiratory protection:

With proper handling of the product is not necessary. Concentrations in the air should be reduced to the minimum practicable. If vapor, mist or dust is produced, suitable respiratory protection must be worn.

Hand protection:

Protective gloves recommended. Contact with the skin. Butyl gloves, or at least use nitrile rubber.

Eye protection:

Safety goggles recommended.

Body protection:

Standard protective clothing

9) Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Form:	liquid
Colour:	blue - green
Odour:	product-specific

Safety-related data:

Vapour pressure (20°C):	Not determined
Flash point:	> 100°C
Ignition temperature:	Not determined
Odor Threshold:	Not determined
Solubility in/miscibility with water:	Completely miscible
Explosion limits:	The product is not explosive
Oxidising properties:	Not applicable
pH value at 20°C:	~8
Vapour pressure (20°C):	Not determined
Density at 20°C:	1,07 g/ml
Boiling point/boiling range (°C):	100°C
Melting point (°C):	Not determined
Decomposition temperature (C°):	Not determined
Evaporation rate:	Not determined
Partition coefficient n-octanol/water:	Not determined
Viscosity:	thinly liquid
Explosion hazard:	The product is not explosive.

9.2 Other information

Organic solvents:	0%
VOC (EU):	0,00%

10) Stability and reactivity

10.1 Reactivity	No hazardous reactivity under normal environment conditions.
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	No hazardous reactions when the proper storage and handling.
10.4 Conditions to avoid	Not known.
10.5 Incompatible materials	No additional information available.
10.6 Hazardous decomposition products	None under normal use. To decomposition in the fire, see Chapter 5.

11) Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

CAS-no.	Name				
	Routes of exposure	Method	Dosage	Species	Source
107-21-1	Ethandiol				
	Oral	LD50	4700 mg/kg	Rat	GESTIS
	Dermal	LD50	10600 mg/kg	Rabbit	GESTIS

Primary irritant effect:

Eye contact: Contamination can lead to inflammation.

Skin contact: Skin irritation is possible.

Sensitisation: No sensitizing effects known.

Severe effects after repeated or prolonged exposure: No further information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): The product is not classified.

Additional Informations: The classification is based on the calculation method according to the dangerous preparations directive (1999/45/EC). The ingestion of small quantities leads to kidney damage. Inhalation of mists and vapors causes loss of consciousness.

General informations: When using the product in accordance with the instructions and observing the precautions given, no special hazards are known by the product.

12) Ecological information

12.1 Toxicity

Aquatic toxicity

Not be released into drains or the aquatic environment. Do not discharge product unmonitored into the environment.

CAS-no.	Name					
	Aquatic toxicity	Method	Dosage	h	Species	Source
107-21-1	Ethandiol					
	Acute toxicity to fish	LC50	18500 mg/l	96	Oncorhynchus mykiss	
	Acute toxicity to algae	ErC50	6500-7500 mg/l	96	Pseudokirchneriella subcapitata	
	Acute toxicity to crustacea	EC50	>10,000 mg/l	48	Daphnia magna	

12.2 Persistence and degradability

Biodegradation/elimination

In accordance with EC criteria: Expected to be readily biodegradable. The product base (Ethylenglycol) has a good bioeliminability.

12.3 Bioaccumulative potential

No additional information available.

Partition coefficient n-Octanol/Water

CAS-No.	Name	Log Pow
107-21-1	Ethandiol (Glycol)	-1,36

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Other adverse effects

Not known.

AOX-indication:

The product is free of halogenated organic compounds.

13) Disposal considerations

13.1 Waste treatment methods

Product:

Must not be disposed of with household waste. Do not empty into drains.

Waste codes/waste designations:

The waste codes are recommendations based upon the intended use of this product. Special applications and special disposal conditions at the applicator's place may however require another waste code.

Recommendation:

160114 (Antifreeze, containing dangerous substances)

European Waste Catalogue:

55374 – diluted (Solvent-water mixtures without halogenated organic solvents)

Contaminated packaging:

Contaminated packaging should be emptied. Empty containers should be taken for local recycling, recovery or waste disposal. Cleaning agent: Water, if necessary with cleaning and / or neutralizing agents.

Recommended cleaning agents:

Water with additional cleaning agents, if required.

14) Transport information

Overland transport ADR/RID and GGVS/GGVE (cross-border/domestic):

Marine transport IMDG/GGVSee:

Air transport (IATA):

NOT CLASSIFIED AS "DANGEROUS GOODS"

15) Regulatory information

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

National regulations:

Classification according to VbF: deleted

Technical instructions air:	Class	Share in %
	NK	40-60

Water hazard class: WGK 1 – low hazard to water

Status: Mixture rule according to the regulation on substances hazardous to water (VwVwS), annex 4, no.3

15.2 Chemical safety assessment Has not been prepared.

16) Other information

Changes with respect to the previous version:

See item 2,3,7,11,12,15,16

Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BImSchV	German Federal Immission Control Ordinance
CAS	Chemical Abstracts Service
DIN	Norm of the German Institute for Standardization
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EG	European Community
EN	European Standard
IATA-DGR	International Air Transport Association-Dangerous Goods Regulations
IBC-Code	International Code for the Construction and Equipment of Ships carrying dangerous Chemicals in Bulk.
ICAO-TI	International Civil Aviation Organization-Technical Instructions
IMDG-Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
IUCLID	International Uniform Chemical Information Database.
LC	Lethal concentration
LD	Lethal dose
Log Kow	n-octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant)
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative and Toxic
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the international carriage of Dangerous goods by Rail)
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative
VwVwS	German Regulation on Substances Hazardous to Water
WGK	Water hazard class

Hazard information referred to in sections 2 and 3

According to regulation (EC) no. 1272/2008:

Acute Tox.4; H302 – Acute toxicity oral Category 4; Harmful if swallowed

STOT RE2; H373 – Specific target organ toxicity – repeated exposure Category 2; May cause damage to organs through prolonged or repeated exposure.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.