

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

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Mabanol Kühlerdichtmittel

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

1.1. Product identifier

Trade name/designation:

Mabanol Kühlerdichtmittel

Other means of identification:

Mabanol Radiator Sealant

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

No data available

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Mabanol GmbH & Co. KG

Koreastraße 7

20457 Hamburg

Germany

Telephone: 0049 (0) 40 36809988

E-mail: info@mabanol.com

Website: www.mabanol.com

1.4. Emergency telephone number

Giftinformationszentrale Göttingen , 24h: 0049 (0) 551 1 92 40

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
STOT-repeated exposure (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 [CLP]

Hazard pictograms:



GHS08

Health hazard

Signal word: Warning

hazard statements for health hazards

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

Precautionary statements Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

Precautionary statements Response

P314 Get medical advice/attention if you feel unwell.

2.3. Other hazards

No data available

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SECTION 3: Composition / information on ingredients

3.2. Mixtures

Additional information:

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

Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 107-21-1 EC No.: 203-473-3	ethane-1,2-diol Acute Tox. 4, STOT RE 2 H302-H373	10 - < 20 Wt %
CAS No.: 110-91-8 EC No.: 203-815-1	morpholine Acute Tox. 3, Acute Tox. 4, Eye Dam. 1, Flam. Liq. 3, Skin Corr. 1B H226-H302-H311-H314-H318-H331	0.1 - < 1 Wt %

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Following inhalation:

Provide fresh air. Medical treatment necessary.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing. Medical treatment necessary.

After eye contact:

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion:

Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Medical treatment necessary.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water mist. Foam. Carbon dioxide (CO₂). Extinguishing powder.

Unsuitable extinguishing media:

Full water jet.

5.2. Special hazards arising from the substance or mixture

No data available

5.3. Advice for firefighters

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

5.4. Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.1.2. For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

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.

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

Protective measures

Advices on safe handling:

Wear personal protection equipment (refer to section 8). Do not breathe gas/fumes/vapour/spray.

Fire prevent measures:

No special fire protection measures are necessary.

Advices on general occupational hygiene

Draw up and observe skin protection programme. When using do not eat, drink or smoke. Avoid contact with eyes and skin. Wash hands and face before breaks and after work and take a shower if necessary.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

Hints on storage assembly:

No special measures are necessary.

Storage class: 10 - 13 - Other combustible and non-combustible substances

Further information on storage conditions:

Protect against: Frost.

7.3. Specific end use(s)

No data available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
TRGS 900 (DE)	ethane-1,2-diol CAS No.: 107-21-1	① 10 ppm (26 mg/m ³) ② 20 ppm (52 mg/m ³) ⑤ (kann über die Haut aufgenommen werden)
IOELV (EU)	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m ³) ② 40 ppm (104 mg/m ³) ⑤ (may be absorbed through the skin)
TRGS 900 (DE)	morpholine CAS No.: 110-91-8	① 10 ppm (36 mg/m ³) ② 20 ppm (72 mg/m ³) ⑤ (kann über die Haut aufgenommen werden)
IOELV (EU)	morpholine CAS No.: 110-91-8	① 10 ppm (36 mg/m ³) ② 20 ppm (72 mg/m ³)

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust/fume/gas/mist/vapours/spray.

8.2.2. Personal protection equipment

Eye/face protection:

Wear eye protection/face protection.

Skin protection:

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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.

Wear suitable protective clothing.

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

8.2.3. Environmental exposure controls

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Colour: greenish blue

Odour: Lemon

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Safety relevant basis data

parameter		at °C	Method	Remark
pH	9.5	20 °C	DIN 19268	
Melting point	<i>not determined</i>			
Freezing point	<i>not determined</i>			
Initial boiling point and boiling range	100 °C			
Decomposition temperature	<i>not determined</i>			
Flash point	111 °C			
Evaporation rate	<i>not determined</i>			
Auto-ignition temperature	<i>not determined</i>			
Upper/lower flammability or explosive limits	<i>not determined</i>			
Vapour pressure	<i>not determined</i>			
Vapour density	<i>not determined</i>			
Density	1.02 g/cm ³	20 °C	DIN 51757	
Bulk density	<i>not determined</i>			
Water solubility	<i>not determined</i>			
Partition coefficient: n-octanol/water	<i>not determined</i>			
Dynamic viscosity	<i>not determined</i>			
Kinematic viscosity	<i>not determined</i>	40 °C		

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

none.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

Further information

Do not mix with other chemicals.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
107-21-1	ethane-1,2-diol	LD₅₀ oral: 1,600 mg/kg (Rat) LD₅₀ dermal: >3,500 mg/kg (Rabbit)
110-91-8	morpholine	LD₅₀ oral: 1,900 mg/kg (Rat) LD₅₀ dermal: 500 mg/kg (Rabbit) LC₅₀ Acute inhalation toxicity (vapour): 8 mg/l 4 h (Rat) LC₅₀ Acute inhalation toxicity (gas): 8,000 ppmV 4 h (Rat) ATE inhalativ Dämpfe: 0.5 mg/l

Acute oral toxicity:

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

Acute dermal toxicity:

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

Acute inhalation toxicity:

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

Skin corrosion/irritation:

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

Serious eye damage/irritation:

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

Respiratory or skin sensitisation:

The classification criteria for this hazard class are not met by definition.

Germ cell mutagenicity:

The classification criteria for this hazard class are not met by definition.
No indications of human germ cell mutagenicity exist.

Carcinogenicity:

The classification criteria for this hazard class are not met by definition.
No indication of human carcinogenicity.

Reproductive toxicity:

The classification criteria for this hazard class are not met by definition.
No indications of human reproductive toxicity exist.

STOT-single exposure:

The classification criteria for this hazard class are not met by definition.

STOT-repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard:

The classification criteria for this hazard class are not met by definition.

Additional information:

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

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SECTION 12: Ecological information

12.1. Toxicity

CAS No.	Substance name	Toxicological information
107-21-1	ethane-1,2-diol	LC₅₀ : 72,860 mg/l 4 d (Pimephales promelas (fat head minnow)) ErC₅₀ : 6,500 - 13,000 mg/l 4 d (Senastrum capricornutum) EC₅₀ : >100 mg/l 2 d (Daphnia magna (Big water flea)) NOEC : 72,860 mg/l 4 d (Pimephales promelas (fat head minnow)) NOEC : 8,590 mg/l 4 d (Ceriodaphnia spec)
110-91-8	morpholine	LC₅₀ : 179 mg/l 4 d (Oncorhynchus mykiss (Rainbow trout)) ErC₅₀ : 58 mg/l 3 d (Desmodesmus subspicatus) EC₅₀ : 45 mg/l 2 d (Daphnia magna (Big water flea)) NOEC : 10 mg/l 4 d (Desmodesmus subspicatus)

Aquatic toxicity:

The classification criteria for this hazard class are not met by definition.

12.2. Persistence and degradability

Biodegradation:

Morpholine (CAS No. 110-91-8): Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

CAS No.	Substance name	Log K _{OC}	Bioconcentration factor (BCF)
107-21-1	ethane-1,2-diol	-1.36	
110-91-8	morpholine	-2.55	2.8

Bioconcentration factor (BCF):

The product has not been tested.

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
107-21-1	ethane-1,2-diol	—
110-91-8	morpholine	—

The product has not been tested.

12.6. Other adverse effects

No information available.

No special environmental measures are necessary.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product:

07 06 01 * aqueous washing liquids and mother liquors

*: Evidence for disposal must be provided.

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Waste code packaging:

15 01 10 * packaging containing residues of or contaminated by dangerous substances

*: Evidence for disposal must be provided.

Waste treatment options

Appropriate disposal / Product:

This material and its container must be disposed of as hazardous waste.

Appropriate disposal / Package:

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

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN-No.			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es)			
not relevant			
14.4. Packing group			
not relevant			
14.5. Environmental hazards			
not relevant			
14.6. Special precautions for user			
not relevant			

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

SECTION 15: Regulatory information

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

15.1.1. EU legislation

No data available

15.1.2. National regulations

 [DE] National regulations

Restrictions of occupation

22 JArbSchG. 4 MuSchRiV. 5 MuSchRiV.

Water hazard class (WGK)

WGK:

1 - schwach wassergefährdend

15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

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15.3. Additional information

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SECTION 16: Other information

16.1. Indication of changes

1.1.	Product identifier
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16.2. Abbreviations and acronyms

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

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

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)

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 level

NTP: National Toxicology Program

N/A: not applicable

OSHA: Concerning the International Transport of Dangerous Goods by Rail)

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

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

SARA: Superfund Amendments and Reauthorization Act

SVHC: substance of very high concern

TRGS Technische Regeln für Gefahrstoffe

TSCA: Toxic Substances Control Act

VOC: Volatile Organic Compounds

VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe

WGK: Wassergefährdungsklasse

16.3. Key literature references and sources for data

No data available

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
STOT-repeated exposure (STOT RE 2)	H373: May cause damage to organs through prolonged or repeated exposure. (...)	

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.

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Hazard statements

H318	Causes serious eye damage.
H331	Toxic if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure. (...)

16.6. Training advice

No data available

16.7. Additional 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.

* Data changed compared with the previous version