

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Polyethylene glycol (PEG) 4000 for synthesis

Revision date: 20.02.2024

Product code: 26306

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

1.1. Product identifier

Polyethylene glycol (PEG) 4000 for synthesis

CAS No: 25322-68-3

EC No: 500-038-2

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH

ACD

Street: Stempelstraße 6

Place: D-47167 Duisburg

Telephone: 0203/5194-0

Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit

Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de

Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is not classified as hazardous in accordance with Regulation (EC) No 1272/2008.

2.2. Label elements

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: HO(C₂H₄O)_nH

Molecular weight: 3.700 – 4.400 g/mol

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Relevant ingredients

| CAS No | Chemical name | Quantity |
|------------|---|----------|
| | EC No | |
| | Index No | |
| | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | |
| 25322-68-3 | Polyglycol | 100 % |

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 | |
| 25322-68-3 | | Polyglycol | 100 % |
| | | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg | |

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water.

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

Gastrointestinal complaints

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible solids

Danger of dust explosion.

Hazardous combustion products

In case of warming: Vapours are heavier than air, spread along floors and form explosive mixtures with air.

5.3. Advice for firefighters

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In case of fire: Wear self-contained breathing apparatus.
Avoid contact with skin, eyes and clothes.

Additional information

Use water spray jet to protect personnel and to cool endangered containers.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : 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

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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

Keep container tightly closed.
Do not breathe dust.
Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Danger of dust explosion.

Advice on general occupational hygiene

Wash contaminated clothing prior to re-use.
Avoid contact with skin, eyes and clothes.

Further information on handling

Wash contaminated clothing before reuse.
Wash hands before breaks and after work.

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Draw up and observe skin protection programme.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

storage temperature: +15°C - +25°C

Further information on storage conditions

Store in a dry place.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

| CAS No | Substance | Exposure route | Effect | Value |
|--------------------------|------------|----------------|----------|------------------------|
| 25322-68-3 | Polyglycol | | | |
| Consumer DNEL, long-term | | dermal | systemic | 40 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 40 mg/kg bw/day |
| Worker DNEL, long-term | | inhalation | systemic | 40,2 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 112 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 7,14 mg/m ³ |

PNEC values

| CAS No | Substance | Value |
|------------------------------------|------------|------------|
| 25322-68-3 | Polyglycol | |
| Freshwater | | 273 mg/l |
| Freshwater (intermittent releases) | | 1 mg/l |
| Marine water | | 27,3 mg/l |
| Freshwater sediment | | 1030 mg/kg |
| Marine sediment | | 103 mg/kg |
| Soil | | 46,4 mg/kg |

8.2. Exposure controls

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

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By short-term hand contact
Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.
Wash hands before breaks and after work.

Respiratory protection

Respiratory protection necessary at: dust formation

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---------------------------|
| Physical state: | solid |
| Colour: | whitish |
| Odour: | odourless |
| Odour threshold: | No data available |
| Melting point/freezing point: | 53-58 °C |
| Boiling point or initial boiling point and boiling range: | No data available |
| Flammability: | No data available |
| Lower explosion limits: | No data available |
| Upper explosion limits: | No data available |
| Flash point: | 240-270 °C |
| Auto-ignition temperature: | >320 °C |
| Decomposition temperature: | 360 °C |
| pH-Value (at 20 °C): | 5-7 (100 g/l) |
| Viscosity / kinematic: | No data available |
| Water solubility: (at 20 °C) | 500 g/L |
| Solubility in other solvents | No data available |
| Dissolution rate: | No data available |
| Partition coefficient n-octanol/water: | <-1 |
| Dispersion stability: | No data available |
| Vapour pressure: (at 20 °C) | <0,01 hPa |
| Vapour pressure: | No data available |
| Density: | 1,2 g/cm ³ |
| Relative density: | No data available |
| Bulk density: | 400-500 kg/m ³ |
| Relative vapour density: | No data available |
| Particle characteristics: | No data available |

9.2. Other information

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Information with regard to physical hazard classes

Explosive properties

In case of warming: Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Danger of dust explosion.

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

No data available

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

Temperaturklasse (EU gem. ATEX) T2

Maximal zulässige Oberflächentemperatur der Betriebsmittel: 300°C

SECTION 10: Stability and reactivity

10.1. Reactivity

In case of warming: Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Danger of dust explosion.

10.2. Chemical stability

Protect against: Humidity

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Heat

Humidity

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

No data available

Further information

No data available

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

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

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| CAS No | Chemical name | | | | |
|------------|----------------|-------------------|---------|---------------------|--------------------|
| | Exposure route | Dose | Species | Source | Method |
| 25322-68-3 | Polyglycol | | | | |
| | oral | LD50 > 2000 mg/kg | Rat | Study report (2014) | OECD Guideline 423 |
| | dermal | LD50 > 2000 mg/kg | Rat | Study report (2014) | OECD Guideline 402 |

Irritation and corrosivity

Based on available data, the classification criteria are not met. slightly irritant but not relevant for classification.

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.

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information

No data available

Further information

No data available

SECTION 12: Ecological information

12.1. Toxicity

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

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| CAS No | Chemical name | | | | | |
|------------|--------------------------|----------------------|-----------|-------------------------|----------------------------|------------------------------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 25322-68-3 | Polyglycol | | | | | |
| | Acute fish toxicity | LC50 > 100 mg/l | 96 h | Poecilia reticulata | REACH Registration Dossier | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 1000 mg/l | 96 h | Desmodesmus subspicatus | Other company data (2018) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 > 100 mg/l | 48 h | Daphnia magna | REACH Registration Dossier | OECD Guideline 202 |
| | Fish toxicity | NOEC 13671,5 86 mg/l | 28 d | Fish, 2: guppy fish | REACH Registration Dossier | other: Refer below principle |
| | Crustacea toxicity | NOEC 17475,2 7 mg/l | 21 d | Daphnia magna | REACH Registration Dossier | other: Modeling database |

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|------------|---------------|---------|
| 25322-68-3 | Polyglycol | 0,2 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|------------|---------------|-------|---------|----------------------|
| 25322-68-3 | Polyglycol | 3,162 | Fish | REACH Registration D |

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not empty into drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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SECTION 14: Transport information

Land transport (ADR/RID)

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

Inland waterways transport (ADN)

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

Marine transport (IMDG)

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

Air transport (ICAO-TI/IATA-DGR)

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

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

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

National regulatory information

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 12.

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 information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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