

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Propylene Glycol (1,2-Propanediol)
- English Name: Propylene Glycol; 1,2-Propanediol
- CAS Number: 57-55-6
- Formula: $C_3H_8O_2$
- Molecular Weight: 76.10 g/mol
- Product Characteristics: Colorless, odorless, viscous liquid. High-purity diol with excellent solubility and hygroscopicity. Chemically stable, non-flammable, and low toxic. Suitable for pharmaceutical, food, cosmetic, and industrial applications.

2. Technical Specifications

Item	Specification
Appearance	Colorless clear viscous liquid
Purity (GC)	$\geq 99.5\%$
Water Content	$\leq 0.2\%$
Density (20°C)	1.035-1.037 g/cm ³
Boiling Range	184.0-188.0°C
Flash Point (Closed Cup)	99°C
Viscosity (20°C)	56 mPa s
Non-Volatile Residue	$\leq 0.005\%$
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Acidity (as CH ₃ COOH)	$\leq 0.001\%$
Hygroscopicity	Hygroscopic
Water Solubility	Fully miscible

3. Product Advantages

1. High Purity: Low impurity content meets pharmaceutical and food-grade standards.
2. Excellent Solvency: Dissolves polar and non-polar compounds, ideal for formulations.
3. Hygroscopic: Maintains moisture in products, suitable for cosmetics and food.
4. Low Toxicity: Safe for human contact (pharmaceutical/food-grade), environmentally friendly.

4. Application Fields

- Pharmaceutical Industry: Excipient, solvent, and humectant for drugs and cosmetics.
- Food Industry: Food additive (humectant, stabilizer, and solvent).
- Cosmetics: Moisturizer in creams, lotions, and hair care products.
- Industrial: Antifreeze, plasticizer, and solvent for coatings and adhesives.

5. Usage Methods

- Dosage: Adjust according to application (5-50% concentration in formulations).
- Application: Mix directly with other ingredients; heat gently for dissolution ($\leq 60^\circ\text{C}$).

- Optimal Conditions: Store in sealed containers to prevent moisture absorption; avoid high temperature.

6. Packaging & Storage

- Packaging Specifications: 5L HDPE cans, 20L HDPE drums, 200L HDPE drums, 1000L IBC totes (UN-approved).
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature $\leq 30^{\circ}\text{C}$). Keep sealed, away from heat and oxidizing agents.
- Shelf Life: 24 months (unopened, under specified storage conditions).
- Transportation: Non-hazardous goods; transport by ordinary vehicles.

7. Safety & Protection

- Low toxic and non-flammable: No special safety precautions for routine handling.
- Wear appropriate PPE: Nitrile rubber gloves and safety glasses for large-scale handling.
- Avoid prolonged skin contact; wash hands after handling.
- In case of eye contact, rinse with plenty of water for 5-10 minutes.

8. Quality Assurance

- Manufactured under ISO 9001 and ISO 22000 (food-grade) quality management systems.
- Each batch is accompanied by a COA for compliance verification.
- Provide technical support for formulation optimization and application guidance.