

PROPYLENE GLYCOL

Description

Propylene Glycol is a clear, colourless practically odourless liquid with a slightly sweet taste. It is hygroscopic, completely soluble in water and miscible with organic solvents. - practically non hazardous. Propylene Glycol USP meets or surpasses all United States Pharmacopoeia XX and Food Chemicals Codex requirements. TLV adopted.

Propylene Glycol USP (1,2 – Propanediol. Propance 1,2 Diol).

Formula: CH₃ – CH – OH – CH₂ – OH.

Typical Properties

Density at 25°C 1036 g/l.

Flash Point, Tag Closed Cup, °C 99

Freezing Point: Below -60°C (it super-cools)

Solubility in water: Complete -60

Viscosity: 56 cp at 20°C

Fire and Explosion Data

Flash Point: 107°C open cup

Auto Ignition: 421°C

Flammable Limits: 2.6% - 12.6%

Explosion Hazard: Very slight

Common Applications

Food: Solvent for flavours, extracts and food colouring, food packaging material, preservative, humectants for baked goods and packaged foods.

Industrial & Automotive: Low-toxicity coolants for foods and beverage refrigeration systems, sprinkling systems de-icer, de-icing solutions for aircraft surfaces and auto windshields, brake and hydraulic fluids.

Medical: Water-soluble agent, humectants, emollients, preservatives.

Storage

Propylene Glycol, USP because of its hygroscopic nature requires storage facilities designed to prevent moisture intrusion and contamination.

Handling & Storage, Recommendations & Precautions

Normal Carriage

Pressure: Atmospheric

Normal Carriage

Temperature: Ambient

Storage Materials: Stainless steel and plastic

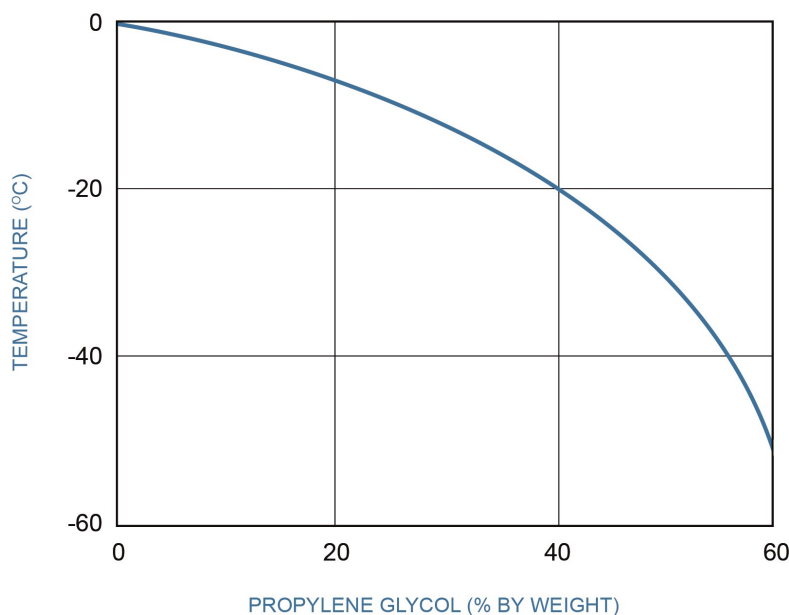
Handling precautions: Normal standard of industrial hygiene, adequate ventilation should be provided if there is a risk of exposure to thermal decomposition products resulting from high temperature applications

Handling: Overall and gloves must be worn

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Emergency & First Aid Procedures

- Fire:** Use alcohol foam, water spray, dry powder or carbon dioxide.
- Product in Eye:** Wash the eye with copious quantities of water holding the eye open if necessary. Obtain medical attention if irritation persists.
- Products on Skin:** Wash with plenty of cold water. Contaminated clothing should be washed or dry cleaned before reuse.
- Product Inhaled:** Remove from exposure. Keep warm and at rest if there are adverse effects following the inhalation of fumes from high temperature applications. If symptoms continue obtain medical attention.
- Product Ingested:** Wash out mouth with water. Obtain medical attention.
- Spillage:** Absorb on sand or earth and dispose under conditions approved by the local authority. Wash down with water. Inform authorities if major spillage occurs.



Freezing Points of Aqueous Solutions of Propylene Glycol

RESERVOIR CAPACITY		VOLUME OF ANTI-FREEZE TO BE ADDED (LITRES)		
		0°C	-5°C	-20°C
(LITRES)	(USG)	3%	15%	40%
5	(1.3)	0.5 (0.04)	0.75 (0.2)	2 (-0.6)
10	(2.6)	0.3 (0.08)	1.5 (0.4)	4 (1-1)
20	(5.2)	0.6 (0.16)	3.0 (0.8)	8 (2.1)
50	(13)	1.5 (0.4)	7.5 (2.0)	20 (5.2)
100	(26)	3.0 (0.75)	15.0 (4.0)	40 (11)