SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Trade name: **PROPYLENE GLYCOL**
Synonym: 1,2-Propanediol; Monopropyleneglycol; 1,2-Dihydroxypropane; Propane-1,2-diol
Index No: –
CAS No: 57-55-6
EC No: 200-338-0
REACH No: 01-2119456809-23-XXXX

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

Recommended use: Used as a raw material in the technical industries.

It is used to produce antifreeze, heat exchanger resin and diol derivatives, as well as solvent, plasticizer and wetting agent.

1.3. Details of the supplier of the safety data sheet

Company:
GLI-THERM Sp. z o.o.
ul. Rozwojowa 11, 44-338 Jastrzębie-Zdrój, Poland
Tel.: +48 32 47 87 753
info@glitherm.eu
www.glitherm.eu

1.4. Emergency telephone number: 112 (general emergency number), 998 (fire department), 999 (medical emergency)

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

This product is classified as not hazardous according to regulation (EC) No 1272/2008 (CLP).

Product classification:
None.

Physical and chemical hazards:
- none.

Human health hazards:
- none.

Environmental hazards:
- none

2.2. Label elements

Hazard pictograms: –

Signal Word: None.

H Phrases:
None.

P Phrases:
None.

Contents: Propylene glycol. EC No: 200-338-0, CAS No: 57-55-6

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB at concentration equal to or greater than 0,1% by weight.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Propylene glycol; Propane-1,2-diol
Index No: – CAS No: 57-55-6 EC No: 200-338-0
REACH No: 01-2119456809-23-XXXX

This substance is not classified as dangerous. This issubstance for which there are Community workplace exposure limits.

3.2. Mixtures

Not applicable.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

In case of Inhalation:
- remove victim to open air, keep person warm and calm
- keep at rest in a position comfortable for breathing
- in case of accident or unwellness, consult a doctor immediately and show him packing or label.

In case of skin contact:
- immediately take off all contaminated clothing
- immediately wash with plenty of soap and water
- if irritation persists, obtain immediate medical attention.

In case of eyes contact:
- remove contact lenses, if present
- irrigate copiously with clean, fresh water at least 15 minutes, occasionally lifting the upper and lower eyelids
- if irritation persists, obtain immediate medical attention.

In case of Ingestion:
- rinse mouth thoroughly with water, if material has been swallowed and the exposed person is conscious, give plenty of water to drink
- induce vomiting only if indicated by the doctor
- give nothing by mouth to an unconscious person
- get medical attention if any discomfort continues, show this safety data sheet to the medical personnel.

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

See section 11.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media
- suitable extinguishing media: chemical powders, alcohol resistant foam, CO2, nebulized water
- extinguishing media which must not be used for safety reasons: water jet

5.2. Special hazards arising from the substance or mixture
- do not inhale explosion and combustion gases
- burning produces heavy smoke (CO, CO_2, carbonyl compounds, dioxolane derivatives, other poisonous gases)
- cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk
- cool containers exposed to flames with water until well after the fire is out.

5.3. Advice for firefighters
- use suitable breathing apparatus
- collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
- wear personal protection equipment
- remove all sources of ignition
- evacuate area; inform the responsible authorities
- wear breathing apparatus if exposed to vapours/dusts/aerosols
- provide adequate ventilation; do not eat or drink while working
- use appropriate respiratory protection
- cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.

6.2. Environmental precautions
- do not allow to enter into soil/subsoil; do not allow to enter into surface water or drains
- retain contaminated washing water and dispose it
- in case entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up
- stop leak if without risk
- immediately remove the product using appropriate personal protective equipment

- contain and collect spillage with non-combustible, absorbent material e.g. sand, earth
- retain contaminated washing water and dispose it
- contaminated absorbent material may pose the same hazard as the spilled product
- eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage
- retain contaminated washing water and dispose it
- flush contaminated area with plenty of water.

6.4. Reference to other sections

See also section 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

- wear personal protection equipment (protective gloves, protective clothing)
- keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
- use localized ventilation system
- avoid the accumulation of electrostatic charges
- do not eat or drink while working
- avoid breathing vapor, avoid contact with eyes and skin
- do not smoke, do not use matches or lighters.

7.2. Conditions for safe storage, including any incompatibilities

- always keep the containers tightly closed, in a dry, cool and well-ventilated place
- keep only in the original container
- keep containers upright
- keep away from food, drink and feed, keep out of reach of children
- keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
- cool and adequately ventilated
- protect against moisture
- do not store with incompatible substances (see section 10).

7.3. Specific end use(s)

See section 1.2.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:

Propane-1,2-diol:

OEL TWA: 10 mg/m^3

DNEL - Propane-1,2-diol:

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Long-term systemic effects	168 mg/m^3
Workers	Inhalation	Long-term local effects	10 mg/m^3
Consumers	Inhalation	Long-term systemic effects	50 mg/m^3
Consumers	Inhalation	Long-term local effects	10 mg/m^3
Consumers	Skin	Long-term systemic effects	213 mg/kg BW/d
Consumers	Oral	Long-term systemic effects	85 mg/kg BW/d

PNEC - Propane-1,2-diol:

Compartment	Value
Fresh water	260 mg/l
Marine water	26 mg/l
Aquatic intermittent release	183 mg/l
Fresh water sediment	572 mg/kg
Marine water sediment	57.2 mg/kg
Soil	50 mg/kg
Sewage treatment plant	20 000 mg/l

8.2. Exposure controls

Eye protection:

- use close fitting safety goggles, masks suitable for the product.

Protection for skin and hands:

- wear protective gloves, protective clothing, protective shoes.
  Wear protective nitrile rubber gloves (thickness 0.4 mm), chloroprene rubber gloves (thickness 0.5 mm), PCV gloves (thickness 0.7 mm) - breakthrough time >480 minutes. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves

Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Respiratory protection:

- use adequate protective respiratory equipment
- good ventilation is essential when handling this material – do not breathe vapour
- in case of mist or spray exposure wear suitable personal respiratory protection (breathing mask with P2 or FFP2 filter) and protective suit.

Thermal Hazards:

None.

Environmental exposure controls:

- do not allow to enter into soil/subsoil; 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

(a) Physical state:	liquid
(b) Colour:	colourless
(c) Odour:	N.A.
(d) Melting point/freezing point:	-59 ºC
e) Boiling point or initial boiling point and boiling range:	184 ºC
(f) Flammability:	N.A.
(g) Lower and upper explosion limit:	irrelevant; the lower explosion limit may be 5 °C to 15 °C below the flash point
(h) Flash point:	104 °C
(i) Auto-ignition temperature:	N.A.
(j) Decomposition temperature:	N.A.
(k) pH:	4-7 (20 °C)
(l) Kinematic viscosity:	Not available
(m) Solubility:	miscible with water (20 °C)
(n) Partition coefficient n-octanol/water (log value):	-1.07 (20,5 °C, pH: 6.2-6.4)
(o) Vapour pressure:	0.2 hPa (25 ºC)
(p) Density and/or relative density:	1.03 g/cm^3
q) Relative vapour density:	N.A.
(r) Particle characteristics:	Not applicable

9.2. Other information

Dynamic viscosity: 43.428 mPa*s (25 °C)
Surface tension: 71.6 mN/m (21.5 °C; 1.01 g/l)

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

N.A.

10.4. Conditions to avoid

- keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight. Avoid temp. above 40 °C.
- avoid accumulating electrostatic charge
- avoid contact with moisture.

10.5. Incompatible materials

- zinc
- strong oxidizing agents.

10.6. Hazardous decomposition products

None. See section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

a) Acute toxicity:

Propylene glycol:
Oral: Rat LD_{50} 22000 mg/kg
Skin: Rabbit LD_{50} > 2000 mg/kg
Inhalation: Rabbit LC_{50} > 317042 mg/m^3/2h

b) Skin corrosion/irritation:
N.A.
c) Serious eye damage/irritation:
N.A.
d) Respiratory or skin sensitization:
N.A.
e) Germ cell mutagenicity:
N.A.
f) Carcinogenicity:
N.A.
g) Reproductive toxicity:
N.A.
h) STOT-single exposure:
N.A.
i) STOT-repeated exposure:
N.A.
j) Aspiration hazard:
N.A.

11.2. Information on other hazards:
None.

SECTION 12. ECOLOGICAL INFORMATION

Adopt good working practices, so that the product is not released into the environment. Prevent product entering water courses, sewers and prevent penetration of the product into the earth.

12.1. Toxicity:
Propane-1,2-diol:
LC_{50}: 40613 mg/l - toxicity to fish Oncorhynchus mykiss, 96h
EC_{50}: 18800 mg/l - toxicity to invertebrates Mysidopsis bahia, 48h
EC_{50}: 24200 mg/l - toxicity to aquatic plants Selenastrum capricornutum, 72h
EC_0: > 20000 mg/l - toxicity to microorganisms (activated sludge) Pseudomonas putida, 18h
NOEC: 13020 mg/l - toxicity to invertebrates Ceriodaphnia sp., 7d

12.2. Persistence and degradability:
Propane-1,2-diol is easily biodegradable and completely decomposes.

12.3. Bioaccumulative potential:
Not bioaccumulative.

12.4. Mobility in soil:
It does not adsorb in the solid phase of the soil.

12.5. Results of PBT and vPvB assessment:
vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting properties:
Information not available.

12.7. Other adverse effects:
Information not available.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods:
Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14. TRANSPORT INFORMATION

14.1.	**UN number or ID number:**	N.A.
14.2.	**UN proper shipping name:**	N.A.
14.3.	**Transport hazard class(es):**	N.A.
14.4.	**Packing group:**	N.A.

14.5. Environmental hazards: N.A.

14.6. Special precautions for user: N.A.

14.7. Maritime transport in bulk according to IMO instruments: N.A.

SECTION 15. REGULATORY INFORMATION

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

1. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing
2. REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC
3. COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

15.2. Chemical safety assessment

No.

SECTION 16. OTHER INFORMATION

This document was prepared by a competent person who has received appropriate training. This safety data sheet has been prepared on the basis of data provided by the manufacturer.

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This document must not be regarded as a guarantee on any specific product property

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CLP: Classification, Labeling, Packaging.
DNEL: Derived No Effect Level.
EINECS: European Inventory of Existing Commercial Chemical Substances.
IMDG: International Maritime Code for Dangerous Goods.
EC_{50}: Half maximal effective concentration
LC_{50}: Lethal concentration, for 50 percent of test population.
LD_{50}: Lethal dose, for 50 percent of test population.
STOT: Specific Target Organ Toxicity.
TLV TWA: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard)

Full text of phrases referred to in Section 3:
Not applicable.

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