Monument Chemical

SAFETY DATA SHEET

1. IDENTIFICATION

1.1 Product identifier

Product Name: PROPYLENE GLYCOL INDUSTRIAL GRADE (NOT USP, NOT for Pharmaceutical Use)
Synonym(s): PG; Methyl ethylene glycol; 1,2-dihydroxypropane
Chemical Family: Glycols
CAS #: 57-55-6

1.2 Recommended use of the chemical and restrictions on use

Uses: Solvent, carrier, intermediate
Restrictions: No data available

1.3 Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Monument Chemical
2450 Olin Road
Brandenburg, KY 40108
1-270-422-6860

1.4 Emergency telephone number

1-800-424-9300	24 HR CHEMTREC
1-270-422-6860	24 HR Emergency Assistance

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to 29 CFR §1910.1200 (d)

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2 Label elements

Labeling according to 29 CFR §1910.1200 (f)

Symbol(s): None
Signal word: None

2.3 Other hazards None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Chemical Name	CAS #	EINECS	Amount
PROPYLENE GLYCOL	57-55-6	200-338-0	98-100%

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

IF exposed or concerned: Get medical advice/attention.

Show this safety data sheet to the doctor in attendance.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Seek medical attention if breathing becomes difficult or respiratory irritation develops.

Skin Contact

Wash with soap and plenty of water. Consult a physician if irritation develops or persists.

Wash contaminated clothing before reuse.

Eye Contact

Flush with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if irritation develops or persists.

Ingestion

Wash out mouth with water, then drink water to dilute. Never give anything by mouth to an unconscious person.

Seek medical attention if symptoms develop.

4.2 Most important symptoms and effects, both acute and delayed

Acute

Mild eye, skin, and/or respiratory tract irritation.

Delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic and supportive therapy as required.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

In case of fire: Use alcohol foam, carbon dioxide, dry chemical, or water spray for extinction.

Use water spray to cool fire exposed containers.

Unsuitable Extinguishing Media

Jet water spray may cause frothing and splattering of burning material.

5.2 Special hazards arising from the substance or mixture

Material may be ignited only if preheated to high temperatures (i.e. in fire conditions). Vapors can be ignited at or above the flash point. The vapor is heavier than air and may travel along the ground; distant ignition is possible.

Container holding this material may explode in the heat of a fire. Empty containers may still contain residual material than can ignite and/or result in explosion.

Produces oxides of carbon upon combustion.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Protective Measures

Evacuate danger area.

Isolate hazard area and deny entry to unnecessary or unprotected personnel. Remove all possible sources of ignition in the surrounding area.

Stop the source of leak or release if safe to do so.

Personal protection equipment as recommended in Section 8 and NIOSH approved self-contained breathing apparatus.

6.2 Environmental precautions

Use appropriate containment of product and fire fighting water to avoid environmental contamination. Prevent from spreading or entering drains, sewers, ditches, or rivers by using sand, earth, or other appropriate barriers.

Notify authorities if any exposure to the general public or environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Air release: Vapors may be suppressed by the use of water fog. Contain all liquid for treatment and/or disposal as a potential hazardous waste.

Water release: This material is miscible in water. Notify all downstream users of possible contamination. Divert water flow around spill if possible and safe to do so.

Land release: Create dike or trench to contain spilled material. Absorb spilled product with inert material such as dry sand, clay, vermiculite, or other commercial absorbent. Place in a sealable, properly labeled container. Store in safe location until disposal. Wash area with soap and water.

6.4 Reference to other sections

Refer to Section 8 for personal protection advice and Section 13 for disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with eyes or skin. Avoid breathing vapors or mists.
Wear protective gloves/protective clothing/eye protection/face protection.
Handle only with adequate ventilation.
Do no eat, drink or smoke when using this product.
Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated location. Keep container tightly closed.
Store separated from strong oxidants.
Ensure that all local regulations regarding handling and storage facilities are followed.

7.3 Specific end use(s)

No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Permissible Exposure Limits

Compound Name	CAS #	Source 1	Source 2	BEI/Skin Notation
PROPYLENE GLYCOL	57-55-6	AIHA WEEL: 10 mg/m3 TWA aerosol	N.D.	N.D.

N.D. - No data available

AIHA: American Industrial Hygiene Association
TWA: Time weighted average
STEL: Short Term Exposure Limit
WEEL: Workplace Environmental Exposure Level
BEI: Biological Exposure Indices

8.2 Exposure Controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures may include the following:

Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure limits. Local exhaust ventilation is recommended.

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

8.3 Personal Protective Equipment

Use personal protective equipment as required.

All personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers for more information.

Respiratory Protection

Use only with adequate ventilation. If engineering controls do not maintain airborne concentrations at a level which is adequate to protect worker health, an approved respirator with an organic vapor cartridge and particulate filter should be used.

When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection. Contact respirator supplier for specific recommendations.

Hand Protection

Where hand contact with this material may occur, use impervious gloves that meet applicable standards.

Contact glove manufacturer for advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves.

Eye Protection

Use safety glasses with side shields or safety goggles.

Skin Protection

Use impervious gloves.

Specific Hygiene Measures

Do not eat, drink, or smoke when handling this material. Wash hands thoroughly after handling.

Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Monitoring Methods

Monitoring of the vapor concentrations of chemicals in the workplace may be required to confirm compliance with OEL and adequacy of exposure controls.

Sources for recommended air monitoring methods include:

USA: National Institute of Occupational Safety and Health (NIOSH): Manual of Analytical Methods, http://www.cdc.gov/niosh/nmam/nmammenu.html.

USA: Occupational Safety and Health Administration (OSHA): Sampling and Analytical Methods, http://osha.gov/dts/sltc/methods/toc.html.

Environmental Exposure Controls

Local guidelines for emissions limits for volatile substances must be observed for the discharge of exhaust air containing vapors.

See Sections 6, 7,12, and 13 for more information on environmental exposure controls.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

(a) Appearance	Form:	Liquid	
	Color:	Colorless	
(b) Odor		Mild	
(c) Odor threshold		No data available	
(d) pH		Not applicable.	
(e) Melting/freezing point		-60	°C
(f) Initial boiling point and boiling range		187	°C
(g) Flash point		107	°C
(h) Evaporation rate		0.01	(Butyl Acetate = 1)
(i) Flammability (solid, gas)		No data available	
(j) Upper/lower flammability or explosive limits		2.6 - 12.5	(Vol %)
(k) Vapor pressure		<0.1 mmHg at 25° C	
(l) Vapor density		2.62	
(m) Relative density		1.04	(Water = 1)
(n) Solubility (les)		Completely miscible in water	
(o) Partition coefficient: n-octanol/water		-0.92	(Log Kow)
(p) Auto-ignition temperature		371.0	°C
(q) Decomposition temperature		No data available	
(r) Viscosity		0.581 cP at 20° C	

9.2 Other Information

Chemical formula	$C_3 H_8 O_2$
Molecular weight	76.1

10. STABILITY AND REACTIVITY

10.1 Reactivity

Reacts with strong oxidants, causing fire hazard.

10.2 Chemical Stability

The chemical is stable at recommended storage conditions. It is not sensitive to static discharge or mechanical shock.

Hazardous polymerization will not occur.

10.3 Possibility of hazardous reactions

Explosive in the form of vapor when exposed to heat or flame. May react with hydrofluoric acid, nitric acid, and silver nitrate to form the explosive silver fulminate.

10.4 Conditions to Avoid

Avoid heat, sparks, open flames, and other sources of ignition.

10.5 Incompatible materials
Strong oxidizing agents.

10.6 Hazardous Decomposition Products
On combustion, this material forms oxides of carbon.

11. TOXICOLOGICAL INFORMATION

11.1 Likely routes of exposure
This material can be absorbed into the body by inhalation of its vapor, and by ingestion.

11.2 Signs and symptoms of exposure
This substance may irritate the eyes causing redness and pain.

11.3 Delayed and immediate effects/Chronic effects from short- and long-term exposure

Eye
This material may cause irritation, but is not expected to cause serious/permanent eye damage.

Skin
This material may cause mild irritation, but is not expected to cause serious/permanent damage to the skin.

Inhalation
This material may cause mild respiratory irritation, but is not expected to cause serious/permanent damage.

Ingestion
This material is not expected to be toxic through ingestion, but may cause mild gastrointestinal effects including nausea, vomiting, and diarrhea.

Chronic effects
There are no known or reported effects of chronic exposure other than those experienced through acute exposure.

Subchronic effects
No information available.

Respiratory or skin sensitization
This material is not known or reported to be a respiratory sensitizer.

Germ cell mutagenicity
No developmental risk to humans is expected from exposure to this product.

Reproductive toxicity
No reproductive risk to humans is expected from exposure to this product.

Specific target organ toxicity - single exposure
There are no known or reported target organ effects from acute exposure.

Specific target organ toxicity - repeat exposure
There are no known or reported target organ effects from repeat exposure.

Aspiration hazard
No data available.

Potential health effects
Exposure to this compound may cause irritation to the eyes and skin.

11.4 Acute Toxicity Estimates

Compound Name	CAS #	TEST - SPECIES - RESULT
PROPYLENE GLYCOL	57-55-6	Oral LD50 - Rat: >5000 mg/kg; Dermal LD50 - Rabbit: >2000 mg/kg

11.5 Carcinogenicity

IARC (International Agency for Research on Cancer):
No component of this product present in concentrations of 0.1% or greater is identified by IARC to be a probable, possible, or confirmed carcinogen.

NTP (National Toxicology Program):
No component of this product present in concentrations of 0.1% or greater is identified by NTP to be a known or reasonably anticipated carcinogen.

OSHA (U.S. Occupational Health and Safety Administration):
No component of this product present in concentrations of 0.1% or greater is identified by OSHA to be a carcinogen or potential carcinogen.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity
This product is expected to be practically non-toxic to fish and other aquatic organisms.

Compound Name	CAS #	TEST-SPECIES-RESULTS
PROPYLENE GLYCOL	57-55-6	LC50 - Fathead minnow: >62,000 mg/L/96h LC50 - Daphnia magna: 43,500 mg/L/48 hr

12.2 Persistence and Degradability
Propylene glycol is expected to readily degrade.

12.3 Bioaccumulative potential

According to the National Library of Medicine Hazardous Substance Data Bank [NLM HSDB]: An estimated BCF of 3 was calculated for propylene glycol, using a log Kow of -0.92 and a regression-derived equation. According to a classification scheme, this BCF suggests the potential for bioconcentration in aquatic organisms is low.

12.4 Mobility in soil

According to the National Library of Medicine Hazardous Substance Data Bank [NLM HSDB]: The Koc of propylene glycol is estimated as 1, using a log Kow of -0.92 and a regression-derived equation. According to a classification scheme, this estimated Koc value suggests that propylene glycol is expected to have very high mobility in soil.

12.5 Other adverse effects

No data available.

13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE, AND DISPOSAL FOR HAZARDOUS AND NON-HAZARDOUS WASTE.

13.1 Waste treatment methods

Product disposal

Recover or recycle if possible.

It is the responsibility of the waste generator to determine the physical characteristics and toxicity of the material generated in order to properly designate the waste classification and disposal methods in compliance with applicable regulations.

If this product becomes a waste, it will be a non-hazardous waste and should be disposed of in accordance with local, state, and federal regulations.

Container disposal

Follow all SDS/label precautions even after container is emptied because they may retain product residues.

Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed.

Empty containers should be taken for recycling, recovery, or disposal through a suitable qualified or licensed contractor and in accordance with governmental regulations.

14. TRANSPORT INFORMATION

U.S. DOT

This material is not regulated as a hazardous material for transport by the U.S. Department of Transportation in accordance with 49 CFR 172.101.

Sea (IMDG)

This material is not regulated as dangerous goods in accordance with the IMDG Code.

Air (IATA)

This material is not regulated as dangerous goods in accordance with the IATA Code.

15. REGULATORY INFORMATION

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

This safety datasheet complies with the requirements of 29 CFR §1910.1200

This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA) or are exempt from reporting.

As defined under SARA 311 and 312, this product contains materials that are designated as the following hazards: None

FEDERAL REGULATORY LISTS:

Compound Name	CAS #	SARA 313	CERCLA	RCRA	CAA
PROPYLENE GLYCOL	57-55-6	N.L.	N.L.	N.L.	N.L.

N.L. - Not listed on regulatory list

CALIFORNIA REGULATIONS:

This product contains no listed substances known to the State of California to cause cancer, birth defects, or other reproductive harm, at levels which would require a warning under the statute.

PENNSYLVANIA REGULATIONS:

The following product components are cited on the Pennsylvania Hazardous Substances List and/or the Pennsylvania Environmental Hazardous Substances List, and are present at levels which require reporting.

Compound Name	CAS #	LISTING	AMOUNT
PROPYLENE GLYCOL	57-55-6	PA RTK	98-100%

To the best of our knowledge, this product does not contain any components cited on the Pennsylvania Special Hazardous Substances List.

ADDITIONAL STATE REGULATIONS:

Components of this product are found on the following state lists.

Compound Name	CAS #	STATE LISTS
PROPYLENE GLYCOL	57-55-6	MA, MN, NJ, RI

15.2 Chemical safety assessment

No data available.