MATERIAL SAFETY DATA SHEET

Propylene Glycol

1. Chemical Product and Company Identification

1.1 Product Identifiers

Product Name: Propylene Glycol

CAS No.: 57-55-6

Common Synonyms: Monopropylene Glycol; 1,2-Propanediol; 1,2-Dihydroxypropane; Methylethylene Glycol; Propane-1,2-Diol

Molecular Weight: 76.09

Chemical Formula: CH3CHOHCH2OH

1.2 Details of the Supplier of the Safety Data Sheet

Company: Cosmo Chemistry India Pvt. Ltd.

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2. Composition and Information on Ingredients

Propylene Glycol

CAS No.: 57-55-6

Molecular Weight: 76.09

Chemical Formula: CH3CHOHCH2OH

3. Hazards Identification

Emergency Overview: Material is a clear, colorless solution.

Symptoms of overexposure by route of exposure:

Inhalation: No adverse health effects via inhalation.

Ingestion: Relatively non-toxic. Ingestion of a sizable amount (over 100 mL) may cause some gastrointestinal upset and temporary central nervous system depression. Effects appear more severe in individuals with kidney problems.

Skin Contact: Mild irritant and defatting agent, especially on prolonged contact.

Eye Contact: May cause transitory stinging and tearing.

Chronic Exposure: Lactic acidosis, stupor and seizures have been reported following chronic ingestion.

Aggravation of Pre-existing Conditions: Kidney disorders.

4. First Aid Measures

Inhalation: Remove to fresh air. Not expected to require first aid measures.

Ingestion: Not expected to require first aid measures. Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

Skin Contact: Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Call a physician if irritation persists.

Note to Physician: In case of ingestion, monitor for acidosis and central nervous system changes. Exposed persons with previous kidney dysfunction may require special treatment.

5. Fire-Fighting Measures

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: 371°C (699.8°F)

Flash Points: Closed Cup: 99°C (210.2°F). Open Cup: 107°C (224.6°F) (Cleveland).

Flammable Limits: Lower: 2.6% Upper: 12.5%

Products of Combustion: Carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances: Slightly flammable to flammable in presence of heat.

Explosion Hazards in Presence of Various Substances:

Risk of explosion in presence of mechanical impact: Not available.

Risk of explosion in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

Small Fire: Use dry chemical powder.

Large Fire: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits acrid smoke and irritating fumes.

Special Remarks on Explosion Hazards: Not available.

pH: 6.8 ± 0.2

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 7. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer.

7. Handling and Storage

Protect container from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture, and incompatible substances. Containers of this material may be hazardous when

empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

Storage: -30°C to 60°C

8. Exposure Controls / Personal Protection

Airborne Exposure Limits:

AIHA Workplace Environmental Exposure Level (WEEL): Vapor and Aerosol = 50 ppm; Aerosol only = 10 mg/m³.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, a half-face respirator with an organic vapor cartridge and particulate filter (NIOSH type P95 or R95 filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an organic vapor cartridge and particulate filter (NIOSH P100 or R100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. Please note that N series filters are not recommended for this material. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Wear protective gloves and clean body-covering clothing.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

1) Physical State: Water-white sticky-thick liquid

2) Boiling Point/Boiling Range: 187.3°C

3) Melting Point/Melting Range: -59.5°C

4) Flashpoint: 107°C (open cup), 98.9°C (closed cup)

5) Relative Density: 1.0381 g/mL (20°C)

10. Stability and Reactivity Data

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: Carbon dioxide and carbon monoxide may form when heated to decomposition. Aldehydes or lactic, pyruvic or acetic acids may also be formed.

Hazardous Polymerization: Will not occur.

Incompatibilities: Strong oxidizing agents.

Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Oral Rat LD50: 20 g/kg. Skin Rabbit LD50: 20.8 g/kg.

Irritation: Eye Rabbit/Draize, 500 mg/24H, mild.

Investigated as a mutagen and reproductive effector.

Cancer Lists (NTP Carcinogen):

Ingredient	NTP Known	NTP Anticipated	IARC Category
Propylene Glycol (57-55-6)	No	No	None

12. Ecological Information

Environmental Fate:

When released into the soil, this material is expected to readily biodegrade and to leach into groundwater. When released into water, this material is expected to readily biodegrade. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals, with a half-life between 1 and 10 days.

Environmental Toxicity: No information found.

13. Disposal Considerations

Contents: When disposing of unused contents, comply with applicable regulatory and local procedures. Container: Offer empty container to qualified recondition, or crush and dispose of in an approved landfill or by other procedures approved by regulatory and local authorities.

14. Transport Information

No regulation.

15. Regulatory Information

1) Information on the warning label: Combustible with open flame and high temperature

2) Keep out of the reach of children.

3) Keep container in a well-ventilated place.

4) Keep away from sources of ignition – No smoking.

16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, Cosmo Chemistry India Pvt. Ltd. assumes no liability whatsoever for the accuracy or completeness of the

information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

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