

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

- **1.1 Product identifier**
- **Trade name:** Frostschutz
- **CAS Number:**
107-21-1
- **EC number:**
203-473-3
- **Index number:**
603-027-00-1
- **UFI:** VTD2-00Y1-V00D-0NUX
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Solvents
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Pramol-Chemie AG
Industriestrasse 3
CH-9602 Bazenhaid/SG
Tel +41 71 931 70 30
Fax +41 71 931 44 54
- **Further information obtainable from:**
Abteilung für Produktsicherheit
info@pramol.com
Tel. 071 931 70 30
- **1.4 Emergency telephone number:**
Centre suisse d'information toxicologique, Zurich
+41 (0)44 251 51 51 ou 145 (depuis la Suisse)
Schweizerisches Toxikologisches Informationszentrum, Zürich
+41 (0)44 251 51 51 oder aus der Schweiz: Tel 145
Centro Svizzero d'informazione tossicologica
+41 (0)44 251 51 51 o dalla Svizzera: Tel 145

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



Acute Tox. 4 H302 Harmful if swallowed.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms** GHS07, GHS08
- **Signal word** Warning
- **Hazard-determining components of labelling:**
ethanediol
- **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.

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*P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**P330 Rinse mouth.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
107-21-1 ethanediol
- **Identification number(s)**
- **EC number:** 203-473-3
- **Index number:** 603-027-00-1

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*
- **After skin contact:** *Generally the product does not irritate the skin.*
- **After eye contact:** *Rinse opened eye for several minutes under running water.*
- **After swallowing:** *Call for a doctor immediately.*
- **4.2 Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** *Use fire extinguishing methods suitable to surrounding conditions.*
- **5.2 Special hazards arising from the substance or mixture** *No further relevant information available.*
- **5.3 Advice for firefighters**
- **Protective equipment:** *No special measures required.*

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** *Not required.*
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Storage class:** 10
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

- **Ingredients with limit values that require monitoring at the workplace:**

107-21-1 ethanediol

WEL	Short-term value: 104** mg/m ³ , 40** ppm
	Long-term value: 10* 52** mg/m ³ , 20** ppm
	Sk *particulate **vapour

· DNELs

107-21-1 ethanediol

Dermal	DNEL long term systemic effects	53 mg/kg bw/day (general population) 106 mg/kg bw/day (workers)
Inhalative	DNEL long term systemic effects	mg/m ³ (general population) 35 mg/m ³ (workers)
	DNEL short term local effects	7 mg/m ³ (general population)

· PNECs

107-21-1 ethanediol

PNEC	10 mg/l (intermittent release) 199.5 mg/l (sewage plant)
PNEC aqua	10 mg/l (fresh water) 1 mg/l (sea water)
PNEC sediment	20.9 mg/kg (fresh water)
PNEC ground	1.53 mg/kg (ground)

- **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

- **Appropriate engineering controls** No further data; see item 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Hand protection**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye/face protection** Goggles recommended during refilling

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· Physical state	Fluid
· Colour:	Colourless
· Odour:	Sweetish
· Odour threshold:	Not determined.
· Melting point/freezing point:	-12.4 °C
· Boiling point or initial boiling point and boiling range	197 °C
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	3.2 Vol %
· Upper:	53 Vol %
· Flash point:	111 °C
· Ignition temperature:	410 °C
· Decomposition temperature:	Not determined.
· pH	Not determined.
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic at 20 °C:	21 mPas
· Solubility	
· water at 20 °C:	1 g/l
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	0.08 hPa
· Density and/or relative density	
· Density at 20 °C:	1.116 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

· **9.2 Other information**

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Auto-ignition temperature:	Not determined.
· Explosive properties:	Product does not present an explosion hazard.
· Molecular weight	62.07 g/mol
· Change in condition	
· Evaporation rate	Not determined.

· **Information with regard to physical hazard classes**

· Explosives	Void
	Void

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· Flammable gases	Void
	Void
· Aerosols	Void
	Void
· Oxidising gases	Void
	Void
· Gases under pressure	Void
	Void
· Flammable liquids	Void
	Void
· Flammable solids	Void
	Void
· Self-reactive substances and mixtures	Void
	Void
· Pyrophoric liquids	Void
	Void
· Pyrophoric solids	Void
	Void
· Self-heating substances and mixtures	Void
	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
	Void
· Oxidising liquids	Void
	Void
· Oxidising solids	Void
	Void
· Organic peroxides	Void
	Void
· Corrosive to metals	Void
	Void
· Desensitised explosives	Void
	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed.

· **LD/LC50 values relevant for classification:**

107-21-1 ethanediol

Oral	LD50	5,840 mg/kg (Rat)
Dermal	LD50	9,530 mg/kg (Rabbit)
Inhalative	LC50/4 h	>5 mg/l (Rat)

- **STOT-repeated exposure** May cause damage to organs through prolonged or repeated exposure.

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

Substance is not listed.

* **SECTION 12: Ecological information**· **12.1 Toxicity**· **Aquatic toxicity:****107-21-1 ethanediol**EC50 (48h) 41,100 mg/l (*Daphnia magna*)EC50 (24h) >10,000 mg/l (*Daphnia magna*)LC50 (96h) <100 mg/l (*leu*)40,761 mg/l (*Oncorhynchus mykiss*)72,860 mg/l (*Pimephales promelas*)40,761 mg/l (*sal*)EC50 (96h) 6,500-13,000 mg/l (*pseudokirchneriella subcapitata*)· **12.2 Persistence and degradability** No further relevant information available.· **12.3 Bioaccumulative potential** No further relevant information available.· **12.4 Mobility in soil** No further relevant information available.· **12.5 Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

· **12.7 Other adverse effects**· **Additional ecological information:**· **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

* **SECTION 13: Disposal considerations**· **13.1 Waste treatment methods**· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**· **Recommendation:** Disposal must be made according to official regulations.· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.* **SECTION 14: Transport information**· **14.1 UN number or ID number**· **ADR, ADN, IMDG, IATA**

Void

· **14.2 UN proper shipping name**· **ADR, ADN, IMDG, IATA**

Void

· **14.3 Transport hazard class(es)**· **ADR, ADN, IMDG, IATA**· **Class**

Void

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· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Not applicable.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I Substance is not listed.**
- **15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**

SECTION 16: Other information

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.

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

- *** Data compared to the previous version altered.**