

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

MONOPROPYLENE GLYCOL (ALL GRADES)

Version 4.4

Print Date 2021/08/31

Revision date / valid from 2021/08/31

MSDS code: MMPG001

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name : MONOPROPYLENE GLYCOL (ALL GRADES)
Substance name : Propane-1,2-diol
CAS-No. : 57-55-6
EC-No. : 200-338-0
EU REACH-Reg. No. : 01-2119456809-23-xxxx

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

Use of the Substance/Mixture : Raw material, Rubber products, Binder, deicing/antifreeze, cleaning agent
Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK Limited
Alpha House, Lawnswood Business Park
GB LS16 6QY Leeds
Telephone : +44 (0) 113 3879 200
Telefax : +44 (0) 113 3879 280
E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone number

Emergency telephone number : Emergency only telephone number (open 24 hours):
+44 (0) 1865 407333 (N.C.E.C. Culham)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation S.I. 2019/720 (GB CLP)**

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008.

Most important adverse effects

Human Health : According to our experience and to the information provided to us, the product does not have any harmful effects if it is used and handled as specified.

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Physical and chemical hazards : Strong heating may produce combustible vapours which can form explosive mixture with air.

Potential environmental effects : According to available data, this product is not harmful to the environment.

2.2. Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008.

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

SECTION 3: Composition/information on ingredients**3.1. Substances**

Remarks : No dangerous ingredients according to Regulation (EC) No. 1907/2006

Non-hazardous component

Chemical name	Identification Number	Amount [%]
Propane-1,2-diol	CAS-No. : 57-55-6 EC-No. 200-338-0 REACH-Reg. No. 01-2119456809-23-xxxx	<= 100

SECTION 4: First aid measures**4.1. Description of first aid measures**

General advice : No special precautions required.

If inhaled : Move to fresh air. If symptoms persist, call a physician.

In case of skin contact : Wash off with plenty of water. Remove contaminated clothing and shoes. If irritation persists, call a physician.

In case of eye contact : Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If eye irritation persists, consult a specialist.

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If swallowed : Rinse mouth with water. Do NOT induce vomiting. Obtain medical attention.

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

Symptoms : See Section 11 for more detailed information on health effects and symptoms.

Effects : See Section 11 for more detailed information on health effects and symptoms.

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

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet, Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : Heating or fire can release toxic gas.

Hazardous combustion products : Carbon monoxide, Carbon dioxide (CO₂)

5.3. Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear personal protective equipment.

Further advice : Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions : Wear personal protective equipment. For personal protection see section 8. Move out of dangerous area. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions

Environmental precautions : The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and materials for containment and cleaning up

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Methods and materials for containment and cleaning up : Stop the leakage if it can be done without danger. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling : Keep container tightly closed. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

Hygiene measures : Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep only in the original container. Solvent vapours are heavier than air and may spread along floors. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.

Advice on protection against fire and explosion : Normal measures for preventive fire protection. Keep away from heat and sources of ignition. Vapours are heavier than air and may spread along floors. Use explosion-proof equipment.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep away from direct sunlight.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Incompatible with oxidizing agents. Reducing agents strong acids Never allow product to get in contact with water during storage.

Storage temperature : 18 - 32 °C

Suitable packaging materials : Stainless steel, Carbon steel, aluminium, steel with plastic inner lining

7.3. Specific end use(s)

Specific use(s) : No information available.

MONOPROPYLENE GLYCOL (ALL GRADES)**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

Component:	Propane-1,2-diol	CAS-No. 57-55-6
Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)		

DNEL

Workers, Long-term - systemic effects, Inhalation : 168 mg/m³

DNEL

Workers, Long-term - local effects, Inhalation : 10 mg/m³

DNEL

Consumers, Long-term - systemic effects, Skin contact : 213 mg/kg bw/day

DNEL

Consumers, Long-term - systemic effects, Inhalation : 50 mg/m³

DNEL

Consumers, Long-term - systemic effects, Ingestion : 85 mg/kg bw/day

DNEL

Consumers, Long-term - local effects, Inhalation : 10 mg/m³**Predicted No Effect Concentration (PNEC)**

Fresh water : 260 mg/l

Marine water : 26 mg/l

Intermittent releases
extrapolated : 183 mg/l

Fresh water sediment : 572 mg/kg d.w.

Marine sediment : 57.2 mg/kg d.w.

Soil : 50 mg/kg d.w.

Sewage treatment plant (STP)
extrapolated : 2000 mg/lSecondary poisoning
extrapolated : 1133 mg/kg

MONOPROPYLENE GLYCOL (ALL GRADES)**Other Occupational Exposure Limit Values**

UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA):, Particulate.
10 mg/m³

UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA):, Total vapour and particulates.
150 ppm, 474 mg/m³

ELV (IE), Time Weighted Average (TWA):, Particulate.
10 mg/m³

ELV (IE), Time Weighted Average (TWA):, Total vapour and particulates.
150 ppm, 470 mg/m³

8.2. Exposure controls**Appropriate engineering controls**

Refer to protective measures listed in sections 7 and 8.

Provide sufficient air exchange and/or exhaust in work rooms.
Provide exhaust ventilation close to floor level.

Personal protective equipment*Respiratory protection*

Advice : In case of insufficient ventilation, wear suitable respiratory equipment.
Required, if exposure limit is exceeded (e.g. OEL).

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Protective gloves should be replaced at first signs of wear.
The following materials are suitable:
butyl-rubber
natural rubber
polyethylene
PVC
Laminate of polyethylene and ethylene vinyl alcohol (PE/EVOH)

Eye protection

Advice : Safety glasses

MONOPROPYLENE GLYCOL (ALL GRADES)*Skin and body protection*

Advice : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Wear appropriate chemical resistant clothing and boots.

Environmental exposure controls

General advice : The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Form	: liquid
Colour	: colourless clear
Odour	: odourless
Odour Threshold	: no data available
pH	: 6.5 - 7.5 (50 %)
Melting point/range	: -60 °C
Boiling point/boiling range	: ca. 180 °C (1013.25 hPa)
Flash point	: ca. 109 °C (closed cup)
Evaporation rate	: < 0.1 (Butyl Acetate = 1)
Flammability (solid, gas)	: no data available
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: ca. 0.1 hPa (20 °C)
Relative vapour density	: ca. 2 (15 - 20 °C) (Air = 1.0)
Density	: 1.04 g/cm ³ (25 °C)
Water solubility	: completely soluble
Solubility in other solvents	: (Ethanol) soluble (Acetone) soluble 120 g/l (Ether)

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Partition coefficient: n-octanol/water : no data available

Auto-ignition temperature : > 400 °C

Thermal decomposition : no data available

Viscosity, dynamic : 43.4 mPa.s (25 °C)

Explosivity : no data available

Oxidizing properties : no data available

9.2. Other information

No further information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Advice : No decomposition if stored and applied as directed.

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Conditions to avoid : Avoid moisture.Exposure to sunlight.Avoid high temperatures.

10.5. Incompatible materials

Materials to avoid : Oxidizing agents, Reducing agents, Strong acids, Water

10.6. Hazardous decomposition products

Hazardous decomposition products : Carbon oxides

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Data for the product****Acute toxicity****Oral**

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Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Inhalation

Inhalation of high concentration may cause mechanical overstraining of mucous membranes.

Component:	Propane-1,2-diol	CAS-No. 57-55-6
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Acute toxicity**Oral**

LD50 Oral : 22000 mg/kg (Rat, male and female)

Inhalation

LC50 : > 317042 mg/l (Rabbit; 2 h; dust/mist)

Inhalation

LC50 : > 317042 mg/l (Rabbit; 2 h; dust/mist)

Dermal

LD50 Dermal : > 2000 mg/kg (Rabbit)

Irritation**Skin**

Result : No skin irritation (Rabbit) (OECD Test Guideline 404)

Eyes

Result : No eye irritation (Rabbit) (OECD Test Guideline 405)

Sensitisation

Result : Does not cause skin sensitisation. (Maximisation Test; Guinea pig) (OECD Test Guideline 406)

CMR effects**CMR Properties**

Carcinogenicity : Animal testing did not show any carcinogenic effects.

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Mutagenicity	:	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects
Teratogenicity	:	No indication of toxic effects on reproduction were observed in animal tests.
Reproductive toxicity	:	Animal testing did not show any effects on fertility.

Specific Target Organ Toxicity**Single exposure**

Remarks	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.
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Repeated exposure

Remarks	:	In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.
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Other toxic properties**Aspiration hazard**

No aspiration toxicity classification,

SECTION 12: Ecological information**12.1. Toxicity****Data for the product****Acute toxicity****Toxicity to daphnia and other aquatic invertebrates**

EC50	:	43,500 mg/l (Daphnia (water flea); 48 h) (Toxicity to daphnia)
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Component:	Propane-1,2-diol	CAS-No. 57-55-6
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Acute toxicity**Fish**

LC50	:	40,613 mg/l (Oncorhynchus mykiss (rainbow trout); 96 h) (static test; OECD Test Guideline 203)
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Toxicity to daphnia and other aquatic invertebrates

LC50	:	18,340 mg/l (Ceriodaphnia dubia (water flea); 48 h) (static test; OECD Test Guideline 202)
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MONOPROPYLENE GLYCOL (ALL GRADES)**algae**

ErC50 : 19000 mg/l (Pseudokirchneriella subcapitata (green algae); 96 h)
(static test; End point: Growth rate; OECD Test Guideline 201)

Bacteria

NOEC : > 20000 mg/l (Pseudomonas putida; 18 h)

Chronic toxicity**Aquatic invertebrates**

NOEC 13020 mg/l (Ceriodaphnia dubia (water flea); 7 d) (semi-static test;
End point: Reproduction)

12.2. Persistence and degradability**Data for the product****Persistence and degradability****Biodegradability**

Result : 81.7 % (Exposure Time: 28 d)(OECD Test Guideline 301F)Readily biodegradable

Component: **Propane-1,2-diol** **CAS-No. 57-55-6**

Persistence and degradability**Persistence**

Result : no data available

Biodegradability

Result : 81 % (anaerobic; Exposure Time: 28 d)(OECD Test Guideline 301F)Readily biodegradable.The 10 day time window criterion is fulfilled.

Result : 96 % (Exposure Time: 64 d)(OECD Test Guideline 306)

12.3. Bioaccumulative potential

Component: **Propane-1,2-diol** **CAS-No. 57-55-6**

Bioaccumulation

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Result : log Kow -1.07 (20.5 °C) (OECD Test Guideline 107)
 : BCF: 0.09; The product has low potential bioaccumulation.

12.4. Mobility in soil**Data for the product****Mobility**

Soil : low

Component: Propane-1,2-diol

CAS-No. 57-55-6

Mobility

Air : The substance is distributed mainly to the compartments water and soil .
 Soil : Highly mobile in soils

12.5. Results of PBT and vPvB assessment**Data for the product****Results of PBT and vPvB assessment**

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

Component: Propane-1,2-diol

CAS-No. 57-55-6

Results of PBT and vPvB assessment

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6. Other adverse effects**Data for the product****Additional ecological information**

Result : The product is mobile in water environment.
 This product has no known ecotoxicological effects.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains.

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- Contaminated packaging : Dispose of contaminated packaging in the same way as the product. In accordance with local and national regulations.
- European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Component:	Propane-1,2-diol	CAS-No. 57-55-6
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EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325) : EC Number: , 200-338-0; Listed

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EU. Directive : ; The substance/mixture does not fall under this legislation.
2012/18/EU (SEVESO
III) Annex I

AwSV (DE) : WGK 1: slightly hazardous to water: 280

15.2. Chemical safety assessment

no data available

SECTION 16: Other information**Abbreviations and Acronyms**

BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
PBT	persistent, bioaccumulative and toxic
REACH Auth. No.:	REACH Authorisation Number

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REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
PNEC	predicted no-effect concentration
STOT	specific target organ toxicity
SVHC	substance of very high concern
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
vPvB	very persistent and very bioaccumulative

Further information

Key literature references and sources for data	:	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
Methods used for product classification	:	The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
Hints for trainings	:	The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
Other information	:	The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.