

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Huber Frostschutzmittel

Revision date: 19.07.2023

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

##### 1.1. Product identifier

Huber Frostschutzmittel

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

###### Use of the substance/mixture

Anti-freezing agent

###### Uses advised against

Any non-intended use.

##### 1.3. Details of the supplier of the safety data sheet

Company name:	Peter Huber Kältemaschinenbau SE	
Street:	Werner-von-Siemens-Strasse 1	
Place:	D-77656 Offenburg	
Telephone:	+49 (0) 781 9603-0	Telefax: +49 (0) 781 57211
E-mail:	info@huber-online.com	
Internet:	www.huber-online.com	
Responsible Department:	info@huber-online.com	

##### 1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

##### Further Information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Regulation (EC) No 1272/2008

Acute Tox. 4; H302  
STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### Regulation (EC) No 1272/2008

###### Hazard components for labelling

ethanediol; ethylene glycol

Signal word: Warning

###### Pictograms:



###### Hazard statements

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

###### Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P330 Rinse mouth.  
P501 Dispose of contents/container to local/regional/national/international regulations.

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#### 2.3. Other hazards

The substances in the mixture (> 0.1%) do not meet the PBT/vPvB criteria according to REACH, annex XIII. This product does not contain a substance (> 0,1%) that has endocrine disrupting properties with respect to humans as no components meets the criteria. This product does not contain a substance (> 0,1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
107-21-1	ethanediol; ethylene glycol			50 - 100 %
	203-473-3	603-027-00-1	01-2119456816-28	
	Acute Tox. 4, STOT RE 2; H302 H373			

Full text of H and EUH statements: see section 16.

##### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
107-21-1	203-473-3	ethanediol; ethylene glycol	50 - 100 %
	dermal: LD50 = >5000 mg/kg; oral: ATE = 500 mg/kg		

##### Further information

Product does not contain listed SVHC substances > 0.1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

##### After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

##### After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment. Take off immediately all contaminated clothing.

##### After contact with eyes

Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. In case of troubles or persistent symptoms, consult an ophthalmologist.

##### After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. Alcohol resistant foam. Atomized water.

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#### Unsuitable extinguishing media

High power water jet.

#### **5.2. Special hazards arising from the substance or mixture**

Can be released in case of fire: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO).

#### **5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

#### **Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Co-ordinate fire-fighting measures to the fire surroundings.

### SECTION 6: Accidental release measures

#### **6.1. Personal precautions, protective equipment and emergency procedures**

##### **General advice**

Safe handling: see section 7

##### **For non-emergency personnel**

Wear personal protection equipment (refer to section 8).

##### **For emergency responders**

No special measures are necessary.

#### **6.2. Environmental precautions**

Discharge into the environment must be avoided.

#### **6.3. Methods and material for containment and cleaning up**

##### **For containment**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Treat the recovered material as prescribed in the section on waste disposal.

##### **For cleaning up**

Clean contaminated objects and areas thoroughly observing environmental regulations.

#### **6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Wear personal protection equipment (refer to section 8).

Handle and open container with care. Do not breathe fume/ mist/ vapours. Vapours / aerosols should be extracted by suction directly at point of origin.

##### **Advice on protection against fire and explosion**

Usual measures for fire prevention.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges.

##### **Advice on general occupational hygiene**

Always close containers tightly after the removal of product. When using do not eat, drink or smoke. Wash hands before breaks and after work.

##### **Further information on handling**

General protection and hygiene measures: See section 8.

#### **7.2. Conditions for safe storage, including any incompatibilities**

##### **Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.

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#### Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Acid. Radioactive substances. Infectious substances. Food and animal feedingstuff.

#### Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.  
 Recommended storage temperature: 20 °C  
 Protect against: frost. UV-radiation/sunlight. heat. Humidity

#### 7.3. Specific end use(s)

See section 1.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
107-21-1	(OLD) 1,2-Dihydroxyethane, particulate	-	10		TWA (8 h)	

##### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
107-21-1	ethanediol; ethylene glycol			
	Worker DNEL, long-term	dermal	systemic	106 mg/kg bw/day
	Worker DNEL, long-term	inhalation	local	35 mg/m <sup>3</sup>
	Consumer DNEL, long-term	dermal	systemic	53 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	local	7 mg/m <sup>3</sup>

#### 8.2. Exposure controls



##### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.  
 Provide adequate ventilation.

##### Individual protection measures, such as personal protective equipment

###### Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). EN 166

###### Hand protection

Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of glove material: 0,4 mm

Breakthrough time >= 8 h

Butyl rubber. - Thickness of glove material: 0,5 mm

Breakthrough time >= 8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm

Breakthrough time >= 8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time >= 8 h

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PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm

Breakthrough time  $\geq$  8 h

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

The selected protective gloves have to satisfy the specifications of EU Directive EC/2016/425 and the standard EN 374 derived from it.

Check leak tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well.

#### Skin protection

Suitable protective clothing: Lab apron.

#### Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required. Respiratory protection necessary at: Insufficient ventilation: particulates filter device (DIN EN 143).

#### Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	light yellow
Odour:	hardly noticeable
Odour threshold:	not determined

#### Test method

Melting point/freezing point:	-12,4 °C	
Boiling point or initial boiling point and boiling range:	165 °C	
Flammability:	not determined	
Lower explosion limits:	3 vol. %	
Upper explosion limits:	43 vol. %	
Flash point:	119 °C	DIN 51758
Auto-ignition temperature:	398 °C	DIN 51794
Decomposition temperature:	~260 °C	DCS
pH-Value (at 20 °C):	8	DIN EN 1262
Viscosity / kinematic:	not determined	
Water solubility:	completely miscible	
Solubility in other solvents	not determined	
Dissolution rate:	not relevant	
Partition coefficient n-octanol/water:	not relevant	
Dispersion stability:	not relevant	
Vapour pressure:	0,08 (CAS: 107-21-1) hPa	
(at 20 °C)		
Density (at 20 °C):	1,13 g/cm <sup>3</sup>	DIN 51757
Bulk density:	not determined	
Relative vapour density:	not determined	
Particle characteristics:	not relevant	

#### 9.2. Other information

##### Information with regard to physical hazard classes

Explosive properties  
none

Sustaining combustion: Not sustaining combustion

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Self-ignition temperature

Solid:

not relevant

Gas:

not relevant

Oxidizing properties

none

**Other safety characteristics**

Evaporation rate:

not determined

Solvent separation test:

not determined

Solvent content:

not determined

Solid content:

not determined

Sublimation point:

not determined

Softening point:

not determined

Pour point:

not determined

Viscosity / dynamic:

not determined

Flow time:

not determined

**Further Information**

No information available.

**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

Refer to chapter 10.5.

**10.4. Conditions to avoid**

storage temperature: &lt; 260°C

Protect against: UV-radiation/sunlight. heat.

**10.5. Incompatible materials**

Materials to avoid: Oxidizing agents, strong. acid.

**10.6. Hazardous decomposition products**

Does not decompose when used for intended uses.

**SECTION 11: Toxicological information**
**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**
**Toxicokinetics, metabolism and distribution**

No data available.

**Acute toxicity**

Harmful if swallowed.

**ATEmix calculated**

ATE (oral) 500,0 mg/kg; ATE (dermal) &gt; 2000 mg/kg; ATE (inhalation vapour) &gt; 20 mg/l; ATE (inhalation dust/mist) &gt; 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
107-21-1	ethanediol; ethylene glycol				
	oral	ATE mg/kg	500		

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	dermal	LD50 mg/kg	>5000	Rabbit	RTECS	
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**Irritation and corrosivity**

Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

ethanediol; ethylene glycol:

In-vitro mutagenicity: Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay) ; Result: negative.

Literature information: REACH Dossier; Carcinogenicity; Method: oral. Species: Mouse. Exposure duration: 2 years. Result: NOAEL = 1500 mg/kg; Literature information: REACH Dossier; Developmental

toxicity/teratogenicity: Method: -; Species: Mouse.; Exposure duration: 20 d. Result: NOAEC = 2500 mg/m3;

Literature information: REACH Dossier

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (ethanediol; ethylene glycol)

ethanediol; ethylene glycol:

Subacute oral toxicity: Method: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study);

Species: Dog.; Exposure duration: 28 d. Results: NOAEL = 2200 mg/kg(bw)/day ; Literature information:

REACH Dossier

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

No data available.

**11.2. Information on other hazards**
**Endocrine disrupting properties**

No data available.

**Other information**

No data available.

**SECTION 12: Ecological information**
**12.1. Toxicity**

The product has not been tested.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
107-21-1	ethanediol; ethylene glycol					
	Acute fish toxicity	LC50 mg/l	72860	96 h	Pimephales promelas	REACH Dossier
	Acute crustacea toxicity	EC50 mg/l	>100	48 h	Daphnia magna	REACH Dossier
	Fish toxicity	NOEC mg/l	> 40	28 d	Menidia peninsulae	REACH Dossier ASTM E-47.01
	Crustacea toxicity	NOEC mg/l	8590	7 d	Ceriodaphnia dubia	REACH Dossier EPA 600/4-89/001. U.S. Environmen
	Acute bacteria toxicity	(EC50 mg/l)	>10000		Pseudomonas putida	REACH Dossier

**12.2. Persistence and degradability**

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The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
107-21-1	ethanediol; ethylene glycol			
	OECD 301A / ISO 7827 / EEC 92/69 annex V, C.4-A	100%	28	REACH Dossier
	Easily biodegradable (concerning to the criteria of the OECD)			

#### 12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
107-21-1	ethanediol; ethylene glycol	-1,36

#### 12.4. Mobility in soil

No data available.

#### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

#### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

#### 12.7. Other adverse effects

No data available.

#### Further information

Do not allow to enter into surface water or drains.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Disposal recommendations

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.

Non-contaminated packages may be recycled.

According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

##### List of Wastes Code - residues/unused products

160114 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08); antifreeze fluids containing hazardous substances; hazardous waste

##### List of Wastes Code - used product

160114 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08); antifreeze fluids containing hazardous substances; hazardous waste

##### List of Wastes Code - contaminated packaging



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150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

#### Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

#### Inland waterways transport (ADN)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

#### Marine transport (IMDG)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

#### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

#### 14.6. Special precautions for user

refer to chapter 6 - 8

#### 14.7. Maritime transport in bulk according to IMO instruments

not relevant

### SECTION 15: Regulatory information

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

##### EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

2010/75/EU (VOC): not determined

2004/42/EC (VOC): not determined

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

##### Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

REACH 1907/2006 Appendix XVII, No (mixture): 3

##### National regulatory information

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Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

**15.2. Chemical safety assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:  
ethanediol; ethylene glycol

**SECTION 16: Other information****Changes**

Rev. 1,0; Initial release: 29.09.2020  
Rev. 2,0; 19.07.2023, Changes in chapter: 2-16

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

AGW: Arbeitsplatzgrenzwert

CAS: Chemical Abstracts Service

CLP: Classification, Labelling and Packaging of substances and mixtures

DNEL: Derived No Effect Level

d: day(s)

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

ECHA: European Chemicals Agency

EWC: European Waste Catalogue

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

h: hour

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect concentration

NLP: No-Longer Polymers

N/A: not applicable

OECD: Organisation for Economic Co-operation and Development

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail

REACH: Registration, Evaluation, Authorisation of Chemicals

SVHC: substance of very high concern

TRGS: Technische Regeln für Gefahrstoffe

UN: United Nations

VOC: Volatile Organic Compounds

WGK: Water Hazard Class (Germany)

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**Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
STOT RE 2; H373	Calculation method

**Relevant H and EUH statements (number and full text)**

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

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*