

Material Safety Data Sheets

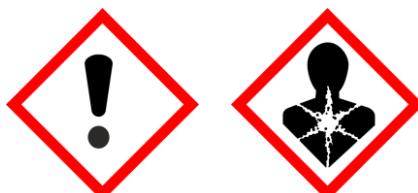
1. IDENTIFICATION

Product Name	Propylene Glycol Extra pure
Other Names	1,2-PROPANEDIOL; 1,2-Propylene glycol; Isopropylene glycol; Methyl Ethyl Glycol (MEG); Methylethylene Glycol
Code No	100-PG-2
Uses	Monopropylene Glycol USP - Generally accepted for use in food, animal feed, flavours and cosmetics and as a exipient (inactive carrier) for pharmaceuticals. Restrictions or limitations set by local regulations have to be followed. Monopropylene Glycol Industrial - Generally accepted for use as a component in the manufacture of unsaturated polyester resins, functional fluids, paints and coatings and plasticisers.
Chemical Family	No Data Available
Chemical Formula	C ₃ H ₈ O ₂
Chemical Name	Propylene Glycol
Product Description	No Data Available
Company	Arman sina.co
Contact Information	info@armansina.com www.armansina.com

2. HAZARD IDENTIFICATION

Hazard Categories No Data Available

Symbol



3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Propane-1,2-Diol	C ₃ H ₈ O ₂	57-55-6	100.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	No treatment necessary unless large quantities are swallowed. Rinse mouth with water. Give water to drink. Do NOT induce vomiting. If symptoms develop, seek medical attention.
Eye	Immediately flush eyes with plenty of water for 15 minutes, holding eyelids open. If irritation persists, seek medical attention.
Skin	Remove contaminated clothing. Wash affected area with soap and plenty of water. If irritation persists, seek medical advice.
Inhaled	Remove victim from exposure to fresh air. If rapid recovery does not occur, seek medical advice.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient. Following cases of gross over-exposure, investigation of liver, kidney and eye function may be advisable. Records of such incidents should be maintained for future reference.
Medical Conditions Aggravated by Exposure	No information available on medical conditions which are aggravated from exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, remove containers from the path of fire.
Flammability Conditions	Will only burn if enveloped in a pre-existing fire. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Extinguishing Media	Large fires should only be fought by properly trained fire fighters. Use dry chemical powder, carbon dioxide or protein based foam. If water is to be used, it must only be sprayed in large quantities. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do NOT use water in a jet.
Fire and Explosion Hazard	Non-flammable liquid.
Hazardous Products of Combustion	Hazardous decomposition products may include noxious and toxic fumes of carbon monoxide and carbon dioxide.
Special Fire Fighting Instructions	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.
Flash Point	99°C
Lower Explosion Limit	2.6 %
Upper Explosion Limit	12.6 %
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Eliminate all sources of ignition. Increase ventilation. Avoid walking through spilled product as it may be slippery. Use clean, non-sparking tools and equipment.
Clean Up Procedures	For large spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with absorbent material and dispose of promptly as hazardous waste. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of promptly as Hazardous waste.
Containment	Stop leak if safe to do so.
Environmental Precautionary Measures	Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.
Evacuation Criteria	Evacuate all unnecessary personnel.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Use local exhaust extraction over processing area. For lines and fittings, avoid copper, copper alloys, zinc. Air-dry contaminated clothing in a well-ventilated area before laundering. Handling Temperature: Ambient. Prevent all contact with water and moist atmosphere. Drums should be stacked to a maximum of 3 high. Lines should be purged with nitrogen before and after product transfer. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
Storage	Store in a cool, dry, diked (bunded), well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Protect from direct sunlight, moisture, heat and static discharges. Prevent all contact with water and moist atmosphere. Prevent ingress of water. Nitrogen blanket recommended for large tanks (capacity 100m ³ or higher). Storage temperature: 40 Deg C Maximum. This product is classified as a 'C1' Combustible Liquid for the purpose of storage and handling in accordance with the requirements of AS1940.
Container	Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	The following exposure standard has been established by the Safe Work Australia (SWA); Propane-1,2-diol: Total (vapour and particulates) CAS 57-55-6: TWA = 150 ppm (474 mg/m ³) NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded.
Personal Protection Equipment	RESPIRATOR: No respiratory protection is ordinarily required under normal conditions of use (AS1715/1716). EYES: Chemical splash goggles (AS1336/1337). HANDS: Use gloves approve to relevant standard made from neoprene, PVC (AS2161). CLOTHING: Long-sleeved protective clothing and safety footwear (AS3765/2210).
Work Hygienic Practices	Wash hands before eating, drinking, smoking and using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Odourless
Colour	Colourless
pH	7
Vapour Pressure	0.11 hpa
Relative Vapour Density	2.5 Air = 1
Boiling Point	188°C
Melting Point	-59°C
Freezing Point	No Data Available
Solubility	No Data Available
Specific Gravity	1.04
Flash Point	99°C

Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	1036 kg/cm3
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	ca. -1
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Hygroscopic
Potential for Dust Explosion	Product is a liquid.
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information	Combustible liquid. Hygroscopic.
Chemical Stability	Product is stable under normal conditions of use, storage and temperature.
Conditions to Avoid	Avoid excessive heat, flame, sparks and temperatures above 40 Deg C.
Materials to Avoid	Incompatible materials include strong oxidising agents, strong acids, moisture, and all sources of ignition.
Hazardous Decomposition Products	Hazardous decomposition products may include noxious and toxic fumes of oxides of carbon, carbonyl and dioxolane derivatives may also be formed.
Hazardous Polymerisation	Hazardous polymerization has not been reported.

11. TOXICOLOGICAL INFORMATION

General Information	Information given is based on product testing, and/or similar products, and/or components: Oral LD50 Rat: >2000mg/Kg Dermal LD50 Rabbit : >2000mg/Kg Inhalation Toxicity: LC50 greater than near saturated vapour concentration. SKIN: Not Irritating to skin. EYES: Essentially non-irritating to eyes. RESPIRATORY: Not expected to be a respiratory irritant. SENSITISATION: Not a skin sensitiser.
---------------------	---

REPEATED DOSE: Low systemic toxicity on repeated exposure. Cats given high doses of MPG in diet showed a decrease in red blood cell survival.

MUTAGENICITY: Not mutagenic.

CARCINOGENICITY: Not carcinogenic in animal studies.

REPRODUCTIVE/DEVELOPMENTAL: Not a developmental toxicant.

Carcinogen Category

No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Acute Toxicity

Fish: Low toxicity: LC/EC/IC50 >100 mg/L

Aquatic Invertebrates: Low toxicity: LC/EC/IC50 >100 mg/L

Algae: Low toxicity: LC/EC/IC50 >100 mg/L

Microorganisms: Expected to have low toxicity: LC/EC/IC50 >100 mg/L

Persistence/Degradability

Readily biodegradable.

Mobility

If the product enters soil, it will be highly mobile and may contaminate ground water.

Environmental Fate

Avoid contaminating waterways, drains and sewers.

Bioaccumulation Potential

Does not bioaccumulate significantly.

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS

General Information

Recover or recycle if possible. Dispose of in accordance with all local regulations. All empty packaging should be disposed of in accordance with Local Regulations or recycled/reconditioned at an approved facility. Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Send to drum recoverer or metal reclaimer.

Special Precautions for Land Fill

Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name

PROPYLENE GLYCOL

Class

Subsidiary Risk(s)

No Data Available

No Data Available

UN Number

No Data Available

Hazchem

No Data Available

Pack Group

No Data Available

Special Provision

No Data Available

Sea Transport

IMDG

Proper Shipping Name

PROPYLENE GLYCOL

Class

Subsidiary Risk(s)

No Data Available

UN Number

No Data Available

Hazchem

No Data Available

Pack Group

No Data Available

Special Provision

No Data Available

EMS

No Data Available

Marine Pollutant

No

Air Transport IATA

Proper Shipping Name	PROPYLENE GLYCOL
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

16. OTHER INFORMATION

Revision	2
Key/Legend	<p>< Less Than > Greater Than atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand Degrees Celcius Degrees Farenheit g Grams g/cm Grams per Cubic Centimetre g/l Grams per Litre HSN0 Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m Kilograms per Cubic Metre lb Pound LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours. LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals. ltr or L Litre m Cubic Metre mbar Millibar mg Milligram mg/24H Milligrams per 24 Hours mg/kg Milligrams per Kilogram mg/m Milligrams per Cubic Metre Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present. mm Millimetre mmH₂O Millimetres of Water mPa.s Millipascals per Second N/A Not Applicable NIOSH National Institute for Occupational Safety and Health NOHSC National Occupational Heath and Safety Commission OECD Organisation for Economic Co-operation and Development Oz Ounce PEL Permissible Exposure Limit Pa Pascal ppb Parts per Billion ppm Parts per Million ppm/2h Parts per Million per 2 Hours ppm/6h Parts per Million per 6 Hours psi Pounds per Square Inch R Rankine RCP Reciprocal Calculation Procedure STEL Short Term Exposure Limit TLV Threshold Limit Value tne Tonne TWA Time Weighted Average ug/24H Micrograms per 24 Hours UN United Nations wt Weight</p>