

SAFETY DATA SHEET
MONOPROPYLENE GLYCOL

Revision Date: 08/09/2022

Revision No: 2

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

1.1. Product identifier

Product name	MONOPROPYLENE GLYCOL
Chemical name	PROPANE-1,2-DIOL
Product number	
Synonyms; trade names	PROPAN-1,2,-DIOL, MPG, 1,2,-DIHYDROXYPROPANE
REACH registration number	01-2119456809-23-XXXX
CAS number	57-55-6
EC number	200-338-0

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

Identified uses	Manufacture of substance Distribution of substance Formulation & (re)packing of substances and mixtures Uses in coatings Uses in cleaning agents Lubricants Metal working fluids / rolling oils Use as binders and release agents Use as a functional fluid Laboratory agents Water treatment chemicals Agrochemical uses Mining chemicals Other consumer uses De-icing and anti-icing applications Rubber production and processing Polymer processing Use as an intermediate
Uses advised against	This product is not recommended for any industrial, professional or consumer uses other than those identified above.

1.3. Details of the supplier of the safety data sheet

Supplier	Vet Way Ltd Airfield Business Park Elvington York YO41 4EA
Tel	+44 (0) 1904 607 600
Email	info@vet-way.com
Website	www.vet-way.com

1.4. Emergency telephone number

Emergency telephone	+44 (0) 1904 607 600
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Not Classified
Environmental hazards	Not Classified

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Classification (67/548/EEC or 1999/45/EC) -

Human health	Not classified as a health hazard according to CLP criteria
Environmental	Not considered as an environmental hazard according to CLP criteria
Physicochemical	Not considered as a physical hazard under CLP criteria

2.2. Label elements

EC number	200-338-0
Hazard statements	NC Not Classified

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	MONOPROPYLENE GLYCOL
Chemical name	PROPANE-1,2-DIOL
REACH registration number	01-2119456809-23-XXXX
CAS number	57-55-6
EC number	200-338-0
Chemical formula	C3H8O2

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Consult a physician for specific advice.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	If adverse symptoms develop as described the casualty should be transferred to hospital as soon as possible.
Inhalation	Vapours may cause headache, fatigue, dizziness and nausea. Spray/mists may cause respiratory tract irritation.

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Ingestion	Gastrointestinal symptoms, including upset stomach. May cause stomach pain or vomiting. Diarrhoea. May cause nausea, headache, dizziness and intoxication.
Skin contact	Prolonged contact may cause redness, irritation and dry skin.
Eye contact	Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

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

Notes for the doctor	No specific recommendations. If in doubt, get medical attention promptly.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire. Nonalcohol resistant foam

5.2. Special hazards arising from the substance or mixture

Specific hazards	Although not classed as flammable this product is combustible. May ignite at high temperature. Closed containers can burst violently when heated, due to excess pressure build-up. When sprayed on a naked flame or any incandescent material the aerosol vapours can be ignited. Solvent vapours may form explosive mixtures with air.
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Hazardous combustion products	Oxides of carbon. Acrid smoke or fumes.
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5.3. Advice for firefighters

Protective actions during firefighting	Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Fight advanced or massive fires from safe distance or protected location. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
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Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Use protective equipment appropriate for surrounding materials.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. If ventilation is inadequate, suitable respiratory protection must be worn. Take care as floors and other surfaces may become slippery. Follow precautions for safe handling described in this safety data sheet. For personal protection, see Section 8.
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6.2. Environmental precautions

Environmental precautions	Environmental Manager must be informed of all major spillages. Do not discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

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Methods for cleaning up Stop leak if possible without risk. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Avoid the spillage or runoff entering drains, sewers or watercourses. Take care as floors and other surfaces may become slippery. Contain spillage with sand, earth or other suitable non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. Collect and dispose of spillage as indicated in Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Keep away from heat, sparks and open flame. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours and spray/mists. Use only in well-ventilated areas. Use suitable respiratory protection if ventilation is inadequate.

Advice on general occupational hygiene Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Clean equipment and the work area every day. Contaminated clothing should be placed in a closed container for disposal or decontamination.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from oxidising materials, heat and flames. Store in tightly-closed, original container in a well-ventilated place. Bund storage facilities to prevent soil and water pollution in the event of spillage. Storage tanks and other containers must be earthed. Keep away from food, drink and animal feeding stuffs. Only store in correctly labelled containers. Suitable container materials: Carbon steel. Mild steel. Stainless steel. Aluminium. Do not use containers made of the following materials: Zinc. May attack some plastics, rubber and coatings.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 150 ppm 475 mg/m³ total vapour and particulates

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ particulate

WEL = Workplace Exposure Limit

DNEL

Industry - Inhalation; Long term systemic effects: 168 mg/m³

Consumer - Inhalation; Long term systemic effects: 50 mg/m³

Consumer - Dermal; Long term systemic effects: 213 mg/kg

Consumer - Oral; Long term systemic effects: 85 mg/kg

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PNEC

Industry - Fresh water; Long term 260 mg/l
 Industry - Marine water; Long term 26 mg/l
 Industry - STP; Long term 2000 mg/l
 Industry - Sediment (Freshwater); Long term 572 mg/kg
 Industry - Sediment (Marinewater); Long term 57.2 mg/kg
 Industry - Soil; Long term 50 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Ensure the ventilation system is regularly maintained and tested. Use explosion-proof electrical, ventilating and lighting equipment. This product must not be handled in a confined space without adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/face protection

Wear eye protection. Tight-fitting safety glasses. If risk of splashing, wear safety goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

Wear protective gloves. The selected gloves should have a breakthrough time of at least 8 hours. It is recommended that gloves are made of the following material: Polyethylene. Viton rubber (fluoro rubber). Neoprene. Nitrile rubber Butyl rubber. For short-term / splash protection the following are recommended Polyvinyl alcohol (PVA). To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Provide eyewash station and safety shower.

Hygiene measures

Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Contaminated clothing should be placed in a closed container for disposal or decontamination.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Organic vapour filter. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Gas and combination filter cartridges should comply with European Standard EN14387. Change filter cartridge on respirator daily. Check that the respirator fits tightly and the filter is changed regularly. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. When spraying, wear a suitable supplied-air respirator.

Environmental exposure controls

Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance

Liquid.

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Colour	Colourless.
Odour	Odourless.
Melting point	- 59°C
Initial boiling point and range	184°C @ 1013 hPa
Flash point	104°C CC (Closed cup).
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 2.6 % V Upper flammable/explosive limit: 12.6 % V
Vapour pressure	20 Pa @ 25°C
Vapour density	2.5
Bulk density	1.03 kg/l @ 20°C
Solubility(ies)	Soluble in water. Soluble in the following materials: Organic solvents.
Partition coefficient	log Pow: - 1.07
Auto-ignition temperature	421°C
Viscosity	43.4 mPa s @ 20°C

9.2. Other information

Refractive index	1.4326
Molecular weight	76.094
Volatility	100 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	The following materials may react with the product: Strong oxidising agents. Strong acids. Strong alkalis.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Reacts with strong oxidising agents Reacts with strong acids Reacts with strong alkalis
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10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidising agents.
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10.5. Incompatible materials

Materials to avoid	Strong oxidising agents. Strong acids. Strong alkalis.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

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Notes (oral LD₅₀)	LD ₅₀ > 22000 mg/kg, Oral, Rat
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	LD ₅₀ > 2000 mg/kg, Dermal, Rabbit
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	Expected to be low toxicity
<u>Skin corrosion/irritation</u>	
Animal data	Not classified as irritating to skin
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Not classified as irritating to eyes
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Not classified as a respiratory sensitiser
<u>Skin sensitisation</u>	
Skin sensitisation	Not classified as a skin sensitiser
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Does not contain any substances known to be mutagenic.
<u>Carcinogenicity</u>	
Carcinogenicity	Does not contain any substances known to be carcinogenic.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	This substance has no evidence of toxicity to reproduction.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Not considered an aspiration hazard.
<u>General information</u>	
General information	Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.
<u>Inhalation</u>	
Inhalation	Vapours/aerosol spray may irritate the respiratory system. Vapours and spray/mists in high concentrations are narcotic. Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication.
<u>Ingestion</u>	
Ingestion	Gastrointestinal symptoms, including upset stomach. Symptoms following overexposure may include the following: Stomach pain. Diarrhoea. Drowsiness, dizziness, disorientation, vertigo. Nausea, vomiting.
<u>Skin contact</u>	
Skin contact	Prolonged and frequent contact may cause redness and irritation.
<u>Eye contact</u>	
Eye contact	Vapour or spray in the eyes may cause irritation and smarting.
<u>Acute and chronic health hazards</u>	
Acute and chronic health hazards	This product has low toxicity. Only large volumes may have adverse impact on human health.
<u>Route of entry</u>	
Route of entry	Inhalation Ingestion.

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Target organs	No specific target organs known.
Medical considerations	Skin disorders and allergies. Splash in eye requires examination by eye specialist.

SECTION 12: Ecological Information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Acute toxicity - fish LC₈₀, 96 hours: 40613 mg/l, Onchorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 18340 mg/l, Ceriodaphnia dubia (water flea)

Acute toxicity - aquatic plants EC₅₀, 96 hours: 24200 mg/l, Selenastrum capricornutum

Acute toxicity - microorganisms EC₀, 18 hours: > 20000 mg/l, Activated sludge

Chronic toxicity - aquatic invertebrates NOEC, 7 days: 13020 mg/l, Ceriodaphnia dubia (water flea)

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulative potential Does not bioaccumulate significantly

Partition coefficient log Pow: - 1.07

12.4. Mobility in soil

Mobility The product is water-soluble and may spread in water systems. If product enters soil it will be mobile and may contaminate groundwater.

Surface tension 71.6 mN/m @ 21.5°C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects The product contains a substance or substances that will contribute to global warming (greenhouse effect).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. Contaminated packages must be completely emptied before sending away for laundering and re-use. When handling waste, the safety precautions applying to handling of the product should be considered.

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Disposal methods Collect and place in suitable waste disposal containers and seal securely. Empty containers or liners may retain some product residues and hence be potentially hazardous. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. Confirm disposal procedures with environmental engineer and local regulations. Avoid the spillage or runoff entering drains, sewers or watercourses.

SECTION 14: Transport information

General Not classified as hazardous for conveyance

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not listed

SECTION 15: Regulatory information

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

National regulations

Health and Safety at Work etc. Act 1974 (as amended).
Control of Substances Hazardous to Health Regulations 2002 (as amended).
Dangerous Substances and Explosive Atmospheres Regulations 2002.
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].

EU legislation

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) (as amended).
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 (as amended).
Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments.

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Guidance	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. Safety Data Sheets for Substances and Preparations.
Authorisations (Title VII Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (Title VIII Regulation 1907/2006)	No specific restrictions on use are known for this product.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

Listed

Canada - DSL/NDSL

Listed

US - TSCA

Listed

Australia - AICS

Listed

Japan - MITI

Listed

Korea - KECI

Listed

China - IECSC

Listed

Philippines – PICCS

Listed

New Zealand - NZIOC

Listed

Taiwan - NECI

All the ingredients are listed or exempt.

SECTION 16: Other information

Key literature references and sources for data	Dangerous Properties of Industrial Materials Report, N.Sax et.al. Registry of Toxic Effects of Chemical Substances (RTECS). ECHA
Risk phrases in full	Not classified.

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This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.