

Propylene Glycol MSDS (Material Safety Data Sheet)

Section 1: Product Name and Identification

- **Product Name:** [Propylene Glycol](#)
- **Chemical Name:** 1,2-Propanediol
- **Synonyms:** 1,2-Dihydroxypropane, Methyl Glycol, PG
- **CAS Number:** 57-55-6
- **Use of Product:** Solvent, food additive, pharmaceutical ingredient, personal care products

Section 2: Composition/Ingredients

- **Chemical Composition:**
 - Propylene Glycol (1,2-Propanediol) - 100%
- **Molecular Formula:** C₃H₈O₂
- **Molecular Weight:** 76.09 g/mol
- **Impurities or Additives:** None detected in pure grade

Section 3: Hazards Identification

- **GHS Classification:**
 - Not classified as hazardous under GHS standards.
- **Hazard Statements:**
 - May cause mild skin or eye irritation in sensitive individuals.
- **Precautionary Statements:**
 - Avoid inhalation of mist or extended skin contact.
 - Use protective measures in confined areas.

Section 4: First Aid Measures

- **Eye Contact:** Rinse eyes carefully with water for several minutes. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.
- **Skin Contact:** Wash thoroughly with soap and water. Discontinue use if irritation develops.
- **Inhalation:** Move to fresh air. Seek medical attention if breathing difficulties develop.
- **Ingestion:** Rinse mouth with water. Drink water to dilute. Do not induce vomiting and seek medical advice if large quantities are consumed or discomfort occurs.

Section 5: Handling and Storage

- **Handling:**
 - Avoid contact with skin and eyes.
 - Prevent inhalation of mist; use in well-ventilated areas or with local exhaust.
- **Storage:**
 - Store in a cool, dry, and well-ventilated location.
 - Keep containers tightly closed when not in use. Avoid exposure to heat and direct sunlight.

Section 6: Exposure Controls/Personal Protection

- **Exposure Limits:**
 - ACGIH TLV: Not established
 - OSHA PEL: Not established
- **Engineering Controls:**
 - Provide appropriate exhaust ventilation for mist generation or use in enclosed areas.
- **Personal Protective Equipment (PPE):**
 - **Eye Protection:** Safety goggles to prevent splashes.
 - **Hand Protection:** Protective gloves for prolonged or repeated exposure.
 - **Skin Protection:** Wear long-sleeved clothing to minimize exposure during handling.
 - **Respiratory Protection:** Use a respirator if mist concentrations exceed recommended limits.

Section 7: Physical and Chemical Properties

- **Appearance:** Clear, colorless, viscous liquid
- **Odor:** Odorless or slightly sweet
- **Melting Point:** -59°C (-74.2°F)
- **Boiling Point:** 188°C (370°F)
- **Flashpoint:** 104°C (219.2°F) (closed cup)
- **pH:** Neutral (6-8)
- **Solubility:** Fully miscible with water, ethanol, and acetone
- **Density:** 1.036 g/cm³ at 20°C
- **Vapor Pressure:** 0.13 mmHg at 20°C
- **Auto-ignition Temperature:** 371°C (700°F)

Section 8: Stability and Reactivity

- **Stability:** Stable under normal handling and storage conditions.
- **Conditions to Avoid:** Excessive heat, open flames, and exposure to strong oxidizing agents.
- **Materials to Avoid:** Strong acids, bases, and oxidizers.
- **Hazardous Decomposition Products:** May produce carbon dioxide and carbon monoxide under high temperatures or combustion.

Section 9: Toxicological Information

- **Routes of Exposure:** Skin contact, eye contact, inhalation, ingestion.
- **Acute Toxicity:**
 - LD50 (Oral - Rat): 20,000 mg/kg
 - LD50 (Dermal - Rabbit): 20,800 mg/kg
- **Chronic Exposure:** No significant effects observed with regular exposure below occupational limits.
- **Symptoms of Overexposure:** Mild irritation to eyes, gastrointestinal discomfort, or dizziness in confined areas.
- **Carcinogenicity:** Not classified as carcinogenic by IARC, OSHA, or NTP.
- **Reproductive Effects:** Studies show no adverse effects on reproduction under normal use conditions.

Section 10: Disposal Considerations

- **Waste Disposal:**
 - Dispose of in accordance with local, regional, and federal regulations.
 - Do not release into sewage or natural waterways. Use a properly licensed chemical disposal service.
- **Container Disposal:**
 - Empty containers may retain residue. Ensure containers are rinsed thoroughly before recycling or disposal.