

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 22.03.2016

Version number 105

Revision: 22.03.2016

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

- 1.1 Product identifier

- Trade name Kühlsole N gebr. -40°C

- Article number: 1003311422000

- 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 Basic chemical (without special defined application)

- 1.3 Details of the supplier of the safety data sheet

- Manufacturer/Supplier:

Staub & Co. - Silbermann GmbH

Ostendstraße 124

D-90482 Nürnberg

Tel.: 0911 / 5482 - 0

Fax: 0911-5482 -119

Mail: info@staub-silbermann.de

- Informing department:

Abteilung HSE

e-Mail: sdb@staub-silbermann.de

- 1.4 Emergency telephone number:

Poison Control Center, Mainz

Tel. 00 49 / 61 31 / 19 240

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008

Acute Tox. 4 H302 Harmful if swallowed.

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

- 2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008

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

- Hazard pictograms



GHS07 GHS08

- Signal word Warning

- Hazard-determining components of labelling:

ethane-1,2-diol

- 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.

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

P301+P312 IF SWALLOWED: Call a POISON CENTER/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/national/international regulations.

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

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of the substances listed below with harmless additions

- **Dangerous components:**

CAS: 107-21-1	ethane-1,2-diol	STOT RE 2, H373; Acute Tox. 4, H302	40-100%
EINECS: 203-473-3			
Reg.nr.: 01-2119456816-28			

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General advice:**
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 symptoms.
- **After skin contact**
Remove contaminated clothing immediately. Wash affected areas with plenty of water und soap. If irritation continues, contact a doctor.
- **After eye contact**
Rinse immediately opened eye for several minutes under running water. Then consult doctor.
- **After swallowing**
Only if patient in full consciousness: Rinse mouth with plenty of water.
Instantly call for doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
Irritant effect to skin, eyes and respiratory organs; headaches; nausea; dizziness feeling; imbalances; anesthesia; unconsciousness.
- **Information for doctor**
A good diuresis to maintain; check of the kidney function, electrolyte household. Early administration of ethanol can counteract the toxic effects of ethylene glycol (metabolic acidosis and kidney damages). Supporting measures required. Treatment is subject to both the judgement of the doctor and the patient's condition.
- **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**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire:
carbon monoxide (CO)
carbon dioxide (CO₂)

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- 5.3 Advice for firefighters**- Protective equipment:**

Wear self-contained breathing apparatus.

See section 8.

- Additional information

Cool endangered containers with water spray jet.

Endangered containers in the surrounding area should be cooled with a water-hose.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment and keep unprotected persons away.

- 6.2 Environmental precautions:

Do not allow to enter the ground/soil.

Dilute with much water.

Do not allow to enter drainage system, surface or ground water.

If large amounts are released, the authorities must be informed.

- 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Contaminated material has to be disposed as waste (see item 13).

- 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 information on disposal.

Danger of burning is possible

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Do not breathe vapour. Avoid contact with skin, eyes and clothing.

Prevent formation of aerosols.

- Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

- 7.2 Conditions for safe storage, including any incompatibilities**- Storage** Store in cool, dry conditions in well sealed containers.**- Requirements to be met by storerooms and containers:**

Observe official regulations on storage and handling of water hazardous substances

Store in original containers or in PE-containers.

- Information about storage in one common storage facility: Store away from oxidising agents.**- Further information about storage conditions:** None.**- Storage class 10** (VCI - concept, 2007)**- 7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.

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- 8.1 Control parameters**- Components with critical values that require monitoring at the workplace:****107-21-1 ethane-1,2-diol (50-100%)**

WEL	Short-term value: 104** mg/m ³ , 40** ppm Long-term value: 10* 52** mg/m ³ , 20** ppm Sk *particulate **vapour
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- DNELs**107-21-1 ethane-1,2-diol**

Dermal	DNEL (population)	53 mg/kg bw/day (Long-term - systemic effects)
	DNEL (worker)	106 mg/kg bw/day (Long-term - systemic effects)
Inhalative	DNEL (population)	7 mg/m ³ (Long-term - local effects)
	DNEL (worker)	35 mg/m ³ (Long-term - local effects)

- PNECs**107-21-1 ethane-1,2-diol**

PNEC	1.53 mg/kg dw (soil)
	199.5 mg/l (sewage treatment plant)
PNEC aqua	10 mg/l (fresh water)
	1 mg/l (marine water)
PNEC sediment	20.9 mg/kg dw (fresh water)

- Additional information: The lists that were valid during the compilation were used as basis.

- 8.2 Exposure controls**- Personal protective equipment****- General protective and hygienic measures**

Keep away from food, beverages and fodder.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Gases, fumes and aerosols should not be inhaled.

- Breathing equipment:

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

- Recommended filter device for short term use:

Combination filter A-P2

Take care of limitations and rules for the use of breathing protection equipment (BGR 190).

- Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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

Chloroprene rubber, CR

Nitrile rubber, NBR

Butyl rubber, BR

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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- Penetration time of glove material

Change gloves if notice sign of disenchantment.

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

- Eye protection: Tightly sealed safety glasses.**- Body protection:**

Standard protective clothing. Chemical resistant safety-shoes or boots. If skin contact is possible, wear impenetrable protective clothing against this solvent.

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties**- General Information****- Appearance:**

Form:	Fluid
Colour:	According to product specification

- Smell: Characteristic**- Odour threshold:** Not determined.**- pH-value:** Not determined.**- Change in condition****Melting point/Melting range:** Not determined**Boiling point/Boiling range:** 197 °C**- Flash point:** > 110 °C**- Inflammability (solid, gaseous)** Not applicable.**- Ignition temperature:** 410 °C
(lowest level for individual components)**- Decomposition temperature:** Not determined.**- Self-inflammability:** Product is not selfigniting.**- Danger of explosion:** Product is not potentially explosive**- Critical values for explosion:**

Lower:	3.2 Vol %
Upper:	53.0 Vol %

(Higher and lower level for individual components)

- Vapour pressure at 20 °C: 0.1 hPa**- Density at 20 °C** 1.11 g/cm³**- Relative density** Not determined.**- Vapour density** Not determined.**- Evaporation rate** Not determined.**- Solubility in / Miscibility with****Water:** Fully miscible**- Partition coefficient (n-octanol/water):** Not determined.**- Viscosity:****dynamic:** Not determined.**kinematic:** Not determined.

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- 9.2 Other information	No further relevant information available.
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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 and stored according to specifications.
Can be distilled without decomposing at normal pressure
- **10.3 Possibility of hazardous reactions**
Reacts with oxidizing agents
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised
- **10.4 Conditions to avoid** To avoid: warmth, flames, sparks
- **10.5 Incompatible materials:**
Strong acids
strong oxidizing agents
- **10.6 Hazardous decomposition products:**
Formation of carbon monoxide and carbon dioxide in case of fire.
Thermal decomposition can produce a variety of compounds, the precise nature of which will depend on the decomposition conditions.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

- LD/LC50 values that are relevant for classification:		
107-21-1 ethane-1,2-diol		
Oral	LD50	7112 mg/kg (rat)
Dermal	LD50	> 3500 mg/kg (mus)
Inhalative	LC 50	> 2.5 mg/l (rat) (6 h)

Oral	LD50	7112 mg/kg (rat)
Dermal	LD50	> 3500 mg/kg (mus)
Inhalative	LC 50	> 2.5 mg/l (rat) (6 h)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Prolonged skin contact may cause irritation.
- **Serious eye damage/irritation** Slight irritant, but not sufficient to trigger an EC label
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Other information (about experimental toxicology):**
Animal tests proved liver and kidney damages as well as deposits of calcium salts in different tissues.
- **Additional toxicological information:**
Skin resorption possible. Irritant effect to the respiratory organs. Oral toxicity is moderate at single intake. Excessive exposition can cause effects to the central nervous systems, cardio-pulmonary effects (metabolic acidosis) and kidney failure. The estimated deadly dose for the average human being is 100 ml (1,2-ethandiol).
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **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.

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- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- 12.1 Toxicity

- Aquatic toxicity:

107-21-1 ethane-1,2-diol

EC 50 / 48 h	> 100 mg/l (<i>Daphnia magna</i>)
EC 50 / 96 h	6500 - 13000 mg/l (<i>Pseudokirchneriella subcapitata</i>)
LC 50	> 10000 mg/l (<i>Leuciscus idus</i>) > 18000 mg/l (<i>Oncorhynchus mykiss</i>) > 10000 mg/l (<i>Daphnia magna</i>)
LC 50 / 96 h	72860 mg/l (<i>Pimephales promelas</i>)

- 12.2 Persistence and degradability

The product is readily biodegradable.

Biodegradability: Closed Bottle Test/20 days: 88 % of ThOD; BSB 28: > 60 %

Inhibitor concentration (IC50) as per OECD "activated sludge respiratory inhibitor test" (guideline 209) is > 1000 mg/l

- 12.3 Bioaccumulative potential

No further relevant information available.

- 12.4 Mobility in soil

No further relevant information available.

- Ecotoxicological effects:

- Respiratory inhibition of communal activated sludge EC 20 (mg/l according to ISO 8192 B):

Bacteria > 10000 mg/l toxic limit concentration

- Additional ecological information:

- General notes:

Do not allow to enter drainage system, surface or ground water

Water hazard class 1 (Self-assessment): slightly hazardous for water.

- 12.5 Results of PBT and vPvB assessment

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- 12.6 Other adverse effects

No further relevant information available.

SECTION 13: Disposal considerations

- 13.1 Waste treatment methods

The following advice is related to new material and not to any processed products. In case of a mixture with other products other disposal methods may become necessary. If in doubt seek advice from product supplier or from local authorities.

- Recommendation

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

- Waste disposal key number:

Since 01/01/99 the waste code numbers have not only been product-related but are also essentially application-related. The valid waste code number of the application can be obtained from the European waste catalogue.

- Uncleaned packagings:

Disposal must be made according to official regulations.

- Recommendation:

After complete emptying and cleaning, send to be reconditioned or recycled.

Rented packaging: After optimal emptying, close immediately and return to the supplier without cleaning.

Care should be taken that no other materials get into the packaging.

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Other containers: After complete emptying and cleaning, send to be reconditioned or recycled.

- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- 14.1 UN-Number - ADR, IMDG, IATA	Void
- 14.2 UN proper shipping name - ADR, IMDG, IATA	Void
- 14.3 Transport hazard class(es) - ADR, IMDG, IATA - Class	Void
- 14.4 Packing group - ADR, IMDG, IATA	Void
- 14.5 Environmental hazards: - Marine pollutant:	No
- 14.6 Special precautions for user	Not applicable.
- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
- Transport/Additional information:	Not dangerous according to the above specifications.
- UN "Model Regulation":	Void

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to Regulation (EC) No 1272/2008

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

- Hazard pictograms



GHS07 GHS08

- Signal word Warning

- Hazard-determining components of labelling:

ethane-1,2-diol

- 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.

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

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P314 Get medical advice/attention if you feel unwell.

P330 Rinse mouth.

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

- National regulations

- Information about limitation of use:

Employment restrictions concerning young persons must be observed.

- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases

Complete wording of hazard statements and risk phrases (H- and R-phrases) mentioned in section 3. These phrases refer to the constituents. The labelling for this product is stated in section 2.

H302 Harmful if swallowed.

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

- Department issuing data specification sheet:

Stockmeier Chemie GmbH & Co.KG

Am Stadtholz 37

D - 3 3 6 0 9

B i e l e f e l d

Tel.: +49/521/3037-0

E-Mail: ehs-bielefeld@stockmeier.de

- Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

LEV: Local Exhaust Ventilation

RPE: Respiratory Protective Equipment

RCR: Risk Characterisation Ratio (RCR= PEC/PNEC)

ADR: Accord européen sur le transport 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 Harmonized System of Classification and Labelling of Chemicals

CLP: Classification, Labelling and Packaging (Regulation (EC) No. 1272/2008)

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

TRGS: Technische Regeln für Gefahrstoffe (Technical Rules for Dangerous Substances, BAuA, Germany)

ISO: International Organisation for Standardisation

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity, Hazard Category 4

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2