

SAFETY DATA SHEET

Polyethylene glycol 4000

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830

Date of issue : 2019-07-05
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Version : 1

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

1.1. Product identifier

Product name : Polyethylene glycol 4000
Chemical name : Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated
EC number : 500-038-2
CAS number : 25322-68-3
INCI Name : Not available/not applicable
REACH Registration number : Exempted from registration (REACH)
Other means of identification : PEG 4000
Chemical formula : (C2-H4-O)_{mult}-H2-O

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

Identified uses : Chemical intermediates
Uses advised against : Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Name : GLI-THERM Sp. z o.o.
Address : st. Rozwojowa 11, 44-338 Jastrzębie-Zdrój Poland
Regon : 242850136
NIP/Tax No : 6423178990
Telephone : +48 733 525 533
E-mail : sandra.stachowicz@gli-therm.eu
Website address : www.gli-therm.eu

1.4. Emergency telephone number

National advisory body/Poison Center:

Ireland : National Poisons Information Centre
Emergency number:
+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166
(public, 8am - 10pm, 7/7)

United Kingdom	:	National Poisons Information Service (Newcastle Centre) Emergency number: 0844 892 0111 (UK only, 24/7, healthcare professionals only)
Poland	:	Szpital Praski p.w. Przemienienia Pańskiego Sp. z o.o. Emergency number: +48 22 619 66 54 +48 22 619 08 97
Germany	:	Vergiftungs-Informations-Zentrale Freiburg Emergency number: +49 (0) 761 19240
24 Hour Emergency Telephone	:	+(44)-8708200418 CHEMTREC
Supplier		
Telephone number	:	+48 733 525 533

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Product definition : Mono-constituent substance

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

This substance does not meet the criteria for classification.

2.2. Label elements

Hazard pictograms : Not required.

Signal word : Not required.

Hazard statements : Not required.

Precautionary statements

Prevention : Not required.

Response : Not required.

Storage : Not required.

Disposal : Not required.

2.3. Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : According to the results of its assessment, this substance is not a PBT.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : According to the results of its assessment, this substance is not a vPvB.

Other hazards which do not result in classification : No data available.

SECTION 3: Composition/information on ingredients

3.1. Substance

Name of substance : Polyethylene glycol
Molecular formula : HO(C₂H₄O)_nH
Molar mass : 3,700 – 4,400 g/mol
CAS No : 25322-68-3

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes : Take off contaminated clothing.
Eye contact : Rinse cautiously with water for several minutes.
Inhalation : Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.
Skin contact : Rinse skin with water/shower.
Ingestion : Rinse mouth. Call a doctor if you feel unwell.

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

Gastrointestinal complaints, Diarrhoea, Nausea

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

Notes to physician : None
Specific treatments : No data available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : coordinate firefighting measures to the fire surroundings water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder.
Unsuitable extinguishing media : water jet.

5.2. Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Combustible.

Hazardous combustion products : In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No special measures are necessary.

6.2. Environmental precautions

Keep away from drains, surface and ground water.

6.3. Methods and materials for containment and cleaning up

Advice on how to contain a spill : Covering of drains. Take up mechanically.

Advice on how to clean up a spill : Take up mechanically.

Other information relating to spills and releases : Place in appropriate containers for disposal.

6.4. Reference to other sections

See Section 1 for emergency contact information.

See Section 7 for information on safe handling.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1. Precautions for safe handling

Protective measures : No special measures are necessary.

Advice on general occupational hygiene : Keep away from food, drink and animal feedingstuffs.

7.2. Conditions for safe storage, including any incompatibilities.

Requirements for storage rooms and tanks	:	Store in a dry place. Protect from sunlight.
Information on joint storage	:	Observe hints for combined storage.
Other information on storage conditions	:	Recommended storage temperature: 15 – 25 °C

7.3. Specific end use(s)

Recommendations	:	No information available.
Industrial sector specific solutions	:	No information available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance.

8.1. Control parameters

National limit values Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	40.2 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	112 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Environmental values

Relevant PNECs and other threshold levels				
End-point	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.273 g/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	27.3 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	1,030 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	103 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	46.4 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2. Exposure controls

Individual protection measures

- Hygiene measures** : Keep away from food, drink and animal feedingstuffs.
- Eye/face protection** : Use safety goggles with side protection.
- Hand protection** : Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.
type of material : NBR (Nitrile rubber)
material thickness : >0,11 mm
breakthrough times of the glove material : >480 minutes (permeation: level 6)
- Body protection** :
- Other skin protection** : Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.
- Respiratory protection** : Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).
- Environmental exposure controls** : Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : solid
- Form : acc. to product description
- Color : white
- Odor : odourless
- pH : 5 – 7 (in aqueous solution: 100 g /l , 20 °C) (DIN 19268)
- Initial boiling point and boiling range : not determined
- Melting point/freezing point : 53 – 58 °C
- Flash point : 240 – 270 °C (DIN 51376)
- Evaporation rate :
- Flammability : this material is combustible, but will not ignite readily
- Upper/lower flammability or explosive limits : not determined
- Vapor pressure : <0.01 hPa at 20 °C
- Vapor density :
- Density : 1.2 g /cm³ at 20 °C
- Bulk density : 400 – 500 kg/m³
- Solubility in water at : 500 g /l at 20 °C
- Partition coefficient: n-octanol/water (log value) : <-1 (calculated value)

Soil organic carbon/water (log KOC)	:	1.857 (ECHA)
Auto-ignition temperature	:	not determined
Decomposition temperature	:	360 °C
Kinematic viscosity	:	not relevant

9.2. Other information

Oxidizing properties	:	none
Additional information	:	There is no additional information.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.2. Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3. Possibility of hazardous reactions

Violent reaction with: strong oxidiser

10.4. Conditions to avoid

Keep away from heat. Decomposition takes place from temperatures above: 360 °C.

10.5. Incompatible materials

There is no additional information.

10.6. Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Classification acc. to GHS

This substance does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

Oral	:	LD50 >2,000 mg/kg (Rat) Source ECHA
Skin	:	LD50 >2,000 mg/kg (Rat) Source ECHA

Skin corrosion/irritation : Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation : Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation : Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity : Shall not be classified as germ cell mutagenic.

Carcinogenic : Shall not be classified as carcinogenic.

Reproductive toxicity	:	Shall not be classified as a reproductive toxicant.
Specific target organ toxicity - single exposure	:	Shall not be classified as a specific target organ toxicant (single exposure).
Specific target organ toxicity - repeated exposure	:	Shall not be classified as a specific target organ toxicant (repeated exposure).
Aspiration hazard	:	Shall not be classified as presenting an aspiration hazard.
Symptoms related to the physical, chemical and toxicological characteristics		
If swallowed	:	diarrhoea, nausea, gastrointestinal complaints.
If in eyes	:	essentially non-irritating.
If inhaled	:	Inhalation of dust may cause irritation of the respiratory system.
If on skin	:	essentially non-irritating.
Other information	:	none.

11.2 Endocrine disrupting properties

Not listed.

SECTION 12: Ecological information

12.1. Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)			
Endpoint	Result	Species	Exposure
LC50	>100 mg/l	fish	96 h
EC50	>100 mg/l	aquatic invertebrates	48 h

Biodegradation.

The substance is readily biodegradable.

12.2 Persistence and degradability

Process of degradability		
Process	Degradation rate	Time
oxygen depletion	74.85 %	28 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) : <-1 (Calculated value)

BCF : 3.162 (ECHA)

12.4 Mobility in soil

The Organic Carbon normalized adsorption coefficient : 1.857 (ECHA)

12.5 Results of PBT and vPvB assessment

PBT : According to the results of its assessment, this substance is not a PBT

vPvB : According to the results of its assessment, this substance is not a vPvB.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Consult the appropriate local waste disposal expert about waste disposal.

Sewage disposal-relevant information.

Do not empty into drains.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1. UN Number	not subject to transport regulations	not subject to transport regulations	not subject to transport regulations
14.2. UN Proper Shipping Name	not assigned	not assigned	not assigned
14.3. Transport Hazard Class(es)	not assigned	not assigned	not assigned
14.4. Packing Group	not assigned	not assigned	not assigned
14.5. Environmental Hazards	non-environmentally hazardous acc. to the dangerous goods regulations		
14.6. Special Precautions for users	There is no additional information.		

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

not listed

List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

Not listed.

Seveso Directive 2012/18/EU (Seveso III)

Dangerous substance/hazard categories -not assigned

Deco-Paint Directive (2004/42/EC)

VOC content - 0 %; 0 g/l

Directive on industrial emissions (VOCs, 2010/75/EU)

VOC content - 0 %; 0 g/l

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Water Framework Directive (WFD)

not listed

Regulation 98/2013/EU on the marketing and use of explosives precursors

not listed

Regulation 111/2005/EC laying down rules for the monitoring of trade between the Community and third countries in drug precursors

not listed

Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

not listed

Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)

not listed

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

The data is confirmed based on the state of our knowledge, but does not determine how the production properties and cannot be used to justify legally binding contracts.

Abbreviations; acronyms and full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H290	:	May be corrosive to metals.
H300	:	Fatal if swallowed
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H310	:	Fatal in contact with skin
H312	:	Harmful in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.

H319	: Causes serious eye irritation.
H330	: Fatal if inhaled
H331	: Toxic if inhaled.
H332	: Harmful if inhaled.
H334	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness
H341	: Suspected of causing genetic defects.
H350i	: May cause cancer by inhalation.
H360D	: May damage the unborn child.
H361d	: Suspected of damaging the unborn child.
H372	: Causes damage to organs through prolonged or repeated exposure.
H373	: May cause damage to organs through prolonged or repeated exposure.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects
H412	: Harmful to aquatic life with long lasting effects.
Met. Corr. 1	: Corrosive to metals, Category 1
Repr. 2	: Reproductive toxicity, Category 2
Acute Tox. 4	: Acute toxicity, Category 4
Aquatic Chronic 2	: Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	: Hazardous to the aquatic environment, chronic, Category 3
Eye Irrit. 2,	: SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Eye Dam. 1,	: SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Skin Corr. 1A	: Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	: Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2,	: SKIN CORROSION/IRRITATION - Category 2
STOT RE 2	: Specific target organ toxicity - repeated exposure, Category 2
STOT SE 3	: Specific target organ toxicity - single exposure, Category 3
NDS	: The highest acceptable concentration
NDSch	: Highest Permissible Temporary Concentration
NDSP	: Maximum Allowable Ceiling Concentration
REACH	: Registration, Evaluation, Authorisation and Restriction of Chemical
MARPOL	: (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships
N/A	: Not applicable
N/D	: Not determined
NE	: Not established
VOC	: Volatile Organic Compound
AICS	: Australian Inventory of Chemical Substances
AIHA WEEL	: American Industrial Hygiene Association Workplace Environmental Exposure Limits
DSL	: Domestic Substance List (Canada)
ELINCS	: European List of Notified Chemical Substances
ENCs	: Existing and new Chemical Substances (Japanese inventory)
IECSC	: Inventory of Existing Chemical Substances in China
KECI	: Korean Existing Chemicals Inventory

NDSL	:	Non-Domestic Substances List (Canada)
NZIoC	:	New Zealand Inventory of Chemicals
PICCS	:	Philippine Inventory of Chemicals and Chemical Substances
TLV	:	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	:	Toxic Substances Control Act (U.S. inventory)
UVCB	:	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
IBC Code	:	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
UN	:	United Nations (also UNO: United Nations Organization)
NOEC	:	No Observed Effect Concentration
NOELR	:	No Observable Effect Loading Rate
OECD	:	Organization for Economic Co-operation and Development
ASTM	:	American Society for Testing and Materials
WAF	:	Water Accommodated Fraction
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
EINECS	:	European Inventory of Existing Commercial Chemical Substances
CAS	:	Chemical Abstracts Service (division of the American Chemical Society)
DNEL	:	Derived No-Effect Level (REACH)
PNEC	:	Predicted No-Effect Concentration (REACH)
LC	:	Lethal Concentration
LD	:	Lethal Dose
LL	:	Lethal Loading
EC	:	Effective Concentration
EL	:	Effective Loading
LC50	:	Lethal concentration, 50 percent
LD50	:	Lethal dose, 50 percent
EC50	:	The concentration of the test substance that causes 50% change in response (e.g. to growth) over a specified time period
PBT	:	Persistent, Bioaccumulative and Toxic
vPvB	:	very Persistent and very Bioaccumulative
Acute Tox, 4	:	Acute toxicity - Category 4
Notice to reader	:	The information contained herein is accurate to the latest knowledge and describes the product from the point of view of health and environmental protection as well as safe handling. The information presented in this SDS refers to the technical product only and will not apply to any processed product. Final determination of the suitability of any materials for the chosen application(s) is the sole responsibility of the user"